Florida Department of Education
Project Award Notification

1 PROJECT RECIPIENT
Brevard County School District

2 PROJECT NUMBER
050-1240S-1C001

3 PROJECT/PROGRAM TITLE
ESSER B.E.S.T. High Quality Curriculum for Reading

TAPS 21A160

4 AUTHORITY
84.425D CARES ACT
USDE or Appropriate Agency

FAIN#: S425D200052

5 AMENDMENT INFORMATION
Amendment Number:
Type of Amendment:
Effective Date:

6 PROJECT PERIODS

Budget Period: 01/01/2021 - 07/31/2022
Program Period:01/01/2021 - 07/31/2022

7 AUTHORIZED FUNDING

Current Approved Budget:	$511,873.63
Amendment Amount:	
Estimated Roll Forward:	
Certified Roll Amount:	
Total Project Amount:	$511,873.63

8 REIMBURSEMENT OPTION
Federal Cash Advance

9 TIMELINES

- Last date for incurring expenditures and issuing purchase orders: 07/31/2022
- Date that all obligations are to be liquidated and final disbursement reports submitted: 09/20/2022
- Last date for receipt of proposed budget and program amendments: 06/30/2022
- Refund date of unexpended funds; mail to DOE Comptroller, 325 W. Gaines Street, 944 Turlington Building, Tallahassee, Florida 32399-0400:
- Date(s) for program reports:
- Federal Award Date : 05/29/2020

10 DOE CONTACTS

Program: Cari Miller
Phone: (850) 717-8639
Email: Cari.miller2@fldoe.org
Grants Management: Unit A (850) 245-0496

Comptroller Office
Phone: (850) 245-0401

Duns#: 364622886
FEIN#: F596000522003

11 TERMS AND SPECIAL CONDITIONS

- This project and any amendments are subject to the procedures outlined in the Project Application and Amendment Procedures for Federal and State Programs (Green Book) and the General Assurances for Participation in Federal and State Programs and the terms and requirements of the Request for Proposal or Request for Application, RFP/RFA, hereby incorporated by reference.
- For federal cash advance projects, expenditures must be recorded in the Florida Grants System (FLAGS) as close as is administratively feasible to when actual disbursements are made for this project. Cash transaction requests must be limited to amounts needed and be timed with the actual, immediate cash requirements to carry out the purpose of the approved project.
- All provisions not in conflict with any amendment(s) are still in full force and effect and are to be performed at the level specified in the project award notification.
- Other:

12 APPROVED:

Cari Miller — 2/21/21

Authorized Official on behalf of Richard Corcoran
Commissioner of Education

Date of Signing

FLORIDA DEPARTMENT OF EDUCATION fldoe.org

DOE-200
Revised 07/15

INSTRUCTIONS
PROJECT AWARD NOTIFICATION

1 Project Recipient: Agency, Institution or Non-Governmental entity to which the project is awarded.

2 Project Number: This is the agency number, grant number, and project code that must be used in all communication. (Projects with multiple project numbers will have a separate DOE-200 for each project number).

3 Project Description: Title of program and/or project. TAPS #: Departmental tracking number.

4 Authority: Federal Grants - Public Law or authority and CFDA number. State Grants - Appropriation Line Item Number and/or applicable statute and state identifier number.

5 Amendment Information: Amendment number (consecutively numbered), type (programmatic, budgeting, time extension or others) in accordance with the Project Application and Amendment Procedures for Federal and State Programs (Green Book), and effective date.

6 Project Periods: The periods for which the project budget and program are in effect.

7 Authorized Funding: Current Approved Project (total dollars available prior to any amendments); Amendment Amount (total amount of increase or decrease in project funding); Estimated Roll Forward (roll forward funds which have been estimated into this project); and Total Project Amount (total dollars awarded for this project).

8 Reimbursement Options:

Federal Cash Advance –On-Line Reporting required monthly to record expenditures.

Advance Payment – Upon receipt of the Project Award Notification, up to 25% of the total award may be advanced for the first payment period. To receive subsequent payments, 90% of previous expenditures must be documented and approved by the Department.

Quarterly Advance to Public Entity – For quarterly advances of non-federal funding to state agencies and LEAs made in accordance within the authority of the General Appropriations Act. Expenditures must be documented and reported to DOE at the end of the project period. If audited, the recipient must have expenditure detail documentation supporting the requested advances.

Reimbursement with Performance - Payment made upon submission of documented allowable expenditures, plus documentation of completion of specified performance objectives.

9 Timelines: Date requirements for financial and program reporting/requests to the Department of Education.

10 DOE Contacts: Program contact for program issues, Grants Management Unit for processing issues, and Comptroller's Office number for payment information.

11 Terms and Special Conditions: Listed items apply to this project. (Additional space provided on Page 2 of 2 if needed.)

12 Approved: Approval signature from the Florida Department of Education and the date signature was affixed.

A) Brevard County School District
Name of Eligible Recipient

B)
Project Number **(DOE Use Only)**

TAPS Number
21A160

FLORIDA DEPARTMENT OF EDUCATION
BUDGET NARRATIVE FORM

(1) Function	(2) Object	(3) Account Title & Narrative	(4) FTE Position	(5) Amount
5100	510	**Supplies**: LEA Allocation for high-quality curriculum for reading including: Read Naturally Encore II - Fluency Grades 1-3 ($1,845 each X 25 = $46,125) Visualizing and Verbalizing "Language Intervention for Comprehension and Thinking Kits" Grades 2-3 ($500 per kit X 25 kits = $12,500) 95% Group Multisyllabic Routines Books Grade 2-3 ($85 each X 50 books = $2,125) 95% Group Phonics Chip Kit Multisyllable Grades 2-3 ($140 each X 50 kits = $7,000) 95% Group Phonological Awareness Intervention Kit Grades K-1 ($400 each X 25 kits = $10,000) 95% Group Blending Intervention Grades 1-3 ($50 per kit X 50 kits = $1,250)		$79,000.00
5100	360	**Subscriptions**: LEA Allocation for high-quality curriculum for reading including Lexis K-3 licenses. 5,722 district licenses for 2 years within program period. (5,722 licenses X $55.50 each = $317,571.00)		$317,571.00
6400	310	**Professional and Technical Services:** LEA allocation for high-quality curriculum for reading including Lexia District Support Partnership PD Package (1 PD package for LEA and 25 schools X $19,800 = $19,800), 95% Group Online Video Supports for the Multisyllabic Routines Book ($35 per school X 25 schools = $875) and Phonological Awareness Intervention Kit ($55 per school X 25 schools = $1,375)		$22,050.00
6400	130	**Extra Duty Pay:** LEA PD Trainer to create and facilitate high-quality curriculum for reading training for applicable school staff to support program implementation (20 hours X $41.62 per hour = $832.40)		$832.40
6400	210	**Retirement:** LEA PD Trainer ($832.40 X 10% = $83.24)		$83.24
6400	220	**FICA:** LEA PD Trainer ($832.40 X 7.65% = $63.68)		$63.68
6400	230	**Life Insurance:** LEA PD Trainer ($832.40 X .083% = $0.69)		$0.69
6400	230	**Medical:** LEA PD Trainer ($832.40 X 1.7 = $1,415.08)		$1,415.08

6400	240	**Workers Comp:** LEA PD Trainer ($832.40 X 0.558% = $4.64)		$4.64
6400	390	**Distribution to Charter Schools:** Allocation to charter schools for high-quality curriculum for reading. Proposed programs shall meet all program criteria and assurances.		$71,043.22
5900	510	**Supplies**: Allocation to private schools for high-quality curriculum for reading. Proposed programs shall meet all program criteria and assurances.		$9,904.84
5900	360	**Subscriptions**: Allocation to private schools for high-quality curriculum for reading. Proposed programs shall meet all program criteria and assurances.		$9,904.84
			C) TOTAL	$511,873.63

Instructions
Budget Narrative Form

This form should be completed based on the instructions outlined below, unless instructed otherwise in the Request for Proposal (RFP) or Request for Application (RFA).

A. Enter Name of Eligible Recipient

B. (DOE Use Only)

Column 1 (Function) School Districts Only:

Use the four digit function codes as required in the Financial and Program Cost Accounting and Reporting for Florida Schools Manual.

Column 2 (Object) School Districts:

Use the three digit object codes as required in the Financial and Program Cost Accounting and Reporting for Florida Schools Manual.

Community Colleges:

Use the first three digits of the object codes listed in the Accounting Manual for Florida's Public Community Colleges.

Universities & State Agencies:

Use the first three digits of the object codes listed in the Florida Accounting Information Resource Manual.

Other Agencies:
Use the object codes as required in the agency's expenditure chart of accounts.

Column 3 **All Applicants:**

Account Title: Use the account title that applies to the object code listed in accordance with the agency's accounting system.

Narrative: Provide a detailed narrative for each object code listed. For example:

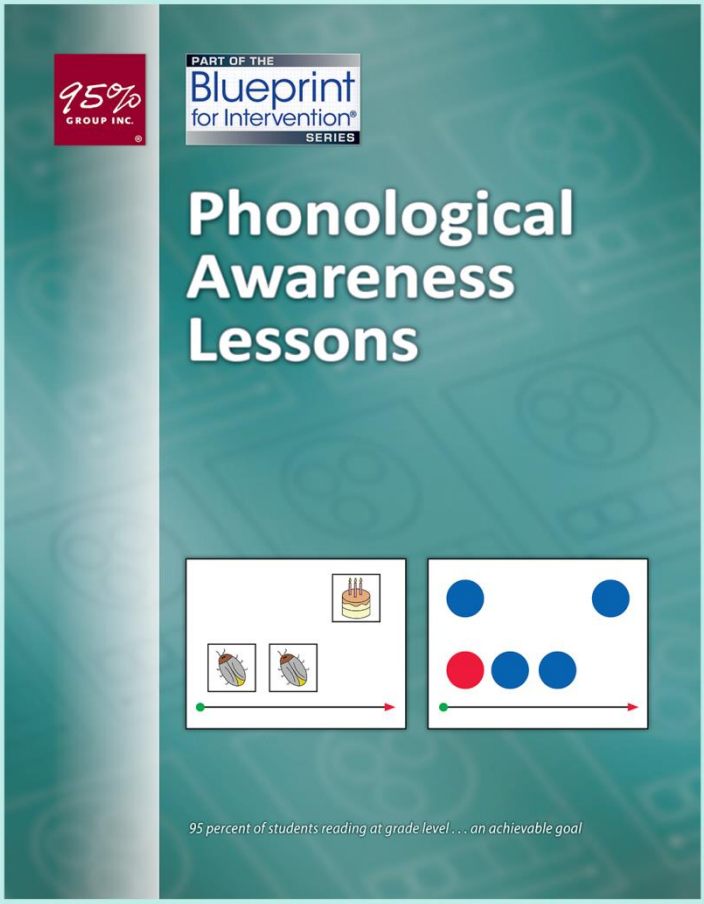
- Salaries - describe the type(s) of positions requested. Use a separate line to describe each type of position listed.
- Other Personal Services - describe the type(s) of services and an estimated number of hours for each type of position. OPS is defined as compensation paid to persons, including substitute teachers not under contract, who are employed to provide temporary services to the program.
- Professional/Technical Services - describe services rendered by personnel, other than agency personnel employees, who provide specialized skills and knowledge.
- Contractual Services and/or Inter-Agency Agreements - provide the agency name and description of the service(s) to be rendered.
- Travel - provide a description of each type of travel to be supported with project funds, such as conference(s), in district or out of district, and out of state. Do not list individual names. List individual position(s) when travel funds are being requested to perform necessary activities.
- Capital Outlay - provide the type(s) of items/equipment to be purchased with project funds.
- Indirect Cost - provide the percentage rate being used. Use the current approved rate. (Reference the DOE Green Book for additional guidance regarding indirect cost.)

Column 4 (FTE) **Must be completed for all Salaries and Other Personal Services:**
Indicate the Full Time Equivalent (FTE based on the standard workweek for the type of position) number of positions to be funded. Determine FTE by dividing the standard number of weekly hours (e.g., 35 hours) for the type of position (e.g., teacher aide) into the actual work hours to be funded by the project.

Column 5 (Amount) Provide the budget amount requested for each object code.

C. Total - Provide the total for Column (5) on the last page. Amount must be the same as requested on the DOE 100A- or B.

Technical Reports on Efficacy of 95 Percent Group's Products



Phonological Awareness Lessons™

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www.95percentgroup.com

Technical Reports on Efficacy

of 95 Percent Group's Products

Page

Phonological Awareness (PA)

Appendix

Technical Report on Efficacy of 95 Percent Group's *Phonological Awareness Lessons* K Class-wide
J.B. Young Elementary, Davenport, IA – **Phonological Awareness Lessons Study 1**

Technical Report
School: J.B. Young Elementary School
District: Davenport Community School District, Davenport, IA

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:*© *series)*, published by 95 Percent Group

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Class-wide; J.B. Young Elementary School, Davenport Community SD
- Technical Report Name: Phonological Awareness Lessons Study 1

Study Authors: Rachel Anderson, Reading Coach; Casey Fleming, Kindergarten Teacher

Overview and Background

Davenport Community School District is composed of 19 elementary schools, 6 intermediate schools, and 4 high schools serving 15,990 students. The student population is diverse with 61.8 percent qualifying for free and reduced lunch. Additionally 18.6 percent of the students are African-American, 13.6 percent are Hispanic and the rest are a mixture of white and other ethnicity.

In 2012 the District's assessment data indicated that the needs of a large population of students weren't being met in the area of reading. Assessment scores had become stagnant and in some areas they were declining over the past few years. This prompted Davenport Community Schools to begin searching for literacy support to help improve student achievement in their elementary and intermediate grades.

95 Percent Group has worked with Davenport Community School District for the past two years, to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre-and post-instruction testing.

During the 2013-2014 academic year, Davenport began the rollout of a district-wide implementation with 95 Percent Group, in which all elementary schools are placed in 3 Cohort groups. Cohort 1 was launched in the fall of 2013 and Cohort 2 was launched mid-year in January of 2014. Cohort 3 will be added in the Fall of 2014. Cohort 1 focused on the seven lowest achieving schools in the district and included J. B. Young Elementary School. During the academic year educators from J. B. Young Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group resources including lessons from the Phonological Awareness Lessons. The Phonological Awareness Screener for Intervention (PASI) assessment was used to place students into intervention groups based on skill deficits. The PSI was also used as a pre-and post-lesson assessment. DIBELS® Next was used as a universal screening assessment, and given to all students throughout the district. Professional Development included an initial training along with four site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Kindergarten classroom at J.B. Young Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of class-wide phonological awareness instruction using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention*© *series)* when taught for five to ten minutes a day as a supplement during core reading instruction. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the teacher (Casey Fleming) and reading coach (Rachel Anderson) of the elementary school with a sample of 21 students in an all-day Kindergarten classroom. The sample was composed of 15 male students and 6 female students. The sample represents a widely diverse population in terms of ethnicity with 7 African-American students, 5 White, 1 Hispanic, and 8 students in the "Other" category. The school serves an inner-city poor socioeconomic population, as represented by the statistic that 95% of the students receive Free and Reduced Lunches.

Three of the 21 students were identified with disabilities; 2 were identified as learning disabled, 1 with a speech-language disorder, and 1 with an "other disability". None of the students were identified as English Language Learners.

Treatment

Casey Fleming, Kindergarten teacher at J.B. Young Elementary School, began presenting lessons from *Phonological Awareness Lessons* to her students in the fall of 2013 and continued for 32 weeks, completing the program in the spring of 2014. These lessons were delivered to the whole class each day during Core (Tier1) instruction. Each instructional session lasted 5 – 10 minutes daily. For a list of the continuum of skills, see the appendix.

Study Controls

There was no control group for this study because the school implemented the program in all classrooms. Additionally the program was implemented district-wide so there were no control classrooms to include in the study. It is believed that, especially since the school serves a very economically disadvantaged population that enter Kindergarten with very low phonological awareness scores, it would not be appropriate to deny access to the lessons to one classroom as a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	**Pretest Date**	**Posttest Date**	**Progress Monitoring**
MAP	08/12/13	5/15/14	Students were progress monitored using appropriate DIBELS® measures every 10 hours of instruction.
DIBELS® First Sound Fluency	08/13	12/11/13	
DIBELS® Composite	08/13	5/19/14	
PASI	08/13	05/15/14	

Responsibilities for the administration and recording of assessments were shared between the classroom teacher, the building literacy coach, and the reading interventionist.

Fidelity

Over the course of the year, 17 fidelity checks were completed. Observational fidelity checks were conducted by district and building administration, utilizing a checklist provided by 95 Percent Group. In addition, a 95 Percent Group Consultant did walkthroughs, offering feedback and setting goals during debriefing sessions with the teacher and administrators. The building literacy coach provided collegial coaching and lesson modeling 4 times during the year.

Summary of Study Findings

Below is a table showing the data collected by the school:

	First Sound Fluency - *DIBELS® Next* Benchmark BOY: 10 Benchmark MOY: 30			***Composite Score - DIBELS® Next* Benchmark BOY: 26 Benchmark EOY: 119**			**MAP Benchmark Fall: 142.5 Benchmark Spr: 157.7**		
Student	**BOY**	**MOY**	**change**	***BOY***	***EOY***	***change***	**Fall**	**Spring**	**Ch.**
1	0	4	+ 4	1	21	*+20*			
2	0	8	+ 8	0	99	*+99*			
3	0	23	+ 23	2	151	*+149*	134	164	+30
4	0	26	+ 26	0	110	*+110*			
5	1	30	+ 29	1	155	*+154*	122	157	+35
6	0	40	+ 40	0	111	*+111*			
7	30	50	+20	65	265	*+200*	122	193	+71
8	17	56	+ 39	20	180	*+160*			
9	0	38	+38	0	117	*+117*			
10	2	40	+ 38	2	156	*+154*	126	166	+40
11	0	42	+ 42	0	138	*+138*	142	172	+30
12	2	48	+ 46	11	135	*+124*	146	165	+19
13	22	50	+ 28	47	125	*+78*	141	159	+18
14	0	26	+26	0	180	*+180*	150	164	+14
15	0	48	+48	30	170	*+140*	138	165	+27
16	0	58	+58	1	189	*+188*	138	168	+30
17	20	55	+35	41	183	*+142*	146	175	+29
Mean	**5.5**	**37.7**	**+32.2**	**13.0**	**146.2**	**+133.2**	**136.8**	**168.0**	**+31.2**
Std. Dev.	**9.9**	**16.1**		**20.4**	**51.4**		**9.8**	**9.7**	

Notes: Beginning of the Year (BOY) and End of Year (EOY) data is available for 17 of the 21 students in the classroom due to mobility.

Color coding: Red = Well Below Benchmark/Likely to Need Intensive Support

Yellow = Below Benchmark

Green = At or Above Benchmark

All students in this classroom for whom both pre- and post-instruction assessment was available (17 of 21 students) were included in the sample and all showed significant gains in the development of phonemic awareness as evidenced by their First Sound Fluency (FSF) scores in *DIBELS® Next*. On *DIBELS® Next* First Sound Fluency (FSF) 24% of students were at Benchmark at the beginning of year, increasing to 65% at Benchmark by middle of year. The mean score increased from 5.5 to 37.7. Not only was progress made for the entire class, but the amount of progress for the lowest students was significant. At the beginning of the year, 15 of the 17 students entered with FSF scores in the Well Below Benchmark/Likely to Need Intensive Support category. Of these 15 students in the Well Below Benchmark category, the following gains were achieved:

- 9 students improved two categories to Benchmark within the 3.5 months of instruction between the BOY and the MOY assessment,
- 4 students improved one category From Well Below Benchmark to Below Benchmark, and
- 2 students improved, but not enough to make it to the next category.

DIBELS® Composite Scores indicated that 29% of students were at Benchmark in the BOY testing cycle which increased to 71% at or above Benchmark by EOY. The development of these phonological awareness skills provides support for the development of Alphabetic Principle skills.

The MAP results support the DIBELS data and provide an alternative assessment to evaluate the effect of the program. In the fall only 4 students were at benchmark increasing to 10 in the Spring. Based on spring MAP results, these students are positioned well for success in first grade. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, all but one student increased by at least one risk level. MAP scores confirm this progress.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a class-wide supplement to Core instruction supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the core instruction in this classroom.

Summary and Conclusions:

This report summarizes data representing 17 students available for both pre- and post-testing in an inner city kindergarten classroom located in Davenport, Iowa. 95% of these students received free and reduced lunch and 19% of the sample were identified with a learning disability. Although the students represented several ethnicities, none in this sample were classified as English Language Learners.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a class-wide supplement to their Tier 1 Core reading instruction. The duration of the instruction was 32 weeks, with each daily session lasting five to ten minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred after every 10 hours of instruction. MAP assessments were also delivered.

Fidelity monitoring occurred both formally and informally. Administrative walk-throughs, consultant visits with observation and feedback, modeling by the building literacy coach, and collegial coaching all contributed to fidelity of implementation. Weekly data meetings and grade level meetings were also used to discuss implementation of the program.

The results of *DIBELS® Next* First Sound Fluency (FSF) show significant gains for all students in the area of phonological awareness. On FSF 24% of students were at Benchmark at the beginning of year, increasing to 65% at Benchmark by middle of year. This measure is not given at the end of the year, so the DIBELS® Composite score is used to show growth across the entire year. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, all but one student increased by at least one risk level. MAP scores confirm this progress. These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a class-wide supplement to Core instruction supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the core instruction in this classroom.

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Technical Report
School: Longfellow Elementary School
District: Mesa Public Schools, Mesa, AZ

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:© series)*, published by 95 Percent Group with Phonological Awareness Screener for Intervention

Assessment

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Small Group Tier 2 or 3; Longfellow Elementary School, Mesa Public Schools, Mesa, AZ
- Technical Report Name: *Phonological Awareness Lessons* Study 3

Study Authors: Kris Churchman, Interventionist, Carla Iaulualo, Kindergarten Teacher

Overview and Background

Mesa Public School District is comprised of 57 elementary schools, 11 junior high schools, 6 comprehensive high schools and several alternative schools serving approximately 69,000 students. In terms of student enrollment, it is the largest unified school district in Arizona. The student population is diverse, representing a minimum of 6 reported ethnicities. The district reports 55 percent of their student body as qualifying for free and reduced lunch.

Mesa Public Schools serves most of the city of Mesa, plus small portions of nearby Tempe and Chandler.

Longfellow Elementary School serves a high needs population. The school reports that 97 percent of their students qualify for free and reduced lunch. The ethnicity is diverse with 85% Hispanic, 9.9% white, 1.9% are Native American, and the rest are a mixture of African-American and other ethnicities.

95 Percent Group has worked with Mesa Public Schools for a number of years to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre- and post-instruction testing.

During the early implementation of this framework, educators from Longfellow Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group's *Phonological Awareness Lessons*. (see the appendix page 7 for a listing of program's skills. The *Phonological Awareness Screener for Intervention (PASI)* was used to place students into intervention groups based on skill deficits. The *PASI* was also used as a progress monitoring tool. *DIBELS® Next* was used as a universal screening assessment, and given to all students. Professional Development included an initial training along with site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Interventionist at Longfellow Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of phonological awareness instruction in small groups of at-risk students using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention© series)* when taught five days a week during intervention. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the Interventionist, (Kris Churchman) and Kindergarten Teacher (Carla Iaulualo) with a sample of 4 Kindergarten students identified as in need of intensive support through the use of a universal screener (*DIBELS® Next).* All the students in the group were male. All students in this sample were Hispanic. The school serves a low socioeconomic population, as represented by the statistic that 90% of the students receive Free and Reduced Lunches. Two of the students were identified as having a Speech-Language Disorder. All of the students were identified as an English Language Learners.

Treatment

Kris Churchman, Interventionist at Longfellow Elementary School, began presenting lessons from *Phonological Awareness Lessons* to a small group of students identified as at risk through the use of a universal screener (DIBELS® Next) in fall of 2013 and continued for 30 weeks. These lessons were delivered during intervention instruction. Each instructional session lasted 30 minutes daily.

Study Controls

There was no control group for this study. All students in this school identified as in need of intervention receive appropriate instruction. It is believed that it would not be appropriate to deny access to intervention in order to create a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	Pretest Date	Posttest Date	Progress Monitoring
DIBELS® Next Composite	08/13 5/13		Students were progress monitored using appropriate DIBELS® measures every 3 weeks.
PASI	08/13 5/13		Students were progress monitored using appropriate sections of the PASI at the end of instruction on a skill.

Responsibilities for the administration and recording of assessments were shared between the classroom teacher and the interventionist.

Summary of Study Findings

Below is a table showing the data collected by the school:

	DIBELS® Next Composite BOY Benchmark: 26 EOY Benchmark: 119		
Student	**BOY**	**EOY**	**change**
1	3	130	+127
2	0	104	+104
3	0	123	+123
4	0	181	+181
Mean	**.07**	**134.5**	**+134.4**
St. Dev	**1.5**	**32.9**	

Color Coding

Red = Well Below Benchmark/Likely to Need Intensive Support

Yellow = Below Benchmark/Likely to Need Strategic Support

Green = At or Above Benchmark

Note: See table in appendix for DIBELS® Summary of Benchmark Goals

DIBELS® Composite Scores indicated that no students were at Benchmark in the BOY testing cycle. While all students were in the highest risk category at the beginning of the year, 75% of them reached Benchmark by the end of the year. The development of these phonological awareness skills provides support for the development of the Alphabetic Principle skills both of which factor into the Composite score. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, one student increased by at least one risk level and three students increased by two risk levels.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as an intervention supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the intervention instruction for these students.

Summary and Conclusions:

This report summarizes data representing 4 students available for both pre- and post-testing in an inner city kindergarten classroom located in Mesa, Arizona. All students were eligible to receive free and reduced lunch. Although all 4 students were Hispanic, only one in this sample was classified as an English Language Learner.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a small-group intervention. The duration of the instruction was 30 weeks, commencing in the fall, with each daily session lasting 30 minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred every three weeks. Students in this sample made significant gains in their DIBELS Composite score as a result of the intervention instruction they received, positioning them well for success at the next grade level. "Benchmark goals and cut points for risk for the DIBELS Composite Score are based on the same logic and procedures as the individual DIBELS measures; however, since the DIBELS Composite Score provides the best overall estimate of a student's skills, the DIBELS Composite Score should generally be interpreted first. If a student is at or above the benchmark goal on the DIBELS Composite Score, the odds are in the student's favor of reaching later important reading outcomes (Dynamic Measurement Group, December 2010, p.1)."

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Technical Report
School: Monroe Elementary School
District: Davenport Community School District, Davenport, IA

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:© series)*, published by 95 Percent Group

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Tier 2 or 3 Small Group Instruction; Monroe Elementary School, Davenport Community SD
- Technical Report Name: *Phonological Awareness Lessons* Study 2 Technical Report

Study Authors: Cindy Schollaert, Reading Coach; Allie Farrell, Kindergarten Teacher/Literacy Coach

Overview and Background

Davenport Community School District is composed of 19 elementary schools, 6 intermediate schools, and 4 high schools serving 15,990 students. The student population is diverse with 61.8 percent qualifying for free and reduced lunch. Additionally 18.6 percent of the students are African-American, 13.6 percent are Hispanic and the rest are a mixture of white and other ethnicity.

In 2012 the District's assessment data indicated that the needs of a large population of students weren't being met in the area of reading. Assessment scores had become stagnant and in some areas they were declining over the past few years. This prompted Davenport Community Schools to begin searching for literacy support to help improve student achievement in their elementary and intermediate grades.

95 Percent Group has worked with Davenport Community School District for the past two years, to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre-and post-instruction testing.

During the 2013-2014 academic year, Davenport began the rollout of a district-wide implementation with 95 Percent Group, in which all elementary schools are placed in 3 Cohort groups. Cohort 1 was launched in the fall of 2013 and Cohort 2 was launched mid-year in January of 2014. Cohort 3 will be added in the Fall of 2014. Cohort 1 focused on the seven lowest achieving schools in the district and included Monroe Elementary School. During the academic year educators from Monroe Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group resources including lessons from the *Phonological Awareness Lessons*. The *Phonological Awareness Screener for Intervention (PASI)* assessment was used to place students into intervention groups based on skill deficits. The PSI was also used as a pre-and post-lesson assessment. DIBELS® Next was used as a universal screening assessment, and given to all students throughout the district. Professional Development included an initial training along with four site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Kindergarten classroom at Monroe Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of phonological awareness instruction with a small group of students using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention© series)* when taught four days a week during walk-to intervention time. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the Kindergarten teacher, (Allie Farrell) and Literacy Coach (Cindy Schollaert) with a sample of 10 Kindergarten students identified as in need of intensive support through the use of a universal screener (*DIBELS® Next).* The sample was composed of 5 female students and 5 male students. The sample represents a widely diverse population in terms of ethnicity with 5 White students, 1 African-American student, 3 Hispanic, and 1 Asian/Pacific Islander. The school serves an inner-city poor socioeconomic population, as represented by the statistic that 95% of the students receive Free and Reduced Lunches. None of the students were identified with disabilities. One of the students was identified as an English Language Learner.

Treatment

Allie Farrell, Kindergarten teacher at Monroe Elementary School, began presenting lessons from *Phonological Awareness Lessons* to a small group of students identified as at risk through the use of a universal screener (DIBELS® Next) in late fall of 2013 and continued for 28 weeks. These lessons were delivered during walk-to-intervention time. Each instructional session lasted 45 minutes daily.

Study Controls

There was no control group for this study. All students in this school identified as in need of intervention receive appropriate instruction. It is believed that it would not be appropriate to deny access to intervention in order to create a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	**Pretest Date**	**Posttest Date**	**Progress Monitoring**
DIBELS® Next First Sound Fluency	08/13	12/13	Students were progress monitored using appropriate DIBELS® measures every 10 hours of instruction.
DIBELS® Next Phoneme Segmentation Fluency	012/13	5/6/14	
PASI	08/13	05/6/14	

Responsibilities for the administration and recording of assessments were shared between the classroom teacher and the building literacy coach.

Fidelity

Over the course of the year, numerous fidelity checks were completed. Observational fidelity checks were conducted by district and building administration, utilizing a checklist provided by 95 Percent Group. In addition, a 95 Percent Group Consultant did walkthroughs, offering feedback during debriefing sessions with the teacher and administrators. The building literacy coach provided collegial coaching and lesson modeling several times during the year.

Sequence of Lessons

The students in the treatment condition were taught lessons from 95 Percent Group's *Phonological Awareness Lessons* program. Students were identified for treatment when they tested below benchmark in the school's universal screener (DIBELS Next) and then were assessed with a diagnostic assessment, *Phonological Awareness Screener for Intervention (PASI)*, to determine which skills they had mastered and which ones were not mastered. Students were placed in groups by lowest deficit skills along a continuum. The PASI skill numbers exactly correspond to the lesson numbers. Teachers began instruction at the lowest missing skill, taught lessons for 3 weeks, post-tested for mastery, and moved the students to the next missing skill. The continuum of skills is available in the appendix.

Summary of Study Findings

Below is a table showing the data collected by the school:

	DIBELS*® *Next **First Sound Fluency** **Benchmark BOY: 10** **Benchmark MOY: 30**			***DIBELS*® *Next*** **Phoneme Segmentation Fluency** **Benchmark MOY:20** **Benchmark EOY: 40**			**PASI™** **Criterion Referenced Refer to chart for list of skills**		
Student	**BOY**	**MOY**	**change**	**MOY**	**EOY**	**change**	**BOY**	**EOY**	**change**
1	0	31	+ 31	12	47	+35	1.1	5.9	+36
2	0	18	+18	12	31	+19	1.6	5.4	+26
3	0	22	+ 22	21	61	+40	1.1	5.3	+30
4	0	38	+ 38	19	54	+35	1.6	5.9	+31
5	1	24	+ 23	13	34	+31	1.1	5.1	+28
6	0	46	+ 46	33	43	+10	1.6	5.3	+25
7	27	44	+17	33	53	+23	1.6	5.7	+29
8	0	27	+ 27	36	51	+15	1.1	5.1	+28
9	4	2	-2	1	7	+6	1.1	5.4	+31
10	0	4	+ 4	14	19	+5	1.1	5.1	+28
Mean	**3.2**	**25.6**	**+22.4**	**19.4**	**40.0**	**+20.6**	**1.3**	**5.4**	**+4.1**
Std Dev	**8.5**	**15.0**		**11.4**	**17.1**		**0.3**	**0.3**	

Color coding: Red = Well Below Benchmark/Likely to Need Intensive Support Yellow = Below Benchmark/Likely to Need Strategic Support Green = At or Above Benchmark

Note: See table in appendix for DIBELS ®Summary of Benchmark Goals

All students in this sample classroom experienced gains in the development of phonemic awareness as evidenced by their First Sound Fluency (FSF) scores in *DIBELS® Next*. On *DIBELS® Next* First Sound Fluency (FSF) no students were at Benchmark at the beginning of year, increasing to 40% at Benchmark by middle of year. Not only was progress made for the entire group, but the amount of progress for some of the lowest students was significant. At the beginning of the year, 9 of the 10 students entered with FSF scores in the Well Below Benchmark/Likely to Need Intensive Support category. Of these 9 students in the Well Below Benchmark category, the following gains were achieved:

- 3 students improved two categories to Benchmark within the 6 weeks of instruction between the BOY and the MOY assessment,
- 3 students improved one category From Well Below Benchmark to Below Benchmark, and
- 1 student improved one category from Below Benchmark to Benchmark.

The development of these early phonological awareness skills provides support for the development of the higher level phonemic awareness skills necessary for skilled reading. DIBELS® Phoneme Segmentation Fluency scores indicated that 40% of students were at Benchmark in the MOY testing cycle. Because the teacher taught phoneme level skills in the program before the December BOY testing for PSF, many more students were already at benchmark in PSF by the initial screening of this skill compared with the entry point of FSF in the fall. By EOY, the number of Benchmark and Above Benchmark students had increased to 60%. Scores on the PASI show all students in this group moving toward grade level skills. Based on these results, it is clear that continued instruction will lay a solid foundation for acquisition of Alphabetic Principle Skills in first grade.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a Tier 3 intervention supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the intervention instruction with this group of students.

Summary and Conclusions:

This report summarizes data representing 10 students available for both pre- and post-testing in an inner city kindergarten classroom located in Davenport, Iowa. 100% of these students received free and reduced lunch. Although the students represented several ethnicities, only one in this sample was classified as an English Language Learner.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a small-group intervention. The duration of the instruction was 28 weeks, commencing in November, with each daily session lasting 45 minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred after every 10 hours of instruction. PASI™ was also used for Progress monitoring.

Fidelity monitoring occurred both formally and informally. Administrative walk-throughs, consultant visits with observation and feedback, videotaping with feedback, modeling by the building literacy coach, and collegial coaching all contributed to fidelity of implementation. Weekly data meetings and grade level meetings were also used to discuss implementation of the program.

Table of Skills in 95 Percent Group's *Phonological Awareness Lessons Program* and *PASI*

The results of *DIBELS® Next* First Sound Fluency (FSF) show significant gains for all students in the area of phonological awareness. On FSF no students were at Benchmark at the beginning of the year, increasing to 40% at Benchmark by the middle of the year. Phoneme Segmentation Fluency (PSF) measures a more complex phonemic awareness skill than FSF. When PSF is present a student typically has sufficiently developed phonemic awareness skills that then become an asset in acquiring Alphabetic Principle skills, the association of the sound with the letter that spells the sound. Gaining First Sound Fluency skills provides a foundation for development of these higher level skills measured by Phoneme Segmentation Fluency; the fact that all students achieved the middle risk category of PSF at mid-year and none were at the highest risk level supports this view. Furthermore, 60% of students achieved Benchmark status by end of year on PSF. These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a small group intervention supports developing foundational skills in reading, resulting in higher overall student achievement by the end of the year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* was the explicit instruction in PA used for this intervention group.

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Table of Skills in 95 Percent Group's *Phonological Awareness Lessons Program* and *PASI*

Main Skill	Subskill	Description
Skill 1: Concepts and Terms – Readiness (not PA)	1.1	Directionality
	1.2	Representation
	1.3	One-to-One Correspondence
	1.4	First and Last
	1.5	Application: Identification
	1.6	Beginning, Middle, and End
	1.7	Application: Categorization (Sorting by Exclusion)
	1.8	Manipulation: Deletion and Addition
	1.9	Manipulation: Substitution
Skill 2: Applying Language - Readiness(not PA)	2.1	Words in Phrases (Noun Phrases)
	2.2	Simple Sentences
	2.3	Manipulation: Deletion and Addition
	2.4	Manipulation: Substitution
Skill 3: Syllables	3.1	Segmenting/Blending (Compound Words)
	3.2	Application: Identification
	3.3	Application: Categorization (Sorting by Position)
	3.4	Manipulation: Addition
	3.5	Manipulation: Deletion
	3.6	Manipulation: Substitution
	3.7	Segmentation/Blending 2 Syllables (Noncompound Words)
	3.8	Counting (1-, 2-, and 3-Syllable Words)
	3.9	Application: Categorization (Sorting by Number)
Skill 4: Onset-Rime	4.1	Blending
	4.2	Segmentation
	4.3	Isolation
	4.4	Application: Identification
	4.5	Application: Categorization (Sorting by Exclusion)
	4.6	Manipulation: Substitution
Skill 5: Phonemes	5.1	Isolation (Initial Phonemes)
	5.2	Application: Identification (Initial Phonemes)
	5.3	Application: Categorization (Sorting by Initial Phonemes)
	5.4	Application: Categorization (Sorting by Exclusion)
	5.5	Blending (2-and 3-Phoneme Words)
	5.6	Segmentation (2-and 3-Phoneme Words)
	5.7	Segmentation (4-Phoneme Words)
	5.8	Application: Categorization (Sorting by Number)
	5.9	Manipulation: Addition
	5.10	Manipulation: Deletion
	5.11	Manipulation: Substitution

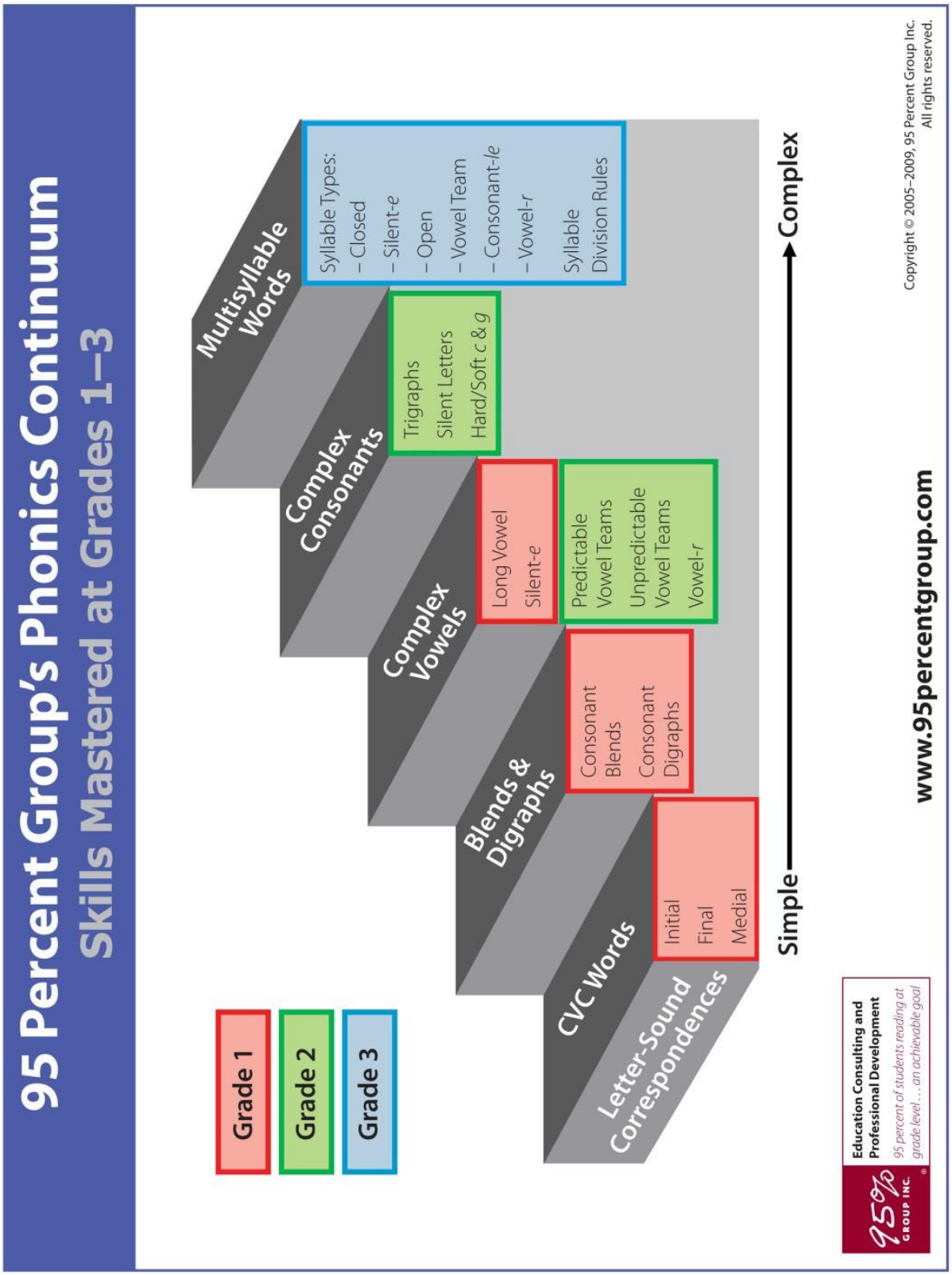
Appendix 1 – Skill List for 95 Percent Group's *Phonics Chip Kit*

BASIC	
Skill 2	**Consonant Vowel Consonant (CVC)**
2.1	Short Vowel, Short a
2.2	Short Vowel, Short a (Followed by Nasals)
2.3	Short Vowel, Short i
2.4	Short Vowel, Short o
2.5	Short Vowel, Short e
2.6	Short Vowel, Short u
Skill 3	**Consonant Blends**
3.1	Initial S-Blends
3.2	Initial L-Blends
3.3	Initial R-Blends
3.4	Initial 3-Letter Blends
3.5	Final S-Blends
3.6	Final L- and T- Blends
3.7	Final Preconsonant Nasal Blends
3.8	Past Tense (Inflected -ed)
Skill 4	**Consonant Digraphs**
4.1	Initial Digraphs (ch/sh)
4.2	Final Digraphs (ch/sh)
4.3	Digraphs (th/wh)
4.4	Final Digraph (ck)
4.5	Floss Rule
4.6	Initial qu and Final x
Skill 5	**Long Vowel Silent-e**
5.1	Long Vowel Silent-*e*, Long a
5.2	Long Vowel Silent-*e*, Long i
5.3	Long Vowel Silent-*e*, Long a, e, i, o, u
5.4	Long Vowel Open Syllable
5.5	Phonograms (ang, ing, and ong)
5.6	Phonograms (ink, ank, and onk)
5.7	Phonograms (ild and ind)
5.8	Phonograms (old, olt, and ost)
5.9	Phonograms (all, oll, and alk)
5.10	Long Vowel Silent-*e*, Long e
5.11	Long Vowel Silent-*e*, Long o
5.12	Long Vowel Silent-*e*, Long u

ADVANCED	
Skill 6	**Predictable Vowel Teams**
6.1	Vowel Teams (oa and igh)
6.2	Vowel Teams (oe and ee)
6.3	Vowel Teams (ai and ay)
6.4	Vowel Teams (oi and oy)
6.5	Vowel Teams (au and aw)
Skill 7	**Unpredictable Vowel Teams**
7.1	Vowel Teams, Two Sounds of ie
7.2	Vowel Teams, Two Sounds of ow
7.3	Vowel Teams, Two Sounds of ea
7.4	Vowel Teams, Two Sounds of oo
7.5	Vowel Teams, Two Sounds of ou
7.6	Vowel Teams, Two Sounds of ew
Skill 8	**Vowel-r**
8.1	Vowel-*r*: ar and or
8.2	Vowel-*r*: er, ir and ur
8.3	Words Beginning with w+ar and w+or
8.4	Vowel-*r*: Phonograms (air and are)
8.5	Vowel-*r*: Phonograms (oar and ore)
8.6	Vowel-*r*: Phonograms (ear and ere)
Skill 9	**Complex Consonants**
9.1	Silent Letters (kn and gn)
9.2	Silent Letters (wr and mb)
9.3	Complex Consonants (ck and k)
9.4	Complex Consonants (tch and ch)
9.5	Hard and Soft c and g
9.6	Phonograms (ace, age and ice)
9.7	Complex Consonants (dge and ge)
9.8	Past Tense Complex

MULTISYLLABLE	
Skill 10	**Closed Syllables**
10.1	Closed, Single Syllable
10.2	Closed, Simple Multisyllable
10.3	Closed, Complex Multisyllable
10.4	Closed, Schwa Multisyllable
Skill 11	**Long Vowel Silent-*e***
11.1	Long Vowel Silent-*e*, Single Syllable
11.2	Long Vowel Silent-*e*, Simple Multisyllable
11.3	Long Vowel Silent-*e*, Complex Multisyllable
Skill 12	**Open Syllables**
12.1	Open, Single Syllable
12.2	Open, Simple Multisyllable
12.3	Open, Complex Multisyllable
Skill 13	**Predictable Vowel Teams**
13.1	Predictable Vowel Team, Single Syllable
13.2	Predictable Vowel Team, Multisyllable
13.3	Unpredictable Vowel Team, Single Syllable
13.4	Unpredictable Vowel Team, Multisyllable
Skill 14	**Consonant-*le***
14.1	Consonant-*le*, Single and Multisyllable
Skill 15	**Vowel-*r***
15.1	Vowel-*r*, Single Syllable
15.2	Vowel-*r*, Simple Multisyllable
15.3	Vowel-*r*, Complex Multisyllable

95 Percent Group's Phonics Continuum



DIBELS® Next: Summary of Benchmark Goals and Cut Points for Risk

	Kindergarten			First Grade			Second Grade			Third Grade			Fourth Grade			Fifth Grade			Sixth Grade		
	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End
DIBELS Composite Score	**26** 13	**122** 85	**119** 89	**113** 97	**130** 100	**155** 111	**141** 109	**190** 145	**238** 180	**220** 180	**285** 235	**330** 280	**290** 245	**330** 290	**391** 330	**357** 258	**372** 310	**415** 340	**344** 280	**358** 285	**380** 324
First Sound Fluency (FSF)	**10** 5	**30** 20																			
Letter Naming Fluency (LNF)	No benchmark set for LNF																				
Phoneme Segmentation Fluency (PSF)		**20** 10	**40** 25	**40** 25																	
Nonsense Word Fluency (NWF)																					
Correct Letter Sounds		**17** 8	**28** 15	**27** 18	**43** 33	**58** 47	**54** 35														
Whole Words Read				**1** 0	**8** 3	**13** 6	**13** 6														
DIBELS Oral Reading Fluency (DORF)																					
Words Correct				**23** 16	**47** 32	**52** 37	**72** 55	**87** 65	**70** 55	**86** 68	**100** 80	**90** 70	**103** 79	**115** 95	**111** 96	**120** 101	**130** 105	**107** 90	**109** 92	**120** 95
Accuracy				**78%** 68%	**90%** 82%	**90%** 81%	**96%** 91%	**97%** 93%	**95%** 89%	**96%** 92%	**97%** 94%	**96%** 93%	**97%** 94%	**98%** 95%	**98%** 95%	**98%** 96%	**99%** 97%	**97%** 94%	**97%** 94%	**98%** 96%
Retell					**15** 0	**16** 8	**21** 13	**27** 18	**20** 10	**26** 18	**30** 20	**27** 14	**30** 20	**33** 24	**33** 22	**36** 25	**36** 25	**27** 16	**29** 18	**32** 24
Retell Quality of Response							**2** 1	**2** 1	**2** 1	**2** 1	**3** 2	**2** 1	**2** 1	**3** 2	**2** 1	**3** 2	**3** 2	**2** 1	**2** 1	**3** 2
Daze									**8** 5	**11** 7	**19** 14	**15** 10	**17** 12	**24** 20	**18** 12	**20** 13	**24** 18	**18** 14	**19** 14	**21** 15

DIBELS Composite Score: A combination of multiple DIBELS scores, which provides the best overall estimate of the student's reading proficiency. For information on how to calculate the composite score, see the *DIBELS Next Benchmark Goals and Composite Score* document available from http://dibels.org/.

BENCHMARK GOAL (large number in top of each box): Students scoring at or above the benchmark goal have the odds in their favor (approximately 80%–90%) of achieving later importing reading outcomes. These scores are identified as *At or Above Benchmark* and the students are likely to need *Core Support*.

CUT POINT FOR RISK (small number in each box): Students scoring below the cut point for risk are unlikely (approximately 10%–20%) to achieve subsequent goals without receiving additional, targeted instructional support. These scores are identified as *Well Below Benchmark* and the students are likely to need *Intensive Support*.

Scores below the benchmark goal and at or above the cut point for risk are identified as *Below Benchmark*. In this range, a student's future performance is harder to predict, and these students are likely to need *Strategic Support*.

This is a summary of the DIBELS Next benchmark goals. For a full description, see the *DIBELS Next Benchmark Goals and Composite Score* document available from http://dibels.org/.

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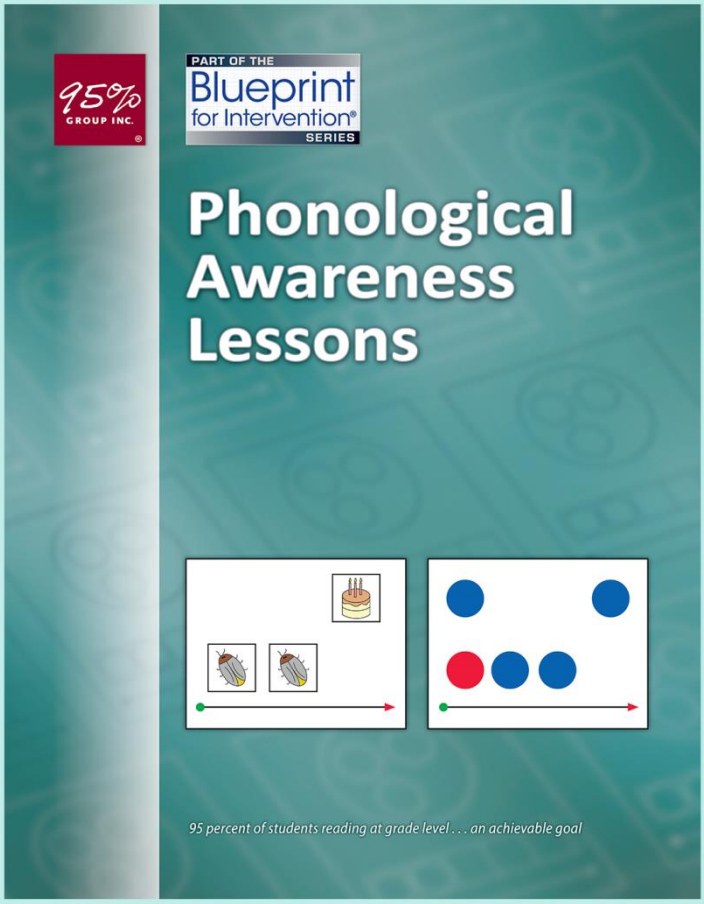
Technical Reports on Efficacy of 95 Percent Group's Products



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Technical Reports on Efficacy

of 95 Percent Group's Products

Page

Phonological Awareness (PA)

Appendix

Technical Report on Efficacy of 95 Percent Group's *Phonological Awareness Lessons* K Class-wide
J.B. Young Elementary, Davenport, IA – **Phonological Awareness Lessons Study 1**

Technical Report
School: J.B. Young Elementary School
District: Davenport Community School District, Davenport, IA

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:*© *series)*, published by 95 Percent Group

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Class-wide; J.B. Young Elementary School, Davenport Community SD
- Technical Report Name: Phonological Awareness Lessons Study 1

Study Authors: Rachel Anderson, Reading Coach; Casey Fleming, Kindergarten Teacher

Overview and Background

Davenport Community School District is composed of 19 elementary schools, 6 intermediate schools, and 4 high schools serving 15,990 students. The student population is diverse with 61.8 percent qualifying for free and reduced lunch. Additionally 18.6 percent of the students are African-American, 13.6 percent are Hispanic and the rest are a mixture of white and other ethnicity.

In 2012 the District's assessment data indicated that the needs of a large population of students weren't being met in the area of reading. Assessment scores had become stagnant and in some areas they were declining over the past few years. This prompted Davenport Community Schools to begin searching for literacy support to help improve student achievement in their elementary and intermediate grades.

95 Percent Group has worked with Davenport Community School District for the past two years, to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre-and post-instruction testing.

During the 2013-2014 academic year, Davenport began the rollout of a district-wide implementation with 95 Percent Group, in which all elementary schools are placed in 3 Cohort groups. Cohort 1 was launched in the fall of 2013 and Cohort 2 was launched mid-year in January of 2014. Cohort 3 will be added in the Fall of 2014. Cohort 1 focused on the seven lowest achieving schools in the district and included J. B. Young Elementary School. During the academic year educators from J. B. Young Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group resources including lessons from the Phonological Awareness Lessons. The Phonological Awareness Screener for Intervention (PASI) assessment was used to place students into intervention groups based on skill deficits. The PSI was also used as a pre-and post-lesson assessment. DIBELS® Next was used as a universal screening assessment, and given to all students throughout the district. Professional Development included an initial training along with four site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Kindergarten classroom at J.B. Young Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of class-wide phonological awareness instruction using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention*© *series)* when taught for five to ten minutes a day as a supplement during core reading instruction. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the teacher (Casey Fleming) and reading coach (Rachel Anderson) of the elementary school with a sample of 21 students in an all-day Kindergarten classroom. The sample was composed of 15 male students and 6 female students. The sample represents a widely diverse population in terms of ethnicity with 7 African-American students, 5 White, 1 Hispanic, and 8 students in the "Other" category. The school serves an inner-city poor socioeconomic population, as represented by the statistic that 95% of the students receive Free and Reduced Lunches.

Three of the 21 students were identified with disabilities; 2 were identified as learning disabled, 1 with a speech-language disorder, and 1 with an "other disability". None of the students were identified as English Language Learners.

Treatment

Casey Fleming, Kindergarten teacher at J.B. Young Elementary School, began presenting lessons from *Phonological Awareness Lessons* to her students in the fall of 2013 and continued for 32 weeks, completing the program in the spring of 2014. These lessons were delivered to the whole class each day during Core (Tier1) instruction. Each instructional session lasted 5 – 10 minutes daily. For a list of the continuum of skills, see the appendix.

Study Controls

There was no control group for this study because the school implemented the program in all classrooms. Additionally the program was implemented district-wide so there were no control classrooms to include in the study. It is believed that, especially since the school serves a very economically disadvantaged population that enter Kindergarten with very low phonological awareness scores, it would not be appropriate to deny access to the lessons to one classroom as a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	**Pretest Date**	**Posttest Date**	**Progress Monitoring**
MAP	08/12/13	5/15/14	Students were progress monitored using appropriate DIBELS® measures every 10 hours of instruction.
DIBELS® First Sound Fluency	08/13	12/11/13	
DIBELS® Composite	08/13	5/19/14	
PASI	08/13	05/15/14	

Responsibilities for the administration and recording of assessments were shared between the classroom teacher, the building literacy coach, and the reading interventionist.

Fidelity

Over the course of the year, 17 fidelity checks were completed. Observational fidelity checks were conducted by district and building administration, utilizing a checklist provided by 95 Percent Group. In addition, a 95 Percent Group Consultant did walkthroughs, offering feedback and setting goals during debriefing sessions with the teacher and administrators. The building literacy coach provided collegial coaching and lesson modeling 4 times during the year.

Summary of Study Findings

Below is a table showing the data collected by the school:

	First Sound Fluency - *DIBELS® Next* Benchmark BOY: 10 Benchmark MOY: 30			***Composite Score - DIBELS® Next* Benchmark BOY: 26 Benchmark EOY: 119**			**MAP Benchmark Fall: 142.5 Benchmark Spr: 157.7**		
Student	**BOY**	**MOY**	**change**	***BOY***	***EOY***	***change***	**Fall**	**Spring**	**Ch.**
1	0	4	+ 4	1	21	*+20*			
2	0	8	+ 8	0	99	*+99*			
3	0	23	+ 23	2	151	*+149*	134	164	+30
4	0	26	+ 26	0	110	*+110*			
5	1	30	+ 29	1	155	*+154*	122	157	+35
6	0	40	+ 40	0	111	*+111*			
7	30	50	+20	65	265	*+200*	122	193	+71
8	17	56	+ 39	20	180	*+160*			
9	0	38	+38	0	117	*+117*			
10	2	40	+ 38	2	156	*+154*	126	166	+40
11	0	42	+ 42	0	138	*+138*	142	172	+30
12	2	48	+ 46	11	135	*+124*	146	165	+19
13	22	50	+ 28	47	125	*+78*	141	159	+18
14	0	26	+26	0	180	*+180*	150	164	+14
15	0	48	+48	30	170	*+140*	138	165	+27
16	0	58	+58	1	189	*+188*	138	168	+30
17	20	55	+35	41	183	*+142*	146	175	+29
Mean	**5.5**	**37.7**	**+32.2**	**13.0**	**146.2**	**+133.2**	**136.8**	**168.0**	**+31.2**
Std. Dev.	**9.9**	**16.1**		**20.4**	**51.4**		**9.8**	**9.7**	

Notes: Beginning of the Year (BOY) and End of Year (EOY) data is available for 17 of the 21 students in the classroom due to mobility.

Color coding: Red = Well Below Benchmark/Likely to Need Intensive Support

Yellow = Below Benchmark

Green = At or Above Benchmark

All students in this classroom for whom both pre- and post-instruction assessment was available (17 of 21 students) were included in the sample and all showed significant gains in the development of phonemic awareness as evidenced by their First Sound Fluency (FSF) scores in *DIBELS® Next*. On *DIBELS® Next* First Sound Fluency (FSF) 24% of students were at Benchmark at the beginning of year, increasing to 65% at Benchmark by middle of year. The mean score increased from 5.5 to 37.7. Not only was progress made for the entire class, but the amount of progress for the lowest students was significant. At the beginning of the year, 15 of the 17 students entered with FSF scores in the Well Below Benchmark/Likely to Need Intensive Support category. Of these 15 students in the Well Below Benchmark category, the following gains were achieved:

- 9 students improved two categories to Benchmark within the 3.5 months of instruction between the BOY and the MOY assessment,
- 4 students improved one category From Well Below Benchmark to Below Benchmark, and
- 2 students improved, but not enough to make it to the next category.

DIBELS® Composite Scores indicated that 29% of students were at Benchmark in the BOY testing cycle which increased to 71% at or above Benchmark by EOY. The development of these phonological awareness skills provides support for the development of Alphabetic Principle skills.

The MAP results support the DIBELS data and provide an alternative assessment to evaluate the effect of the program. In the fall only 4 students were at benchmark increasing to 10 in the Spring. Based on spring MAP results, these students are positioned well for success in first grade. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, all but one student increased by at least one risk level. MAP scores confirm this progress.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a class-wide supplement to Core instruction supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the core instruction in this classroom.

Summary and Conclusions:

This report summarizes data representing 17 students available for both pre- and post-testing in an inner city kindergarten classroom located in Davenport, Iowa. 95% of these students received free and reduced lunch and 19% of the sample were identified with a learning disability. Although the students represented several ethnicities, none in this sample were classified as English Language Learners.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a class-wide supplement to their Tier 1 Core reading instruction. The duration of the instruction was 32 weeks, with each daily session lasting five to ten minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred after every 10 hours of instruction. MAP assessments were also delivered.

Fidelity monitoring occurred both formally and informally. Administrative walk-throughs, consultant visits with observation and feedback, modeling by the building literacy coach, and collegial coaching all contributed to fidelity of implementation. Weekly data meetings and grade level meetings were also used to discuss implementation of the program.

The results of *DIBELS® Next* First Sound Fluency (FSF) show significant gains for all students in the area of phonological awareness. On FSF 24% of students were at Benchmark at the beginning of year, increasing to 65% at Benchmark by middle of year. This measure is not given at the end of the year, so the DIBELS® Composite score is used to show growth across the entire year. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, all but one student increased by at least one risk level. MAP scores confirm this progress. These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a class-wide supplement to Core instruction supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the core instruction in this classroom.

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Technical Report
School: Longfellow Elementary School
District: Mesa Public Schools, Mesa, AZ

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:© series)*, published by 95 Percent Group with Phonological Awareness Screener for Intervention

Assessment

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Small Group Tier 2 or 3; Longfellow Elementary School, Mesa Public Schools, Mesa, AZ
- Technical Report Name: *Phonological Awareness Lessons* Study 3

Study Authors: Kris Churchman, Interventionist, Carla Iaulualo, Kindergarten Teacher

Overview and Background

Mesa Public School District is comprised of 57 elementary schools, 11 junior high schools, 6 comprehensive high schools and several alternative schools serving approximately 69,000 students. In terms of student enrollment, it is the largest unified school district in Arizona. The student population is diverse, representing a minimum of 6 reported ethnicities. The district reports 55 percent of their student body as qualifying for free and reduced lunch.

Mesa Public Schools serves most of the city of Mesa, plus small portions of nearby Tempe and Chandler.

Longfellow Elementary School serves a high needs population. The school reports that 97 percent of their students qualify for free and reduced lunch. The ethnicity is diverse with 85% Hispanic, 9.9% white, 1.9% are Native American, and the rest are a mixture of African-American and other ethnicities.

95 Percent Group has worked with Mesa Public Schools for a number of years to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre- and post-instruction testing.

During the early implementation of this framework, educators from Longfellow Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group's *Phonological Awareness Lessons*. (see the appendix page 7 for a listing of program's skills. The *Phonological Awareness Screener for Intervention (PASI)* was used to place students into intervention groups based on skill deficits. The *PASI* was also used as a progress monitoring tool. *DIBELS® Next* was used as a universal screening assessment, and given to all students. Professional Development included an initial training along with site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Interventionist at Longfellow Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of phonological awareness instruction in small groups of at-risk students using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention© series)* when taught five days a week during intervention. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the Interventionist, (Kris Churchman) and Kindergarten Teacher (Carla Iaulualo) with a sample of 4 Kindergarten students identified as in need of intensive support through the use of a universal screener (*DIBELS® Next).* All the students in the group were male. All students in this sample were Hispanic. The school serves a low socioeconomic population, as represented by the statistic that 90% of the students receive Free and Reduced Lunches. Two of the students were identified as having a Speech-Language Disorder. All of the students were identified as an English Language Learners.

Treatment

Kris Churchman, Interventionist at Longfellow Elementary School, began presenting lessons from *Phonological Awareness Lessons* to a small group of students identified as at risk through the use of a universal screener (DIBELS® Next) in fall of 2013 and continued for 30 weeks. These lessons were delivered during intervention instruction. Each instructional session lasted 30 minutes daily.

Study Controls

There was no control group for this study. All students in this school identified as in need of intervention receive appropriate instruction. It is believed that it would not be appropriate to deny access to intervention in order to create a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	Pretest Date	Posttest Date	Progress Monitoring
DIBELS® Next Composite	08/13 5/13		Students were progress monitored using appropriate DIBELS® measures every 3 weeks.
PASI	08/13 5/13		Students were progress monitored using appropriate sections of the PASI at the end of instruction on a skill.

Responsibilities for the administration and recording of assessments were shared between the classroom teacher and the interventionist.

Summary of Study Findings

Below is a table showing the data collected by the school:

	DIBELS® Next Composite BOY Benchmark: 26 EOY Benchmark: 119		
Student	**BOY**	**EOY**	**change**
1	3	130	+127
2	0	104	+104
3	0	123	+123
4	0	181	+181
Mean	**.07**	**134.5**	**+134.4**
St. Dev	**1.5**	**32.9**	

Color Coding

Red = Well Below Benchmark/Likely to Need Intensive Support

Yellow = Below Benchmark/Likely to Need Strategic Support

Green = At or Above Benchmark

Note: See table in appendix for DIBELS® Summary of Benchmark Goals

DIBELS® Composite Scores indicated that no students were at Benchmark in the BOY testing cycle. While all students were in the highest risk category at the beginning of the year, 75% of them reached Benchmark by the end of the year. The development of these phonological awareness skills provides support for the development of the Alphabetic Principle skills both of which factor into the Composite score. *DIBELS® Next* Composite Score for Kindergarten combines multiple DIBELS® indicator scores in order to provide the best overall estimate of a student's reading proficiency. According to the Composite Score, one student increased by at least one risk level and three students increased by two risk levels.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as an intervention supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the intervention instruction for these students.

Summary and Conclusions:

This report summarizes data representing 4 students available for both pre- and post-testing in an inner city kindergarten classroom located in Mesa, Arizona. All students were eligible to receive free and reduced lunch. Although all 4 students were Hispanic, only one in this sample was classified as an English Language Learner.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a small-group intervention. The duration of the instruction was 30 weeks, commencing in the fall, with each daily session lasting 30 minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred every three weeks. Students in this sample made significant gains in their DIBELS Composite score as a result of the intervention instruction they received, positioning them well for success at the next grade level. "Benchmark goals and cut points for risk for the DIBELS Composite Score are based on the same logic and procedures as the individual DIBELS measures; however, since the DIBELS Composite Score provides the best overall estimate of a student's skills, the DIBELS Composite Score should generally be interpreted first. If a student is at or above the benchmark goal on the DIBELS Composite Score, the odds are in the student's favor of reaching later important reading outcomes (Dynamic Measurement Group, December 2010, p.1)."

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Technical Report
School: Monroe Elementary School
District: Davenport Community School District, Davenport, IA

Intervention Program: *Phonological Awareness Lessons (part of the Blueprint for Intervention:© series)*, published by 95 Percent Group

- Study Form Name: *Phonological Awareness Lessons* Kindergarten Tier 2 or 3 Small Group Instruction; Monroe Elementary School, Davenport Community SD
- Technical Report Name: *Phonological Awareness Lessons* Study 2 Technical Report

Study Authors: Cindy Schollaert, Reading Coach; Allie Farrell, Kindergarten Teacher/Literacy Coach

Overview and Background

Davenport Community School District is composed of 19 elementary schools, 6 intermediate schools, and 4 high schools serving 15,990 students. The student population is diverse with 61.8 percent qualifying for free and reduced lunch. Additionally 18.6 percent of the students are African-American, 13.6 percent are Hispanic and the rest are a mixture of white and other ethnicity.

In 2012 the District's assessment data indicated that the needs of a large population of students weren't being met in the area of reading. Assessment scores had become stagnant and in some areas they were declining over the past few years. This prompted Davenport Community Schools to begin searching for literacy support to help improve student achievement in their elementary and intermediate grades.

95 Percent Group has worked with Davenport Community School District for the past two years, to assist them in the implementation of a multi-tiered system of instructional supports (MTSS) framework that utilizes 95 Percent Group's instructional materials and diagnostic assessments for placement of students and pre-and post-instruction testing.

During the 2013-2014 academic year, Davenport began the rollout of a district-wide implementation with 95 Percent Group, in which all elementary schools are placed in 3 Cohort groups. Cohort 1 was launched in the fall of 2013 and Cohort 2 was launched mid-year in January of 2014. Cohort 3 will be added in the Fall of 2014. Cohort 1 focused on the seven lowest achieving schools in the district and included Monroe Elementary School. During the academic year educators from Monroe Elementary School received professional development from 95 Percent Group and began to implement intervention instruction using 95 Percent Group resources including lessons from the *Phonological Awareness Lessons*. The *Phonological Awareness Screener for Intervention (PASI)* assessment was used to place students into intervention groups based on skill deficits. The PSI was also used as a pre-and post-lesson assessment. DIBELS® Next was used as a universal screening assessment, and given to all students throughout the district. Professional Development included an initial training along with four site-based coaching and observation visits with a 95 Percent Group consultant.

The study described below uses data from a representative sample of students assigned to one Kindergarten classroom at Monroe Elementary School.

Study Description

Objective of Study

The objective of this study was to evaluate the effectiveness of phonological awareness instruction with a small group of students using lessons from 95 Percent Group's *Phonological Awareness Lessons (part of the Blueprint for Intervention© series)* when taught four days a week during walk-to intervention time. According to Gail Gillon (2002, par. 5) "Measures of phonological awareness, particularly at the phoneme level, are powerful predictors of reading success and can predict early literacy performance more accurately than variables such as intelligence scores, vocabulary knowledge, and socioeconomic status."

Study Group

This study was conducted by the Kindergarten teacher, (Allie Farrell) and Literacy Coach (Cindy Schollaert) with a sample of 10 Kindergarten students identified as in need of intensive support through the use of a universal screener (*DIBELS® Next).* The sample was composed of 5 female students and 5 male students. The sample represents a widely diverse population in terms of ethnicity with 5 White students, 1 African-American student, 3 Hispanic, and 1 Asian/Pacific Islander. The school serves an inner-city poor socioeconomic population, as represented by the statistic that 95% of the students receive Free and Reduced Lunches. None of the students were identified with disabilities. One of the students was identified as an English Language Learner.

Treatment

Allie Farrell, Kindergarten teacher at Monroe Elementary School, began presenting lessons from *Phonological Awareness Lessons* to a small group of students identified as at risk through the use of a universal screener (DIBELS® Next) in late fall of 2013 and continued for 28 weeks. These lessons were delivered during walk-to-intervention time. Each instructional session lasted 45 minutes daily.

Study Controls

There was no control group for this study. All students in this school identified as in need of intervention receive appropriate instruction. It is believed that it would not be appropriate to deny access to intervention in order to create a control group.

Assessment

The assessments used for this sample are indicated in the table below.

Assessment	**Pretest Date**	**Posttest Date**	**Progress Monitoring**
DIBELS® Next First Sound Fluency	08/13	12/13	Students were progress monitored using appropriate DIBELS® measures every 10 hours of instruction.
DIBELS® Next Phoneme Segmentation Fluency	012/13	5/6/14	
PASI	08/13	05/6/14	

Responsibilities for the administration and recording of assessments were shared between the classroom teacher and the building literacy coach.

Fidelity

Over the course of the year, numerous fidelity checks were completed. Observational fidelity checks were conducted by district and building administration, utilizing a checklist provided by 95 Percent Group. In addition, a 95 Percent Group Consultant did walkthroughs, offering feedback during debriefing sessions with the teacher and administrators. The building literacy coach provided collegial coaching and lesson modeling several times during the year.

Sequence of Lessons

The students in the treatment condition were taught lessons from 95 Percent Group's *Phonological Awareness Lessons* program. Students were identified for treatment when they tested below benchmark in the school's universal screener (DIBELS Next) and then were assessed with a diagnostic assessment, *Phonological Awareness Screener for Intervention (PASI)*, to determine which skills they had mastered and which ones were not mastered. Students were placed in groups by lowest deficit skills along a continuum. The PASI skill numbers exactly correspond to the lesson numbers. Teachers began instruction at the lowest missing skill, taught lessons for 3 weeks, post-tested for mastery, and moved the students to the next missing skill. The continuum of skills is available in the appendix.

Summary of Study Findings

Below is a table showing the data collected by the school:

	DIBELS*® *Next **First Sound Fluency** **Benchmark BOY: 10** **Benchmark MOY: 30**			***DIBELS*® *Next*** **Phoneme Segmentation Fluency** **Benchmark MOY:20** **Benchmark EOY: 40**			**PASI™** **Criterion Referenced Refer to chart for list of skills**		
Student	**BOY**	**MOY**	**change**	**MOY**	**EOY**	**change**	**BOY**	**EOY**	**change**
1	0	31	+ 31	12	47	+35	1.1	5.9	+36
2	0	18	+18	12	31	+19	1.6	5.4	+26
3	0	22	+ 22	21	61	+40	1.1	5.3	+30
4	0	38	+ 38	19	54	+35	1.6	5.9	+31
5	1	24	+ 23	13	34	+31	1.1	5.1	+28
6	0	46	+ 46	33	43	+10	1.6	5.3	+25
7	27	44	+17	33	53	+23	1.6	5.7	+29
8	0	27	+ 27	36	51	+15	1.1	5.1	+28
9	4	2	-2	1	7	+6	1.1	5.4	+31
10	0	4	+ 4	14	19	+5	1.1	5.1	+28
Mean	**3.2**	**25.6**	**+22.4**	**19.4**	**40.0**	**+20.6**	**1.3**	**5.4**	**+4.1**
Std Dev	**8.5**	**15.0**		**11.4**	**17.1**		**0.3**	**0.3**	

Color coding: Red = Well Below Benchmark/Likely to Need Intensive Support Yellow = Below Benchmark/Likely to Need Strategic Support Green = At or Above Benchmark

Note: See table in appendix for DIBELS ®Summary of Benchmark Goals

All students in this sample classroom experienced gains in the development of phonemic awareness as evidenced by their First Sound Fluency (FSF) scores in *DIBELS® Next*. On *DIBELS® Next* First Sound Fluency (FSF) no students were at Benchmark at the beginning of year, increasing to 40% at Benchmark by middle of year. Not only was progress made for the entire group, but the amount of progress for some of the lowest students was significant. At the beginning of the year, 9 of the 10 students entered with FSF scores in the Well Below Benchmark/Likely to Need Intensive Support category. Of these 9 students in the Well Below Benchmark category, the following gains were achieved:

- 3 students improved two categories to Benchmark within the 6 weeks of instruction between the BOY and the MOY assessment,
- 3 students improved one category From Well Below Benchmark to Below Benchmark, and
- 1 student improved one category from Below Benchmark to Benchmark.

The development of these early phonological awareness skills provides support for the development of the higher level phonemic awareness skills necessary for skilled reading. DIBELS® Phoneme Segmentation Fluency scores indicated that 40% of students were at Benchmark in the MOY testing cycle. Because the teacher taught phoneme level skills in the program before the December BOY testing for PSF, many more students were already at benchmark in PSF by the initial screening of this skill compared with the entry point of FSF in the fall. By EOY, the number of Benchmark and Above Benchmark students had increased to 60%. Scores on the PASI show all students in this group moving toward grade level skills. Based on these results, it is clear that continued instruction will lay a solid foundation for acquisition of Alphabetic Principle Skills in first grade.

These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a Tier 3 intervention supports the development of foundational skills in reading, resulting in higher overall student achievement by end of year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* were the explicit instruction in PA used for the intervention instruction with this group of students.

Summary and Conclusions:

This report summarizes data representing 10 students available for both pre- and post-testing in an inner city kindergarten classroom located in Davenport, Iowa. 100% of these students received free and reduced lunch. Although the students represented several ethnicities, only one in this sample was classified as an English Language Learner.

All students were provided instruction with 95 Percent Group's *Phonological Awareness Lessons* as a small-group intervention. The duration of the instruction was 28 weeks, commencing in November, with each daily session lasting 45 minutes. Students were progress monitored using grade level appropriate *DIBELS® Next* Benchmark and Progress Monitoring measures. Progress monitoring occurred after every 10 hours of instruction. PASI™ was also used for Progress monitoring.

Fidelity monitoring occurred both formally and informally. Administrative walk-throughs, consultant visits with observation and feedback, videotaping with feedback, modeling by the building literacy coach, and collegial coaching all contributed to fidelity of implementation. Weekly data meetings and grade level meetings were also used to discuss implementation of the program.

Table of Skills in 95 Percent Group's *Phonological Awareness Lessons Program* and *PASI*

The results of *DIBELS® Next* First Sound Fluency (FSF) show significant gains for all students in the area of phonological awareness. On FSF no students were at Benchmark at the beginning of the year, increasing to 40% at Benchmark by the middle of the year. Phoneme Segmentation Fluency (PSF) measures a more complex phonemic awareness skill than FSF. When PSF is present a student typically has sufficiently developed phonemic awareness skills that then become an asset in acquiring Alphabetic Principle skills, the association of the sound with the letter that spells the sound. Gaining First Sound Fluency skills provides a foundation for development of these higher level skills measured by Phoneme Segmentation Fluency; the fact that all students achieved the middle risk category of PSF at mid-year and none were at the highest risk level supports this view. Furthermore, 60% of students achieved Benchmark status by end of year on PSF. These findings suggest that providing explicit instruction using the *Phonological Awareness Lessons* program as a small group intervention supports developing foundational skills in reading, resulting in higher overall student achievement by the end of the year. Although phonological awareness may have been implicitly taught at other times during the core reading instruction, 95 Percent Group's *Phonological Awareness Lessons* was the explicit instruction in PA used for this intervention group.

References:

Gillon, G. (2002, December 03). Phonological Awareness Intervention for Children: From the Research Laboratory to the Clinic. The ASHA Leader.

Table of Skills in 95 Percent Group's *Phonological Awareness Lessons Program* and *PASI*

Main Skill	Subskill	Description
Skill 1: Concepts and Terms – Readiness (not PA)	1.1	Directionality
	1.2	Representation
	1.3	One-to-One Correspondence
	1.4	First and Last
	1.5	Application: Identification
	1.6	Beginning, Middle, and End
	1.7	Application: Categorization (Sorting by Exclusion)
	1.8	Manipulation: Deletion and Addition
	1.9	Manipulation: Substitution
Skill 2: Applying Language - Readiness(not PA)	2.1	Words in Phrases (Noun Phrases)
	2.2	Simple Sentences
	2.3	Manipulation: Deletion and Addition
	2.4	Manipulation: Substitution
Skill 3: Syllables	3.1	Segmenting/Blending (Compound Words)
	3.2	Application: Identification
	3.3	Application: Categorization (Sorting by Position)
	3.4	Manipulation: Addition
	3.5	Manipulation: Deletion
	3.6	Manipulation: Substitution
	3.7	Segmentation/Blending 2 Syllables (Noncompound Words)
	3.8	Counting (1-, 2-, and 3-Syllable Words)
	3.9	Application: Categorization (Sorting by Number)
Skill 4: Onset-Rime	4.1	Blending
	4.2	Segmentation
	4.3	Isolation
	4.4	Application: Identification
	4.5	Application: Categorization (Sorting by Exclusion)
	4.6	Manipulation: Substitution
Skill 5: Phonemes	5.1	Isolation (Initial Phonemes)
	5.2	Application: Identification (Initial Phonemes)
	5.3	Application: Categorization (Sorting by Initial Phonemes)
	5.4	Application: Categorization (Sorting by Exclusion)
	5.5	Blending (2-and 3-Phoneme Words)
	5.6	Segmentation (2-and 3-Phoneme Words)
	5.7	Segmentation (4-Phoneme Words)
	5.8	Application: Categorization (Sorting by Number)
	5.9	Manipulation: Addition
	5.10	Manipulation: Deletion
	5.11	Manipulation: Substitution

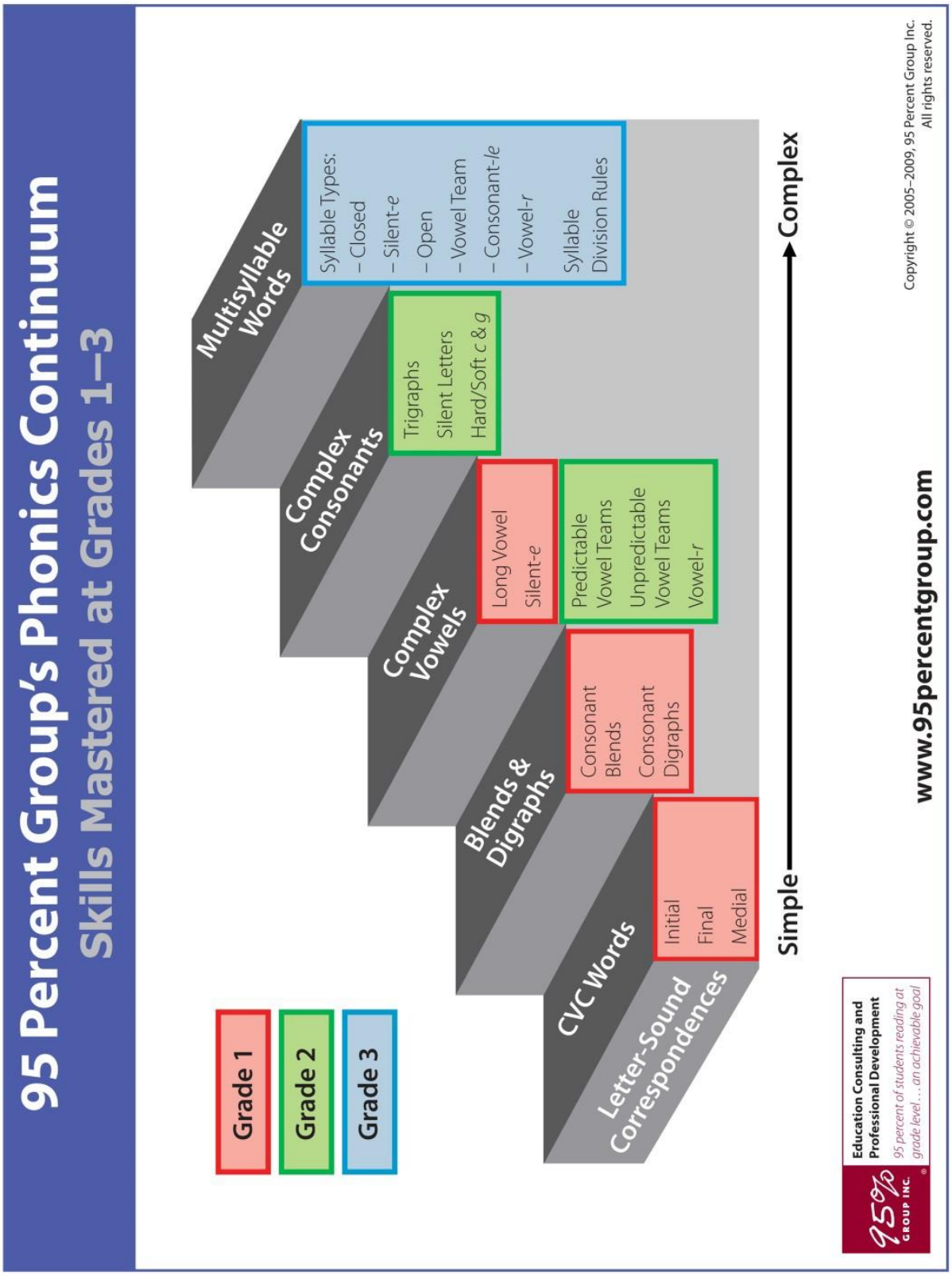
Appendix 1 – Skill List for 95 Percent Group's *Phonics Chip Kit*

BASIC	
Skill 2	**Consonant Vowel Consonant (CVC)**
2.1	Short Vowel, Short a
2.2	Short Vowel, Short a (Followed by Nasals)
2.3	Short Vowel, Short i
2.4	Short Vowel, Short o
2.5	Short Vowel, Short e
2.6	Short Vowel, Short u
Skill 3	**Consonant Blends**
3.1	Initial S-Blends
3.2	Initial L-Blends
3.3	Initial R-Blends
3.4	Initial 3-Letter Blends
3.5	Final S-Blends
3.6	Final L- and T- Blends
3.7	Final Preconsonant Nasal Blends
3.8	Past Tense (Inflected -ed)
Skill 4	**Consonant Digraphs**
4.1	Initial Digraphs (ch/sh)
4.2	Final Digraphs (ch/sh)
4.3	Digraphs (th/wh)
4.4	Final Digraph (ck)
4.5	Floss Rule
4.6	Initial qu and Final x
Skill 5	**Long Vowel Silent-e**
5.1	Long Vowel Silent-*e*, Long a
5.2	Long Vowel Silent-*e*, Long i
5.3	Long Vowel Silent-*e*, Long a, e, i, o, u
5.4	Long Vowel Open Syllable
5.5	Phonograms (ang, ing, and ong)
5.6	Phonograms (ink, ank, and onk)
5.7	Phonograms (ild and ind)
5.8	Phonograms (old, olt, and ost)
5.9	Phonograms (all, oll, and alk)
5.10	Long Vowel Silent-*e*, Long e
5.11	Long Vowel Silent-*e*, Long o
5.12	Long Vowel Silent-*e*, Long u

ADVANCED	
Skill 6	**Predictable Vowel Teams**
6.1	Vowel Teams (oa and igh)
6.2	Vowel Teams (oe and ee)
6.3	Vowel Teams (ai and ay)
6.4	Vowel Teams (oi and oy)
6.5	Vowel Teams (au and aw)
Skill 7	**Unpredictable Vowel Teams**
7.1	Vowel Teams, Two Sounds of ie
7.2	Vowel Teams, Two Sounds of ow
7.3	Vowel Teams, Two Sounds of ea
7.4	Vowel Teams, Two Sounds of oo
7.5	Vowel Teams, Two Sounds of ou
7.6	Vowel Teams, Two Sounds of ew
Skill 8	**Vowel-r**
8.1	Vowel-*r*: ar and or
8.2	Vowel-*r*: er, ir and ur
8.3	Words Beginning with w+ar and w+or
8.4	Vowel-*r*: Phonograms (air and are)
8.5	Vowel-*r*: Phonograms (oar and ore)
8.6	Vowel-*r*: Phonograms (ear and ere)
Skill 9	**Complex Consonants**
9.1	Silent Letters (kn and gn)
9.2	Silent Letters (wr and mb)
9.3	Complex Consonants (ck and k)
9.4	Complex Consonants (tch and ch)
9.5	Hard and Soft c and g
9.6	Phonograms (ace, age and ice)
9.7	Complex Consonants (dge and ge)
9.8	Past Tense Complex

MULTISYLLABLE	
Skill 10	**Closed Syllables**
10.1	Closed, Single Syllable
10.2	Closed, Simple Multisyllable
10.3	Closed, Complex Multisyllable
10.4	Closed, Schwa Multisyllable
Skill 11	**Long Vowel Silent-*e***
11.1	Long Vowel Silent-*e*, Single Syllable
11.2	Long Vowel Silent-*e*, Simple Multisyllable
11.3	Long Vowel Silent-*e*, Complex Multisyllable
Skill 12	**Open Syllables**
12.1	Open, Single Syllable
12.2	Open, Simple Multisyllable
12.3	Open, Complex Multisyllable
Skill 13	**Predictable Vowel Teams**
13.1	Predictable Vowel Team, Single Syllable
13.2	Predictable Vowel Team, Multisyllable
13.3	Unpredictable Vowel Team, Single Syllable
13.4	Unpredictable Vowel Team, Multisyllable
Skill 14	**Consonant-*le***
14.1	Consonant-*le*, Single and Multisyllable
Skill 15	**Vowel-*r***
15.1	Vowel-*r*, Single Syllable
15.2	Vowel-*r*, Simple Multisyllable
15.3	Vowel-*r*, Complex Multisyllable

95 Percent Group's Phonics Continuum



DIBELS® Next: Summary of Benchmark Goals and Cut Points for Risk

	Kindergarten			First Grade			Second Grade			Third Grade			Fourth Grade			Fifth Grade			Sixth Grade		
	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End	Beg	Mid	End
DIBELS Composite Score	**26** 13	**122** 85	**119** 89	**113** 97	**130** 100	**155** 111	**141** 109	**190** 145	**238** 180	**220** 180	**285** 235	**330** 280	**290** 245	**330** 290	**391** 330	**357** 258	**372** 310	**415** 340	**344** 280	**358** 285	**380** 324
First Sound Fluency (FSF)	**10** 5	**30** 20																			
Letter Naming Fluency (LNF)	No benchmark set for LNF																				
Phoneme Segmentation Fluency (PSF)		**20** 10	**40** 25	**40** 25																	
Nonsense Word Fluency (NWF)																					
Correct Letter Sounds		**17** 8	**28** 15	**27** 18	**43** 33	**58** 47	**54** 35														
Whole Words Read				**1** 0	**8** 3	**13** 6	**13** 6														
DIBELS Oral Reading Fluency (DORF)																					
Words Correct				**23** 16	**47** 32	**52** 37	**72** 55	**87** 65	**70** 55	**86** 68	**100** 80	**90** 70	**103** 79	**115** 95	**111** 96	**120** 101	**130** 105	**107** 90	**109** 92	**120** 95
Accuracy				**78%** 68%	**90%** 82%	**90%** 81%	**96%** 91%	**97%** 93%	**95%** 89%	**96%** 92%	**97%** 94%	**96%** 93%	**97%** 94%	**98%** 95%	**98%** 95%	**98%** 96%	**99%** 97%	**97%** 94%	**97%** 94%	**98%** 96%
Retell					**15** 0	**16** 8	**21** 13	**27** 18	**20** 10	**26** 18	**30** 20	**27** 14	**30** 20	**33** 24	**33** 22	**36** 25	**36** 25	**27** 16	**29** 18	**32** 24
Retell Quality of Response							**2** 1	**2** 1	**2** 1	**2** 1	**3** 2	**2** 1	**2** 1	**3** 2	**2** 1	**3** 2	**3** 2	**2** 1	**2** 1	**3** 2
Daze									**8** 5	**11** 7	**19** 14	**15** 10	**17** 12	**24** 20	**18** 12	**20** 13	**24** 18	**18** 14	**19** 14	**21** 15

DIBELS Composite Score: A combination of multiple DIBELS scores, which provides the best overall estimate of the student's reading proficiency. For information on how to calculate the composite score, see the *DIBELS Next Benchmark Goals and Composite Score* document available from http://dibels.org/.

BENCHMARK GOAL (large number in top of each box): Students scoring at or above the benchmark goal have the odds in their favor (approximately 80%–90%) of achieving later importing reading outcomes. These scores are identified as *At or Above Benchmark* and the students are likely to need *Core Support*.

CUT POINT FOR RISK (small number in each box): Students scoring below the cut point for risk are unlikely (approximately 10%–20%) to achieve subsequent goals without receiving additional, targeted instructional support. These scores are identified as *Well Below Benchmark* and the students are likely to need *Intensive Support*.

Scores below the benchmark goal and at or above the cut point for risk are identified as *Below Benchmark*. In this range, a student's future performance is harder to predict, and these students are likely to need *Strategic Support*.

This is a summary of the DIBELS Next benchmark goals. For a full description, see the *DIBELS Next Benchmark Goals and Composite Score* document available from http://dibels.org/.

DIBELS is a registered trademark of Dynamic Measurement Group, Inc. This page is adapted from a chart developed by Cache County School District.

Brevard Public Schools

High-Quality Curriculum for Reading Program Application

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Brevard Public Schools

High-Quality Curriculum for Reading Program Application

Project Design

Brevard Public Schools is seeking funding under the High-Quality Curriculum for Reading Program to promote K-3 reading achievement among elementary schools with the greatest achievement gaps, with a focus on students with identified reading deficiencies receiving Tier 2 or Tier 3 instructional supports. The district reviewed multiple data points to determine areas of focus for K-3 ELA interventions. Instructional materials and programs were selected based on the evidence of impact in closing skill deficits with urgency. By implementing the evidence-based, high-quality curriculum for reading outlined below, Brevard Public Schools can increase reading achievement among elementary learners with the greatest need, while aligning learning opportunities to the new B.E.S.T. ELA Standards. Additionally, funds shall be used to directly support the priorities of the program by including ongoing professional development and implementation support for the selected high-quality reading curriculum. Specific items to be purchased are outlined on the table below and corresponding budget narrative. The timeline for implementation of student initiatives under this program is the start of the 2021-2022 school year, with district and school level training to begin following receipt of the project award.

High-Quality Curriculum for Reading	Science of Reading Components	Students to Be Impacted by Program Activity
Lexia Core5 Reading	To increase proficiency in language, fluency, phonics, phonological awareness, vocabulary, and comprehension	K-3 students working more than a year below grade level
Read Naturally	To increase fluency, phonics, vocabulary, and comprehension	1st-3rd grade students in identified schools
Lindamood-Bell Visualizing and Verbalizing Kits	To increase receptive and expressive language skills	2nd-3rd grade students in identified schools
95% Group Multisyllabic Routines Books	To increase phonics and fluency	2nd-3rd grade students in identified schools
95% Group Phonological Awareness Intervention Kits	To increase phonemic awareness	K-1st grade students in identified schools
95% Group Blending Intervention Kits	To increase phonics skills	1st-3rd grade students in identified schools

Assurance 1 – School Prioritization

Data indicates that the ESSA subgroup of Students with Disabilities (SWD) demonstrates underperformance at 25 elementary schools within Brevard Public Schools. The LEA identified elementary schools with fewer than 41% proficiency, with this student subgroup as the area of focus. In addition, the district reviewed i-Ready Diagnostic data to identify the number of students working 1-2 years below grade level and has prioritized elementary schools with the greatest achievement gap for program participation.

Assurance 2 – Needs Identification

Brevard Public Schools used the most recent student reading assessment data to identify learner needs. Reviewing i-Ready Diagnostic data/universal screener from December of 2020, identified deficiencies include the need to support learners with phonemic awareness, phonics, fluency, and language. Within the target K-3 student group, data indicated the following notable areas:

- 30% are working 1-2 years below grade level in phonological awareness
- 55% are working 1-2 years below grade level in phonics
- 53% are working 1-2 years below grade level in fluency-comprehension informational text
- 56% are working 1 to 2 years below in language-vocabulary

Intervention with the requested supplemental curriculum is specifically aligned to these needs to support grade level performance. *Lexia* will support the phonological awareness, phonics, fluency, vocabulary, and comprehension components of reading, *Read Naturally* will target fluency development, a fundamental bridge to comprehension, with accompany phonics and comprehension intervention instruction. *Visualizing and Verbalizing* will be used to provide explicit, systematic, multi-sensory comprehension lessons, and the implementation of *95% Percent Group* will provide explicit, systematic, multi-sensory phonological awareness and phonics instruction.

Assurance 3 – Standards and ESSA Alignment

The selected K-3 programs are in distinct alignment to the B.E.S.T. ELA Standards, science of reading components, appropriate ESSA levels of evidence, and needs of the target population.

Lexia Core5

- Aligns with the phonological awareness, phonics, and fluency ELA B.E.S.T. Standards (ELA.K.F.1.2, ELA.K.F.1.3, ELA.K.F.1.4, ELA.1.F.1.2, ELA.612.F.2.1, ELA.1.F.1.3, ELA.2.F.1.3, ELA.3.F.1.3, ELA.1.F.1.4, ELA.2.F.1.4, ELA.3.F.1.4)
- Systematic and structured approach to six critical areas of reading for all mastery levels, including at-risk learners. Science of reading domains include phonological awareness, phonics, structural analysis, fluency, vocabulary, and comprehension.
- Strong level of evidence, as defined by ESSA (Hurwitz & Vanacore, 2020)
- Effect Size: .23 *(Please see attached evidence)*

Read Naturally

- Aligns to the fluency standards in ELA B.E.S.T. Standards (ELA.1.F.1.4, ELA.2.F.1.4, ELA.3.F.1.4)
- The Read Naturally Program aligns to the science of reading by utilizing research-based interventions that improve fluency, vocabulary, and comprehension to promote overall reading achievement for struggling readers.
- Strong level of evidence, as defined by ESSA (Dupuis, 2016)
- Effect Size: .24 (*Please see attached evidence or access with the links below)*
  https://www.readnaturally.com/research/reviews/arvans-study
  https://www.readnaturally.com/research/studies

Visualizing and Verbalizing

- Aligns to the ELA B.E.S.T. Standards through the expectation to read and comprehend grade level texts proficiently (ELA.K12.EE.2.1)
- The Lindamood-Bell Visualizing and Verbalizing (V/V) Model aligns to the science of reading domains through development of concept imagery as a basis for improvements in reading comprehension and vocabulary for students experience learning challenges.
- Promising level of evidence, as defined by ESSA (Lindamood-Bell, 2020).
- Effect size: .47 *(Please see attached evidence or access with the links below)*
  https://lindamoodbell.com/wp-content/uploads/2016/08/National_Center_Intensive_Intervention_NCII.pdf
  https://lindamoodbell.com/research

95% Group

- Aligns with the ELA B.E.S.T. Standards and the Foundational Benchmarks under phonological awareness (F.1.2, F.2.1), phonics, and word analysis (F.1.3).
- 95% Group instructional materials and processes are geared towards struggling readers and permit teachers to begin instruction at student's lowest skill deficit, with a focus on phonological awareness, phonics, fluency, vocabulary, and comprehension to improve reading achievement.
- Promising level of evidence, as defined by ESSA (Research Support for 95 Percent Group, 2017).
- Effect Size: .41
- *Please see attached evidence or access with the link below*
  https://www.95percentgroup.com/docs/default-source/Efficacy-Studies/efficacy-report---pa.pdf?sfvrsn=efe3a6da_0

Assurance 4 – Home Partnerships

Parent connectivity will be an essential component for maximizing intervention impact. To foster home partnerships, each program includes options for families to support learning at home.

1. *Lexia* includes a home-school portal where parents may access resources to support their children at home. The portal includes practice opportunities for students that may be accessed outside of the classroom, as well as resources in multiple languages to meet the diverse needs of parents.
2. *Read Naturally* includes short passages with vocabulary and comprehension questions that can be sent home for further practice after school use. Additionally, there are family letters to communicate strategies for increasing fluency at home and video clips that can be used with parents and families to give live demonstrations of the strategies to support their student.
3. *Visualizing and Verbalizing* includes short, grade level texts with higher order questions that can be sent home to practice skills taught during intervention. In addition, progress monitoring charts provide families with a visual picture of the progress students have made and the skills they will be learning next.

4. *95% Group* provides grade-level resources and lessons for home use, including skill-specific lessons in phonological awareness and comprehension. To connect the explicit instruction occurring during intervention with at home supports, participating schools will provide parents with decodable readers and tools to practice fluency at home.

Assurance 5 –LEA Capacity

Brevard Public Schools has the capacity to implement the High-Quality Curriculum for Reading Program with fidelity. District resource teachers, content specialists, and instructional coaches are experts in the implementation of all materials. Through direct partnership with school based literacy coaches, training will be provided to the classroom teachers and interventionists that will utilize the instructional materials with students. School administrators will be trained in the implementation of the program and district expectations for monitoring and fidelity.

Assurance 6 – Evidence-Based Tier Selection

Lexia: Lexia Core5 is listed as "strong" for students in grades K-8 on the Evidence for ESSA list. Consistent with the target population for this program, the findings demonstrate that after one year of use, students with reading difficulties and language-based disabilities were two times more likely than non-users to be proficient readers (Hurwitz & Vanacore, 2020).

Read Naturally: "There is strong evidence to support the use of Read Naturally in the domain of reading fluency, moderate evidence to support the use of Read Naturally in the domain of general reading achievement, and promising evidence for to support the use of Read Naturally in the domain of reading comprehension. In conclusion, there is substantial evidence to support the use of Read Naturally by state and local education agencies, including multiple demonstrations of strong evidence under ESSA" (Dupuis, 2016). What Works Clearinghouse states that the Read Naturally Program falls within the scope of the target population of Students with Disabilities.

Visualizing and Verbalizing: Visualizing and Verbalizing is listed on the ESSA list as promising based on studies, with specific studies demonstrating efficacy among students with disabilities. (Lindamood-Bell, 2020).

95% Group: Multisyllabic Routines, Phonological Awareness, and Blending Intervention are listed on the ESSA list as promising based on studies. Findings from research confirm that using a developmental continuum of phonemic awareness, rather than isolated skills, provides greater value to ensure student progress and proficiency dealing with smaller units of sound.

Assurance 7 – Training and Support

Initial training and ongoing support for effective program implementation shall be provided, including a specified LEA PD Trainer to create and facilitate targeted training for district and school staff, as outlined in Assurance #5. School based literacy coaches at the participating elementary schools will collaborate with district staff for support with modeling and materials implementation. The district will provide online video supports for school based professional development. In addition, district staff will support school intervention teams with designing intervention groups based on student skill data, as well as ongoing support and monitoring for fidelity of implementation. Collaboration between district and school leadership will include data analysis to ensure alignment of resources and impact on student learning. Additional problem solving shall occur, as needed, to support effective implementation.

Assurance 8 – Implementation

The selected programs will be implemented with fidelity at identified elementary schools, beginning in the 2021-2022 school year. Literacy coaches will work directly with the district literacy facilitator and school based administrators to review data and identify K-3 students working below grade level. Intervention schedules will provide instructional minutes to ensure appropriate use of high-quality reading curriculum with the targeted population, and data analysis will ensure students receive interventions with instructional materials that align to identified skill deficits.

Assurance 9 – State Regional Literacy Directors

The district will work directly with the State Regional Literacy Directors (SRLD) to ensure program practices align with the science of reading. In addition, the SRLDs will support the district in making the transition from the science of reading to instructional practices to support

students. The SRLDs will meet with district staff to review the impact the interventions have on student proficiency.

Assurance 10 – Monitoring

To measure progress and the impact on student reading achievement, several tools will used. The district will use the i-Ready data from the 25 target schools in Diagnostic 3 of the 21-22 school year to measure student progress, compared to the pre-implementation i-Ready Diagnostic data/universal screener from December of 2020. Specifically, the LEA shall monitor the percentage of students in Grades K-3 scoring 1-2 grade levels below in phonological awareness, phonics, vocabulary, and comprehension of informational text. In addition to reviewing i-Ready ELA diagnostic results, the district will progress monitor using measures specific to intervention and OPM as outlined in the Decision Trees/MTSS process. To monitor fluency, comprehension and vocabulary progress, the district will use the DORF. For phonics and phonological awareness progress monitoring, the district will use the 95 % PASI and PSI tools. Additionally, both Lexia and Visualizing and Verbalizing, to be implemented under this program, include progress monitoring components for additional data.

Assurance 11 – Equitable Services for Private Schools

Non-public school consultation was conducted electronically to expedite the provision of program information while adhering to social distancing constraints resulting from the Covid-19 pandemic. The LEA emailed each of the 76 non-public schools in Brevard County with program information. The email communication provided school officials with the funding purpose, allowable expenses, equitable services policy, and a link to the district created non-public school intent to participate electronic survey. The LEA collected both delivery receipts from the emails and responses to the online survey. Schools that elected to file the intent to participate received an email providing participation information, the amount of their allocation, an allowable expense request template, and purchase order form. Each non-public school expense request will be reviewed by the district to ensure expenditures are allowable, reasonable, and necessary. Appropriate feedback will be provided to each non-public school leader in accordance with the district's fiscal management policies. Documentation of non-public school consultation, as well as efforts to contact all applicable non-public schools, will be archived by the district. Upon

funding award notification, a non-public school consultation meeting, by telephone or online video conferencing, shall be held with participating non-public school representatives to review procurement requirements, ordering processes, and inventory procedures. Individual follow-up with participating non-public school officials shall be available throughout the program period.

Assurance 12 – Charter Schools

Timely notification to all 12 Brevard County charter schools commenced upon LEA receipt of information regarding the High-Quality Curriculum for Reading Program. An email was sent to each charter school principal that provided a program overview, including allowable expense categories, funding allocations, and guidance on the ESSA definition of "evidence-based" and tier selection criteria. Once the district received confirmation of the total allocation, an email was sent to each school with an expense template and their proportional share allocation. Each completed charter expense request shall be reviewed by the LEA to ensure reimbursement requests are allowable, reasonable, and necessary. Appropriate feedback will be provided to each charter principal for reimbursement in accordance with the district's established fiscal control processes. Upon funding award notification, a charter school consultation meeting, by phone or online video conferencing, will be held with charter school representatives to discuss program requirements. Individual follow-up and on-going support with charter school officials shall be available throughout the program period.

Fiscal Controls

The LEA will provide programmatic and fiscal oversight to ensure program expenditures meet program guidelines. Brevard Public Schools has the fiscal capacity and proven fiscal management required to effectively administer the High-Quality Curriculum for Reading Program. The Department of Elementary Leading and Learning and Financial Services will consult for program and budget adherence to all required and/or regulatory guidelines. Each Brevard public charter schools shall receive equitable allocations and private schools will be recipients of equitable services according to the guidelines outlined under this program, with the LEA retaining control of program funds, as required. Note that the currently approved DOE620 for Brevard Public Schools and General Assurances for Participation in State and Federal Programs are on file with FDOE and no changes exist.

Budget Narrative

The allocation of $511,878.00 shall cover costs associated with the implementation of high-quality reading curriculum for K-3 students in Brevard Public Schools, including the provision of proportional allocations for all charter schools within the district and equitable services for participating private schools. As outlined on the DOE101S, budget costs are requested for:

	Description	Amount
Brevard Public Schools	LEA allocation for high-quality curriculum for reading	$421,020.73
Brevard Public Charter Schools	Charter school allocation (12 schools)	$71,043.22
Private Schools	Private school allocation (13 participating private schools)	$19,809.68
	Total Allocation	**$511,873.63**

General Education Provisions Act (GEPA):

It is not anticipated that the proposed High-Quality Curriculum for Reading Program design will impede equitable access or participation by gender, race, national origin, color, or disability. Rather, the program design encourages equity through its distinct focus on reducing achievement gaps for all students in need of supplemental reading supports. The School Board of Brevard County, Florida does not discriminate on the basis of race, religion, color, national origin, gender, age, disability or marital status in its educational programs, services or activities, or in its hiring or employment practices. Sexual harassment is a form of employee misconduct, which undermines the integrity of the employment relationship, and is prohibited. This policy shall apply to recruitment, employment, transfers, compensation, and other terms and conditions of employment. A student or employee having a grievance concerning discrimination may contact Mark W. Mullins, Ed.D., Superintendent of Brevard Public Schools.

Brevard Public Schools provides routine assistance to students and families with language and/or literacy barriers by providing translated materials, interpreters, and assistance with reading.

References

95% Group Inc (2017). *Research Support for 95 Percent Group Products and Screeners.* Retrieved from https://www.95percentgroup.com/docs/default-source/Efficacy-Studies/research-support-for-95pg-products-and-screeners.pdf?sfvrsn=5e71a7da_0

Dupuis, D.N. (2016). A memo on the definition of evidence-based under the Every Student Succeeds Act as it relates to Read Naturally. Center for Applied Research and Educational Improvement, College of Education and Human Development, University of Minnesota.

Hurwitz, L.B. & Vanacore, K.P. (2020). *Impact of the Lexia® Core5® Reading Program on Students with Reading Difficulties.* Concord, MA: Lexia Learning Systems LLC, A Rosetta Stone Company

Lindamood-Bell (2020). *Learning Center Results 2008-2019.* Retrieved from https://lindamoodbell.com/research

ATTACHMENT 1

Elementary and Secondary School Emergency Relief (ESSER) Fund under the Coronavirus Aid, Relief, and Economic Security (CARES) Act

PROGRAMMATIC, FISCAL, AND REPORTING ASSURANCES

The [Local Educational Agency Chief Executive Officer, or his/her authorized representative] assures the following:

Assurance 1: Prioritize elementary schools with the greatest achievement gap for participation.

Assurance 2: Identify need for a particular program and/or instructional practice based on most recent student assessment data.

Assurance 3: Select a K-3 program and/or an instructional practice aligned to the B.E.S.T. ELA Standards and the science of reading (explicit and systematic instruction in phonological awareness, phonics, fluency, vocabulary and comprehension, as applicable to need) with strong, moderate or promising levels of evidence as defined by ESSA, has an effect size of .20, at a minimum, and meets the needs of the target population.

Assurance 4: Ensure the curriculum will have the capacity to extend beyond direct classroom instruction, and provide options for parents/families to support learning in the home.

Assurance 5: Ensure LEAs capacity to implement the program and/or instructional practice with fidelity.

Assurance 6: Submit supportive evidence of the program that proves evidence-level is strong, moderate, or promising as defined by ESSA, and has an effect size of .20, at a minimum. LEAs should review the evidence-base of the program/practice to ascertain whether the studies were conducted with students that are similar to the LEAs target population.

Assurance 7: Provide quality initial and ongoing training on the program/practice purchased, and ongoing support for effective implementation.

Assurance 8: Implement selected program with fidelity in identified elementary schools in 2021-22.

Assurance 9: Leverage State Regional Literacy Directors (SRLDs) for support for effective implementation of the program.

Assurance 10: Submit a quarterly report and a final report to the Department, as prescribed by the Department, that include updates on program implementation and pre/post assessment data to measure progress and impact on student reading achievement.

Assurance 11: The LEA will provide equitable services to students and teachers in non-public schools as required under 18005 of Division B of the CARES Act. The LEA will provide equitable services to students and teachers in non-public schools located within the LEA in the same manner as provided under section 1117 of the ESEA, as determined through timely and

meaningful consultation with representatives of non-public schools.

- The LEA will ensure that a public agency will maintain control of funds for the services and assistance provided to a non-public school under the ESSER Fund.
- The LEA will ensure that a public agency will have title to materials, equipment, and property purchased with ESSER funds.
- The LEA will ensure that services to a non-public school with ESSER funds will be provided by a public agency directly, or through contract with, another public or private entity.
- To verify that expenditures hereunder for equitable services meets the criteria established in the Request for Applications, the LEA will collect the required assurance from non-public schools, as described in the Request for Applications.

Assurance 12: (For school district LEAs) The LEA will provide an allocation to all charter schools within its district. Unless otherwise agreed between the district and the charter school(s), the charter school allocation shall be not less than the pro-rata share of the district's total allocation, after calculation of equitable services, based on the district's total unweighted FTE for grades K-3. The allocations for new or significantly expanded charter schools shall be based on 2020-21 unweighted FTE enrollment data. In addition, to verify that expenditures hereunder by or for charter schools meets the criteria established in the Request for Applications, the LEA will collect the required assurance from charter schools, as described in the Request for Applications.

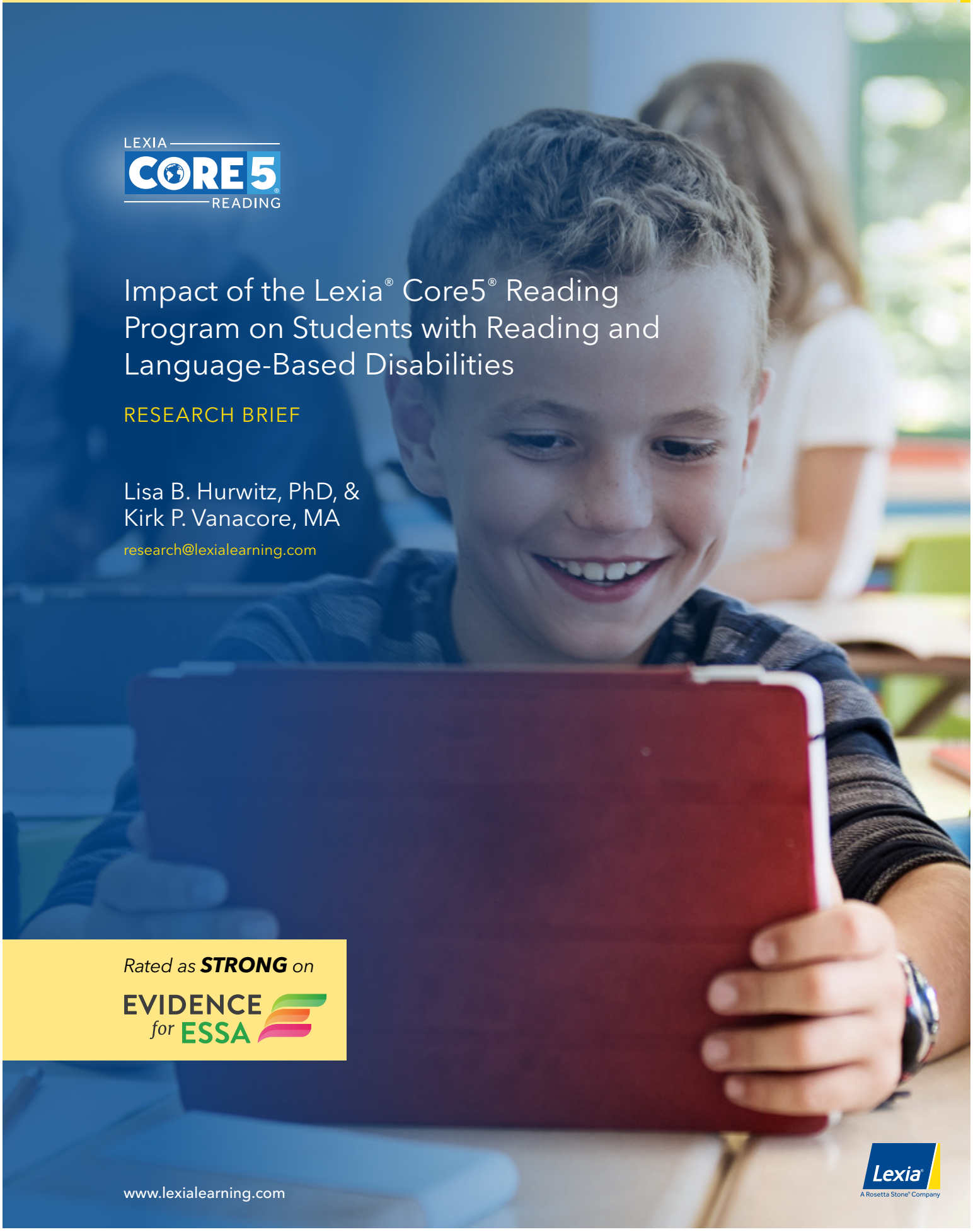
Assurance 13: The LEA and any other entity that receives ESSER funds through the subgrant awarded hereunder will, to the greatest extent practicable, continue to compensate its employees and contractors during the period of any disruptions or closures related to COVID-19 in compliance with Section 18006 of Division B of the CARES Act. In addition, each entity that accepts funds will continue to pay employees and contractors to the greatest extent practicable based on the unique financial circumstances of the entity. CARES Act funds generally will not be used for bonuses, merit pay, or similar expenditures, unless related to disruptions or closures resulting from COVID-19.

Assurance 14: The LEA will comply with all reporting requirements, and submit required quarterly reports to the Florida Department of Education at such time and in such manner and containing such information as the department may subsequently require. The department may require additional reporting in the future, which may include: the methodology LEAs will use to provide services or assistance to students and staff in both public and non-public schools, the uses of funds by the LEAs or other entities and demonstration of their compliance with Section 18003(d), such as any use of funds addressing the digital divide, including securing access to home-based connectivity and remote-use devices, related issues in supporting remote learning for all students, including disadvantaged populations.

Assurance 15: The LEA will cooperate with any examination of records with respect to such funds by making records available for inspection, production, and examination, and authorized individuals available for interview and examination, upon the request of (i) the Florida Department of Education, the Florida Auditor General; (ii) the Department and/or its Inspector General; or (iii) any other federal or state agency, commission, or department in the lawful exercise of its jurisdiction and authority.

Local Educational Agency Chief Executive Officer or Authorized Representative (Printed Name):

Signature:	Date:
	12/3/2020



LEXIA CORE5 READING

Impact of the Lexia® Core5® Reading Program on Students with Reading and Language-Based Disabilities

RESEARCH BRIEF

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Rated as ***STRONG*** *on*
EVIDENCE *for* ESSA

Lexia
A Rosetta Stone® Company

Impact of the Lexia® Core5® Reading Program on Students with Reading and Language-Based Disabilities

Lexia Research Brief

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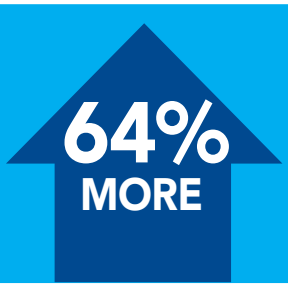
Study Highlights

ESSA STRONG LEVEL

This evaluation is a gold standard, randomized control trial (RCT) that meets ESSA standards for **STRONG** research — the highest level of evidence outlined by federal law.

After using Core5 for the school year, students were **2x** more likely than non-users to be proficient readers.



Core5 was **64% more effective** than comparable programs as measured by standardized assessment growth.

All participants in this study were special education students with IEPs documenting **reading and/or language-based disabilities, including dyslexia**.

Background

About 1 out of every 7 public school students in the U.S. receives special education support through the Individuals with Disabilities Education Act (IDEA).[1] Over 2 million students are diagnosed with specific learning disabilities (SLD) such as dyslexia, over 1 million have speech or language impairments (SLI), and nearly half a million have documented developmental delays (DD) wherein they are slow to reach developmental milestones in areas like communication. Students with these reading and language disabilities might struggle to master literacy skills such as letter-sound knowledge,[2,3] word recognition,[3,4,5] and reading comprehension.[5]

Moreover, diagnoses of reading and/or language-based disabilities co-occur with other kinds of learning difficulties. For example, students with dyslexia also may have difficulties with attention and executive functioning (a set of cognitive processes including planning, organization, working memory, and self-regulation).[2,6] Students who show reading, language-based and/or other cognitive disabilities in early elementary school may face continued difficulties throughout their years of formal education. Only 12% of students with disabilities meet Department of Education elementary reading proficiency criteria,[7] and these students are 3x less likely to graduate high school than their peers in general education.[8] Intervening and providing these students with high quality reading instruction in elementary school is therefore of utmost importance.

Core5 is designed for all students in grades preK-5, including students with reading and language-based disabilities.

The Lexia® Core5® Reading adaptive blended learning program (Core5) is designed to supplement the reading instruction of all students in grades preK-5, including students with reading and language-based disabilities. Core5's scope and sequence covers phonological awareness, phonics, structural analysis, automaticity/fluency, vocabulary, and comprehension. At the beginning of their Core5 experience, students take an online auto placement assessment that places them into one of 21 levels based on their individual reading ability. Moving at their own pace, students then work through a series of online activities organized in levels.

[1] IES National Center for Education Statistics. (2019). Fast facts: *Students with disabilities*. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=64

[2] Centre of Excellence. (2017). *Understanding dyslexia*. Manchester, UK: Centre of Excellence.

[3] Lyon, G. R., Shaywitz, S. E., & Shaywitz, B. A. (2003). A definition of dyslexia. *Annals of Dyslexia*, 53, 1-14. doi:10.1007/s11881-003-0001-9

[4] International Dyslexia Association. (2019). *Adolescents and adults with dyslexia*. Retrieved from https://dyslexiaida.org/adolescents-and-adults-with-dyslexia/

[5] Catts, H. W., Fey, M. E., Tomblin, J. B., & Zhang, X. (2002). A longitudinal investigation of reading outcomes in children with language impairments. *Journal of Speech, Language & Hearing Research*, 45, 1142-1157. doi:10.1044/1092-4388(2002/093)

[6] Varvara, P., Varuzza, C., Sorrentino, A. C., Vicari, S., & Menghini, D. (2014). Executive functions in developmental dyslexia. *Frontiers in Human Neuroscience, 8*. doi:10.3389/fnhum.2014.00120

[7] National Assessment of Educational Progress (NAEP). (2019). *NAEP report card: Reading*. Retrieved from https://www.nationsreportcard.gov/reading/nation/achievement/?grade=4

[8] Horowitz, S. H., Rawe, J., & Whittaker, M. C. (2017). *The state of learning disabilities: Understanding the 1 in 5*. New York: National Center for Learning Disabilities.

Students see and hear concepts presented visually and auditorily, and spend more time focused on skills that they find challenging. If students make a small number of errors in the online program, they receive additional scaffolded support or explicit instruction. If they continue to struggle in the online program, teachers are alerted to deliver a Lexia Lesson,® a scripted traditional lesson designed to target problem areas. When students complete a level, the program generates a paper-and-pencil Lexia Skill Builder® worksheet designed to help them reinforce and generalize what they learned online, as well as a Certificate to display at school or send home. Core5's effectiveness has been demonstrated via 20 peer-reviewed publications,[9] including one focused on students at-risk for dyslexia.[10]

The current study evaluated Core5's effectiveness for elementary school students with documented reading and/or language-based disabilities. This study was designed to meet the criteria for **strong** research as outlined by the Every Student Succeeds (ESSA) act.[11] Under ESSA, only "evidence-based" interventions can be purchased with certain federal funds, including Title I and Comprehensive Support and Improvement grants. ESSA outlines a framework for choosing programs backed by evidence of effectiveness.

Strong research is the highest level of evidence in this framework. Programs backed by **strong** evidence have been evaluated via well-designed and implemented experimental research studies, with students randomly assigned to use either a target program or receive alternative instruction. Few edtech programs have been evaluated at the **strong** level with students with disabilities.[12] As such, this **strong** evaluation of Core5 helps to meet an urgent need to identify effective interventions for these students.

STRONG
RESEARCH
is the highest level of evidence under ESSA.

[9] See Lexia Learning. (2020). *Evidence-based, research-proven: Measuring Lexia's impact*. Retrieved from https://www.lexialearning.com/why-lexia/research-proven

[10] McMurray, S. (2013). An evaluation of the use of Lexia Reading software with children in Year 3, Northern Ireland (6- to 7-year olds). *Journal of Research in Special Educational Needs, 13*, 15-25. doi:10.1111/j.1471-3802.2012.01238.x

[11] Every Student Succeeds Act (ESSA), Pub. L. 114-95, 114 Stat. 1177 (2015-2016).

[12] Kim, M. K., McKenna, J. W., & Park, Y. (2017). The use of computer-assisted instruction to improve the reading comprehension of students with learning disabilities: An evaluation of the evidence base according to the What Works Clearinghouse standards. *Remedial and Special Education, 38*, 233-245. doi:10.1177/0741932517693396

Method

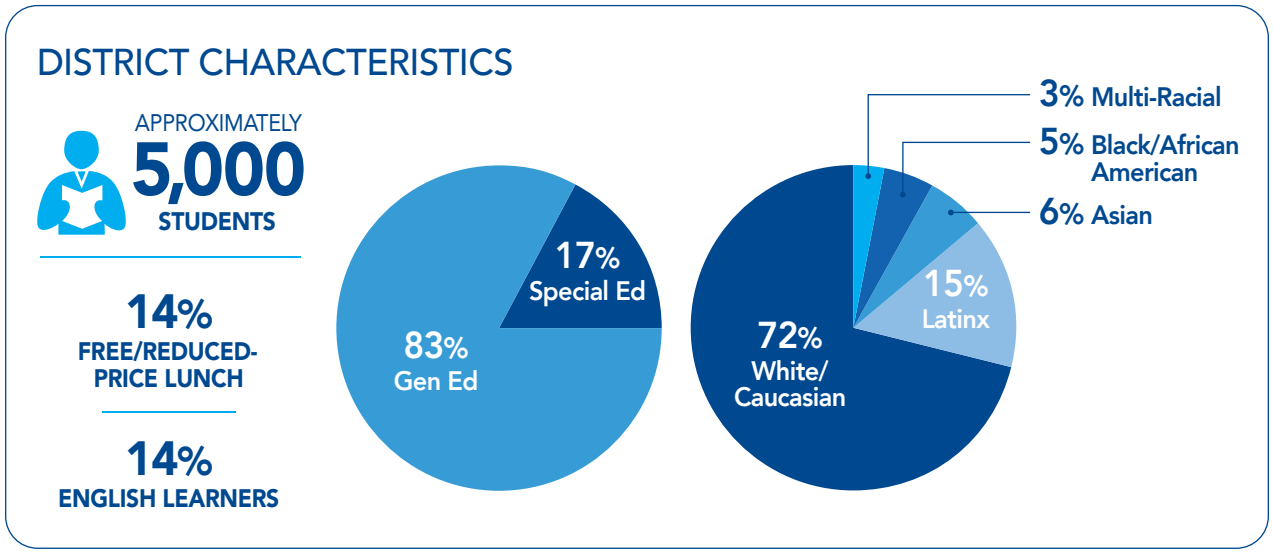
Study Design

At the beginning of the school year after a Fall reading assessment, 3 schools (65 students) were randomly assigned to a treatment group that would use Core5 during push-in and pull-out supplemental instruction. An additional 2 schools (50 students) were randomly assigned to a control group and were tasked with delivering supplemental reading instruction without Core5 (business as usual).[13] Towards the end of the school year, all of these students participated in a Spring reading assessment.

Sample

For this study, Lexia partnered with a mid-sized school district located in the Chicago metropolitan area.

The district had a one-to-one iPad program for students in grades 1 and above. Students in grades 3 and above were allowed to take home iPads for homework purposes. In Kindergarten, students had access to shared devices in the classroom.



[13] In both the Core5 and control schools, special education teachers used commercial reading curricula during supplemental push-in and pull-out sessions. The district did not mandate a uniform special education curriculum, and individual schools had liberty to select interventions. All of the teachers in both the Core5 and control schools who provided survey data used at least one program by Wilson: Fundations, Just Words, and/or Wilson Reading System. In addition, 3 control teachers used Fountas and Pinnell Leveled Literacy Intervention System and 5 teachers (4 treatment and 1 control) used Words Their Way. All treatment teachers also used Core5.

As part of the regular education curriculum, all students also used Schoolwide's reading program. In addition, many students used Freckle and Epic Reading during regular education reading sessions, and a small number used IXL Language Arts, Read Theory, ReadWorks, Learning Ally, and Tumble Books.

Each school building was staffed with a school psychologist who oversaw special education case management, specialists (e.g., speech-language pathologists), and special education teachers tasked with supporting students in core subject areas like reading.

Twenty (20) special education teachers participated in the study. Of these, 11 provided the research team with information on their teaching practices and demographics. These teachers were highly experienced. All but one had Masters degrees, and 82% (9 teachers) had more than 20 years of teaching experience. All were White females.

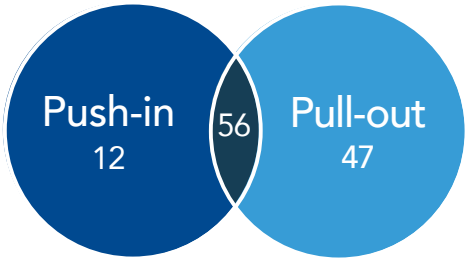
This study focused on 115 students in grades K-5 receiving special education support for reading difficulties. All students had IEP designations of "Specific Learning Disability" (or SLD), "Speech or Language Impairment" (or SLI), and/or "Developmental Delay" (DD). The table on the following page indicates how many students were in each grade, and the Venn diagram denotes how many students had each designation, as well as the number of cases with multiple designations.

District IEP Category Definitions	
Specific Learning Disability (SLD)	A disorder in one or more of the psychological processes involved in using or understanding written or spoken language. This may manifest in an imperfect ability to read, write, spell, listen, or think. Conditions include dyslexia, developmental aphasia, brain injury, perceptual difficulties, and minimal brain dysfunction.
Speech or Language Impairment (SLI)	Communication disorders, including language or voice impairments, stuttering, or impaired articulation.
Developmental Delay (DD)	A delay in one or more of the following areas of development: physical, cognitive, communication, social or emotional, or adaptive.

STUDENT CHARACTERISTICS

Grade Level	Number of Students
K	8
1	6
2	9
3	24
4	35
5	33

115 K–5
SPECIAL EDUCATION STUDENTS



All students in the sample received "push-in" and/or "pull-out" support from a special education teacher. The diagram to the right indicates how many students received one or both forms of instruction. Students receiving push-in support participated in regular education activities, but a special education teacher would join their reading classes to provide them extra support (on average 184 min per week). In contrast, students receiving pull-out support left their regular education classes to receive additional small group (2-6 students) reading instruction in a separate space (on average 190 min per week). During these times with the special education teacher, students in the treatment group would work on Core5 and use other reading curricula.[14]

Reading Achievement Measure

Reading achievement was tested with Measures of Academic Progress® (MAP) Growth™ Reading. MAP is a computer-adaptive assessment that students typically complete in about 45-60 minutes. For grades K-2, MAP measures a) Foundational Skills (phonological awareness and phonics), b) Vocabulary Use and Functions, c) Literature and Informational Text, and d) Language and Writing. For grades 3-5, MAP measures a) Word Meaning and Vocabulary Knowledge, b) Understanding and Integrating Key Ideas and Details for Literature and Informational Text, and c) Understanding and Interpreting Craft and Structure for Literature and Informational Text. MAP generates a composite scale score in Rasch Units (RIT), which can range from 100 to 350, as well as a percentile score. Students who scored at or above the 40th percentile at either time point were categorized as "proficient" readers.[14]

[14] The 40th percentile cut-off is based on precedent set by Petscher, Y., & Kim, Y. (2011). Efficiency of predicting risk in word reading using fewer, easier letters. *Assessment for Effective Intervention, 37*, 17-25. doi:10.1177/1534508411407761

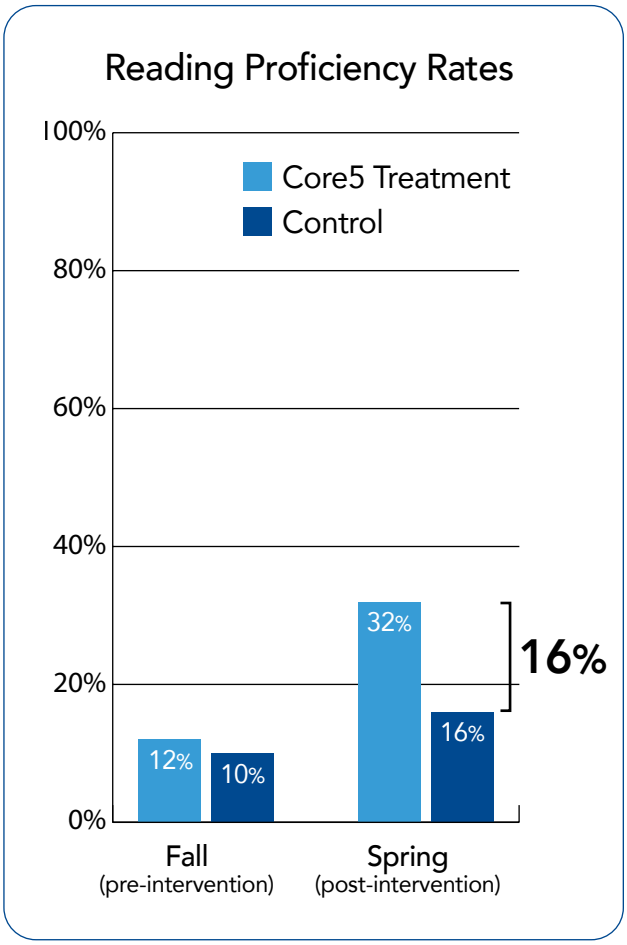
Results

Core5 Usage

Students in the treatment group began using Core5 in mid-October and continued using it through the end of the school year, excluding weeks with district-wide holidays or standardized testing. On average, **students used Core5 for 24 weeks with 60 minutes of online work per week**.

Reading Outcomes

Core5 users made solid progress towards achieving reading proficiency over the course of the school year. At the beginning of the school year before the intervention commenced, students in the treatment and control schools earned similar MAP scores. Only about 1 in 10 students were reading proficiently across both groups.



After a year of Core5 use, students in the treatment group earned significantly higher scores on MAP than students in the control group – the equivalent of about 8 percentile points. The proportion of proficient readers in the control group remained fairly constant over the course of the school year. In contrast, about 1 in 3 Core5 users earned proficient scores in the Spring – **a 20% increase** over the course of the school year. At the end of the school year, Core5 users were twice as likely to be proficient readers compared to control students.

Students who used Core5 for across the school year were **2x more likely** to be proficient readers.

Researchers calculate a metric called an effect size (Cohen's *d*) to quantify the impact of an intervention. If treatment students receive higher scores than control students, Cohen's *d* will be positive, with larger Cohen's *d* estimates indicating a larger treatment effect. Previous research has found that the average reading intervention for students with learning disabilities had an effect size of Cohen's *d* = .14.[15] Cohen's *d* in this study is .23. This means that **Core5 was 64% more effective than comparable programs**.

See the Technical Appendix for more information on the calculation of these results.

Conclusion

We found that Core5 had a positive and statistically significant impact on the standardized reading scores of students with reading and/or language-based disabilities. Treatment students using Core5 were twice as likely to become proficient readers at the end of the school as control students who did not use Core5. Although this study is not the first to find positive effects for this student population, many previous studies using other programs either did not adhere to ESSA's standards for **strong** research or failed to find large, statistically significant effects.[11,12] Consequently, the results of this study provide valuable information for educational decision-makers. Results show Core5 is an effective supplement for an important at-risk population of readers.

Several program design characteristics may have contributed to Core5's effectiveness. Core5 provided systematic, sequential, and adaptive instruction across six areas of reading, including skills that are historically more challenging for students with reading and language disabilities such as phonics and comprehension.[3,5] Prior research points to the effectiveness of this instructional approach.[2,12] The online component of Core5 was able to provide students multimodal learning opportunities which may be more appealing than traditional print materials – features previous research suggests promote learning and engagement.[2] Core5 also encouraged teachers to provide in-person support when program data made it clear that students were struggling to master specific skills, another program element noted as effective in prior research.[12] Additionally, students may have derived satisfaction from completing levels in the online program and earning Certificates, which may have enhanced their reading motivation.[2] Together, these features contributed to strong learning.

The results of this study indicate that Core5 is an effective tool to support students with reading and/or language-based disabilities. This student population is known to have great difficulty mastering foundational reading skills,[3] which in turn has the potential to set them on a negative academic trajectory. Intervening in elementary school when students are still learning to read can have a profound impact on their school performance when later they are required to "read to learn."

[15] Scammacca, N. K., Roberts, G., Vaughn, S., & Stuebing, K. K. (2015). A meta-analysis of interventions for struggling readers in grades 4-12: 1980-2011. *Journal of learning disabilities, 48*, 369-390. doi:10.1177/0022219413504995

Technical Appendix

Below we provide descriptive information on students' MAP performance in the Fall (pretest) and Spring (post-test).

	Fall MAP RIT Scores *M* (*SD*)	Fall MAP Percentile Scores *M* (*SD*)	Fall Map Proficiency % (*n*)	Spring MAP RIT Scores *M* (*SD*)	Spring MAP Percentile Scores *M* (*SD*)	Spring MAP Proficiency % (*n*)
Core5 Treatment (*n* = 65)	176.46 (19.53)	21.49 (17.39)	12% (8)	189.77 (16.31)	29.86 (25.00)	32% (21)
Control (*n* = 50)	173.68 (18.68)	19.92 (14.99)	10% (5)	185.02 (15.84)	22.52 (15.00)	16% (8)

To test for differences in Spring MAP RIT scores between the Core5 treatment and control group, we initially attempted to run a multi-level model that accounted for the nested structure of our dataset (i.e., students nested within schools). However, there was no variance at the school level after controls were added. Therefore, we ran an analysis of covariance (ANCOVA) model. We compared Spring MAP RIT scores across conditions while also controlling for Fall MAP performance, IEP designation, instructional model (i.e., whether students received push-in support), and grade. The overall model was significant, $F(11, 103) = 11.89$, $p < .001$, $\eta^2 = .56$. Treatment students using Core5 scored significantly higher on MAP (adjusted $M = 192.36$, $SE = 1.71$) than control students (adjusted $M = 188.65$, $SE = 1.83$), $F(1, 103)$, $= 5.03$, $p = .027$, $\eta^2 = .05$, Cohen's $d = .23$. Results were similar when the model was repeated for MAP percentile score (adjusted $M_{Treatment} = 35.47$, $SE = 2.61$ vs $M_{Control} = 27.30$, $SE = 2.75$, $F(1, 103) = 7.55$, $p = .007$, $\eta^2 = .07$, Cohen's $d = .55$)

We next ran a series of χ^2 and McNemar's tests to compare proficiency rates for Core5 treatment and control students at the two test points. The proportion of proficient readers did not differ between treatment and control students in the Fall $\chi^2(1, N = 115) = .15$, $p > .05$, Cramer's $V = .04$. In contrast, there were more proficient readers in the Core5 treatment group than the control group in the Spring, $\chi^2(1, N = 115) = 3.99$, $p = .046$, Cramer's $V = .19$. McNemar's tests show that the increase in proficiency rates was significant for the treatment group ($p = .001$) but not for the control group ($p > .05$).

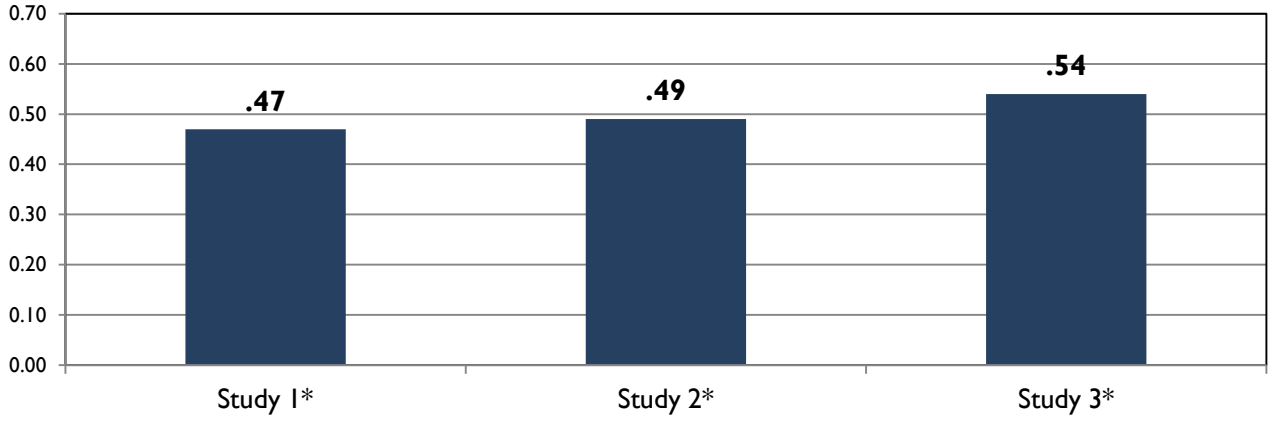
RES-C5-ESSA-STR-0720

National Center on Intensive Intervention Reviews Lindamood-Bell Studies: Significant Effects on Reading

Background

The National Center on Intensive Intervention (NCII), funded by the U.S. Department of Education, reviews educational intervention studies and rates them on several metrics. Findings are published on the NCII website, so consumers can make informed decisions on interventions that meet their needs. NCII reviewed three studies on the Lindamood-Bell programs. Average effect sizes across targeted reading measures are shown below.

Average Effect Sizes



*Statistically significant ($p \leq .05$).

Results

According to NCII, "a positive effect size indicates that participating in the intervention led to improvement in performance on the academic outcome measure." The effect sizes reported in the above chart were statistically significant and "substantively important" based on What Works Clearinghouse criteria. The results of these studies illustrate that Lindamood-Bell instruction leads to improved reading.

LindamoodBell.com
(800) 233-1819

Profile

Number of Studies: 3
Grade Levels: 3rd-12th
Lindamood-Bell Programs Implemented:

- Seeing Stars®
- Visualizing and Verbalizing®
- Lindamood Phoneme Sequencing®

Outcome Measures: Various measures of reading

Source: National Center on Intensive Intervention (http://www.intensiveintervention.org/chart/instructional-intervention-tools):

- Study 1: Burke, C., Howard, L. & Evangelou, T. (2005).
- Study 2: Bell, N., Hungerford, D, Flowers, L. & Fitler, R.
- Study 3: Bell, N., Worthington, P., Hungerford, D, Fitler, R. & Flowers, L.

RESEARCH

Abstracts and Articles

LINDAMOOD-BELL

EST. 1986

LEARNING PROCESSES™

Table of Contents

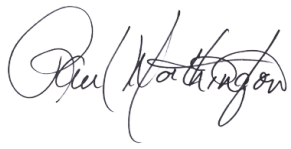
Research Abstracts

Research Articles

Introduction

Over the past thirty years, Lindamood-Bell Learning Processes® and our research collaborators have amassed a large body of evidence indicating that all individuals can learn to their potential.In this research summary, you will find peer-reviewed, independent, and collaborative research conducted by the founders of Lindamood-Bell and various universities. These studies have significantly advanced the knowledge and practices about what must be done to meet the needs of individuals who struggle to learn, including those with a diagnosis of dyslexia or autism.

Sincerely,



Paul Worthington
Director of Research and Development

Intensive Summer Intervention Drives Linear Growth of Reading Skills in Struggling Readers

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

PROFILE:

Number of Students:

- 31 Seeing Stars

Age: 6-12

Program Implemented:

- Seeing Stars

Outcome Measures:

- Woodcock-Johnson IV (Basic Reading Skills & Reading Fluency)
- Test of word Reading Efficiency (Index)

BACKGROUND:

One of the major achievements of research in reading is the development of evidence-based intervention programs for struggling readers. Neuroscientific reading behavioral interventions studies typically utilized a pre-post design only to examine efficacy. Such study designs preclude the study of growth trajectories over the course of the intervention program. This new study conducted with the Institute of Learning Sciences Laboratory at the University of Washington analyzed reading growth curves for dyslexics using the Seeing Stars intervention approach. A cohort of 31 children (6–12 years) with reading difficulties (N = 21 with dyslexia diagnosis) was randomly selected for 160 hours of intervention occurring over 8 weeks. Measures were taken over 4 sessions assessing decoding, oral reading fluency, and comprehension.

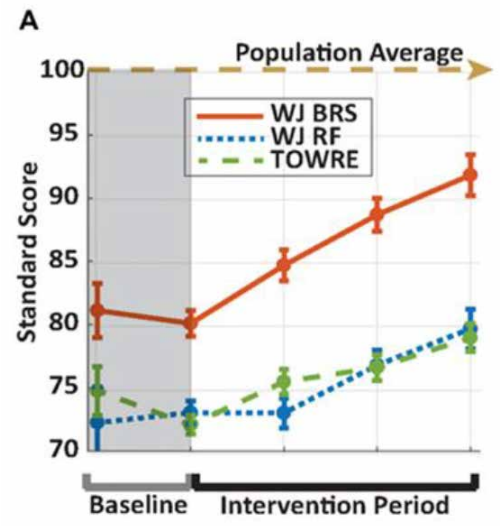


Fig. 2. (A) Mean growth of composite reading skills. Growth curves are plotted using the intercept and slope estimates from a linear mixed-effects model with session as a categorical variable. The dashed lines represent measurements during the baseline period. Results show growth across reading measures during the intervention period, and no change (or a decline) in scores during the baseline period.ASD-EXP group.

Note: Figured used with permission.

RESULTS:

Using a Mixed-effects model of longitudinal measurements essentially revealed a "linear dose-response relationship between hours of intervention and improvement in reading ability, with significant linear growth on every measure of reading skill and none of the measures showing non-linear growth trajectories". More specifically, decoding skills showed substantial growth [Cohen's d = 0.85, with fluency and comprehension growing more gradually [d = 0.41. These findings contrasted with stability or decline seen during a pre-intervention baseline period, seen in the group of age, and reading skill-matched control participants. Reading skills increased linearly with each hour of intervention, carrying practical implications for decision making around intervention policy and practice.

Donnelly, P. M., Huber, E., & Yeatman, J. D. (2019). Intensive summer intervention drives linear growth of reading skill in struggling readers. Frontiers in Psychology, 10, 1900. doi:10.3389/fpsyg.2019.01900

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Rapid and Widespread White Matter Plasticity During an Intensive Reading Intervention

Seeing Stars® for Phonological and Orthographic Processing in Reading and Spelling (SI)

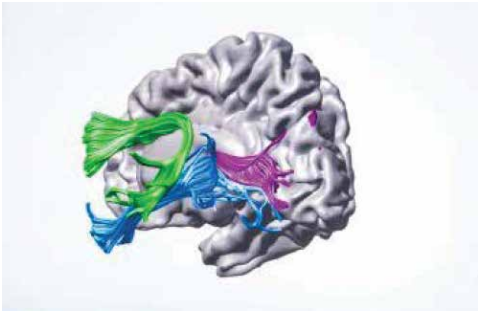
PROFILE:

Number of Subjects: 24
Age: 7-12
Program Implemented:
- Seeing Stars

Outcome Measures:
- Brain Structure (MRI)
- TOWRE-2
- Woodcock–Johnson Basic Reading Composite

BACKGROUND:

The Institute for Learning and Brain Sciences at the University of Washington conducted a study examining growth in reading skills and neural connections (white matter) as a result of intensive reading intervention to develop the sensory-cognitive function of symbol imagery. This study is the first to measure white matter during an intensive reading intervention for dyslexics comparing children's learning with their brains' changes. Children who struggled with reading and/or had a diagnosis of dyslexia received eight weeks of intensive reading intervention at a Lindamood-Bell® Learning Center. Subjects took a series of reading tests before and after the intervention and underwent MRI scans at the beginning, middle, and end. A control group of children with mixed reading skill levels did not receive the reading intervention.



The study focused on the arcuate fasciculus (green), where language and sounds are processed; the left inferior longitudinal fasciculus (blue), where visual inputs, such as letters on a page, are transmitted throughout the brain; and the posterior callosal connections (pink), which link the two hemispheres of the brain (illustration used with permission).

RESULTS:

For study participants who took part in the development of symbol imagery for phonological and orthographic processing, reading skills improved by an average of one full grade level. Diffusion MRI data collected during instruction indicates that there were large-scale changes in white matter conductivity correlating with the gains in reading. Further, the study identifies white matter tracts that may predict the ease with which a child learns how to read. Subjects in the control group showed no changes. The results of this study illustrate that Lindamood-Bell Learning Center instruction in the Seeing Stars program led to increased brain structure conductivity and improved reading for children with reading difficulties including dyslexia.

LOCATION:

Institute for Learning and Brain Sciences, Department of Speech and Hearing Sciences, University of Washington, Seattle, WA, USA

Huber, E., Donnelly, P. M., Rokem, A., & Yeatman, J. D. (2018, February 22). White matter plasticity and reading instruction: Widespread anatomical changes track the learning process. Nature Communications. Preprint doi:10.1101/268979

Changes in Intrinsic Local Connectivity After Reading Intervention in Children with Autism

Visualizing and Verbalizing®
for Language Comprehension
and Thinking (V/V)®

PROFILE:

Number of Subjects:
- 14 Visualizing and Verbalizing
- 14 Wait-list Control

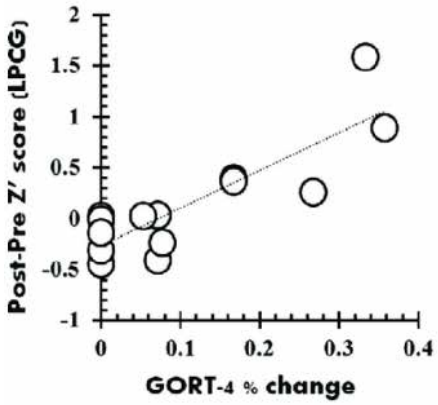
Age: 8-14

Program Implemented:
- Visualizing and Verbalizing

Outcome Measures:
- Brain connectivity (fMRI)
- Gray Oral Reading Tests-4th (comprehension)

BACKGROUND:

The current study takes a translational neuroimaging approach to test the impact of a structured visual imagery-based reading intervention on improving reading comprehension and assessing its underlying local neural circuitry. Behavioral and resting state functional MRI (rs-fMRI) data were collected from children with Autism Spectrum Disorder (ASD) who were randomly assigned to an Experimental group (ASD-EXP; n=14) and a Wait-list control group (ASD-WLC; n =14). Participants went through an established reading intervention training program (Visualizing and Verbalizing for Language Comprehension and Thinking or V/V; 4 hours per day, 10 weeks, 200 hours of face-to-face instruction). Local functional connectivity was examined using a connection density approach from graph theory focusing on brain areas considered part of the Reading Network.



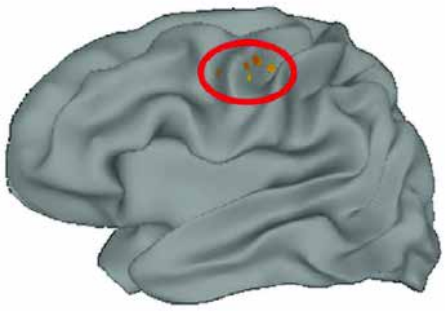


Fig. 2. Significant relationship between changes in reading comprehension abilities (GORT-4 percent change) and changes in local connectivity in the ASD-EXP group.

Note: Figured used with permission.

RESULTS:

The main results are as follows: (I) the ASD-EXP group showed significant improvement, compared to the ASD-WLC group, in their reading comprehension ability evidenced from change in comprehension scores; (II) the ASD-EXP group showed increased local brain connectivity in Reading Network regions compared to the ASD-WLC group postintervention; (III) intervention-related changes in local brain connectivity were observed in the ASD-EXP from pre- to post-intervention; and (IV) improvement in language comprehension significantly predicted changes in local connectivity. The findings of this study provide novel insights into brain plasticity in children with developmental disorders, in this case Autism, using targeted intervention programs.

LOCATION:

Department of Psychology, University of Alabama at Birmingham, Birmingham, AL, USA

Maximo, J. O., Murdaugh, D. L., O'Kelley, S., & Kana, R. K. (2017). Changes in intrinsic local connectivity after reading intervention in children with autism. Brain and Language, 175, 11-17. doi:10.1016/j.bandl.2017.08.008

The Causal Relationship between Dyslexia and Motion Processing

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

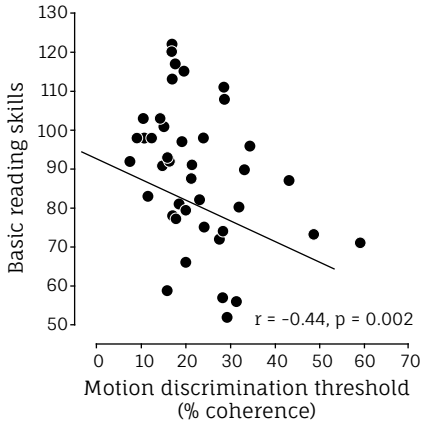
PROFILE:

Number of Subjects: 47
Age: 7-12
Program Implemented:
- Seeing Stars

Outcome Measures:
- Woodcock-Johnson IV
- Word Identification
- Word Attack

BACKGROUND:

As one part of ongoing Lindamood-Bell Learning Processes (LBLP®) intervention studies with dyslexics, the University of Washington's Institute for Learning and Brain Science examined anew the causal relationship between motion sensitivity and reading skills. This relationship has been debated for many years. This specific study used one of LBLP's intensive reading intervention programs (Seeing Stars) to test the causal relationship between learning to read and the comparative growth in reading as related to visual motion processing in dyslexics.



Note: Figured used with permission.

RESULTS:

Two interesting findings were revealed. First, motion sensitivity remained stable over the course of the intervention regardless of the deficit revealed. Additionally, motion sensitivity deficits, where noted, did not negatively impact the learning process (see graph). Dyslexics with poor motion sensitivity showed the same improvement in reading skills as children with typical motion sensitivity. The authors concluded that the findings call into question the view that motion processing deficits are due to poor reading experience. Interestingly, while a significant feature of the intervention used relied on the stimulation and synthesis of orthographic and phonological processing, the authors speculate that motion processing deficits are among a collection of correlated risk factors for reading difficulties. They further note that dyslexia is most likely a multifaceted impairment in learning to read, a view consistent with the rationale behind the Seeing Stars intervention used in this study, which posits that being able to mentally manipulate the symbols for reading plays an equally critical role in learning to read as manipulating the sounds of the English language. In sum, the data show that, while the reading intervention enhanced reading abilities, learning to read did not correlate to motion sensitivity.

LOCATION:

University of Washington, Institute for Learning and Brain Science, Seattle, WA, USA

Joo, S., Donnelly, P. M., & Yeatman, J. D. (2017). The causal relationship between dyslexia and motion perception reconsidered. Scientific Reports, 7, 4185. doi:10.1038/s41598-017-04471-5

"Decoding Versus Comprehension": Brain Responses Underlying Reading Comprehension in Children with Autism

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

PROFILE:

Number of Subjects:
- 18 Visualizing and Verbalizing
- 13 Control

Age: 8-13

Program Implemented:
- Visualizing and Verbalizing

Outcome Measures:
- Brain activation (fMRI)
- Gray Oral Reading Tests-4th (comprehension)

BACKGROUND:

Despite intact decoding ability, deficits in reading comprehension are relatively common in children with autism spectrum disorders (ASD). However, few neuroimaging studies have tested the neural bases of this specific profile of reading deficit in ASD. This fMRI study, in collaboration with Lindamood-Bell, examined activation and synchronization of the brain's reading network in children with ASD and specific reading comprehension deficits during a word similarities task. Thirteen typically developing children and eighteen children with ASD performed the task in the MRI scanner. No statistically significant group differences in functional activation were observed; however, children with ASD showed decreased functional connectivity between the left inferior frontal gyrus (LIFG) and the left inferior occipital gyrus (LIOG). In addition, reading comprehension ability significantly positively predicted functional connectivity between the LIFG and left thalamus (LTHAL) among all subjects. The results of this study provide evidence for altered recruitment of reading-related neural resources in ASD children and suggest specific weaknesses in top-down modulation of semantic processing.

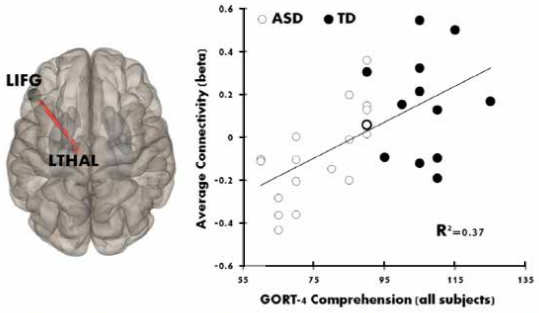


Fig. 4. GORT-4 comprehension scores significantly positively predicted functional connectivity between LIFG and LTHAL among all children with ASD.

Note: Figured used with permission.

RESULTS:

The results of this study provide evidence for altered recruitment of reading-related neural resources in ASD children and suggest specific weaknesses in top-down modulation of semantic processing. In summary, ASD children with reading comprehension deficits exhibited altered functional connectivity among brain regions associated with semantic retrieval and semantic categorization during a word similarities task, when compared to typically developing children. These results, combined with previous evidence of top-down semantic processing weaknesses among individuals with ASD, suggest that neural deficits in semantic processing may underlie reading comprehension deficits in this population. This study has important implications for elucidating the neural mechanisms of reading comprehension deficits in this subgroup of ASD. The deficits of this group are often unnoticed, as their decoding level is commensurate with their overall cognitive functioning; educators may struggle to identify and address comprehension deficits in the presence of intact decoding (Nation & Angell, 2006). This is one of only a few studies that have examined reading comprehension in this particular subgroup of children with ASD. Future research should further examine the neural correlates of higher level reading tasks within this population for early identification for reading intervention.

Bednarz, H. M., Maximo, J. O., Murdaugh, D. L., O'Kelley, S., & Kana, R. K. (2017). "Decoding versus comprehension": Brain responses underlying reading comprehension in children with autism. Brain and Language, 169, 39-47. .

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Socioeconomic Status and Reading Disability: Neuroanatomy and Plasticity in Response to Intervention

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

PROFILE:

Number of Subjects:
- 40 Seeing Stars
- 25 Control

Age: 6-9

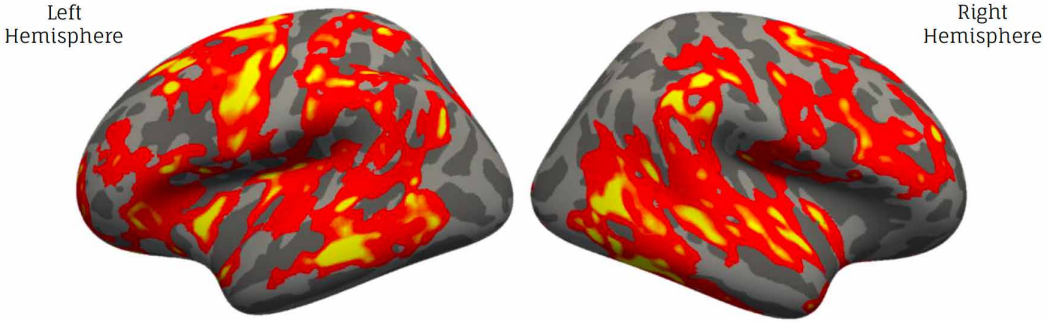
Program Implemented:
- Seeing Stars

Outcome Measures:
- Brain Activity (fMRI)

BACKGROUND:

The Massachusetts Institute of Technology (MIT) McGovern Institute for Brain Research and Department of Brain and Cognitive Sciences, in collaboration with Lindamood-Bell Learning Processes, conducted a randomized controlled trial involving young children with reading disabilities (RD) and difficulties. This experiment investigated the efficacy of the Seeing Stars program, which develops symbol imagery for reading. Children were randomly assigned to intervention (Seeing Stars) or non-intervention (control) groups. Before and after, all children received functional magnetic resonance imaging (fMRI) to measure cortical thickness. Over a six-week period of time, children in the Seeing Stars group received between 100 and 120 hours of instruction that was delivered by specially trained Lindamood-Bell staff.

Brain (Cortical) Growth



Note: Figure used with author's permission.

RESULTS:

Brain regions (red and yellow areas) grew significantly thicker in children whose reading scores improved (n=20) after Seeing Stars instruction. In addition, children from lower-socioeconomic status (SES) families were more likely to benefit from instruction than children from higher-SES families, and children with more severe reading disability exhibited the most improvement in reading scores. "These findings indicate that effective summer reading intervention is coupled with cortical growth, and is especially beneficial for children with RD who come from lower-SES home environments" (p.1).

LOCATION:

McGovern Institute for Brain Research and Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA

Romeo, R. R., Christodoulou, J. A., Halverson, K. K., Murtagh, J., Cyr, A. B., Schimmel, C., … Chang, P. (2017). Socioeconomic status and reading disability: Neuroanatomy and plasticity in response to intervention. Cerebral Cortex, 28, 2297-2312. doi:10.1093/cercor/bhx131

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

From Word Reading to Multisentence Comprehension: Improvements in Brain Activity in Children with Autism after Reading Intervention

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

PROFILE:

Number of Subjects:
- 14 Visualizing and Verbalizing
- 11 Control

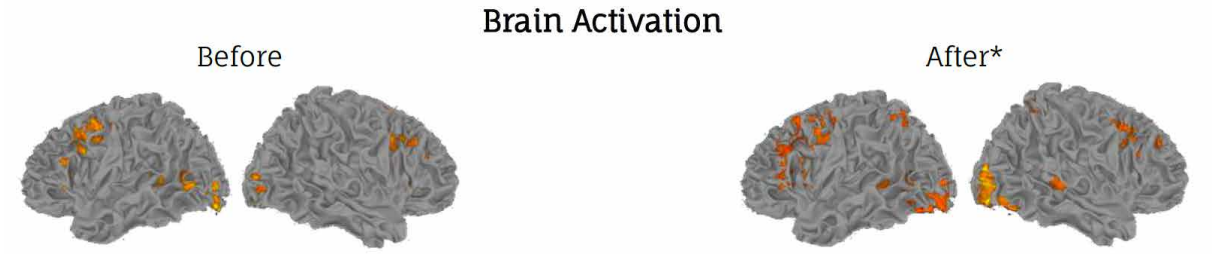
Age: 8-14

Program Implemented:
- Visualizing and Verbalizing

Outcome Measures:
- Brain activation (fMRI)
- Gray Oral Reading Tests-4th (comprehension)

BACKGROUND:

The University of Alabama at Birmingham Department of Psychology, in collaboration with Lindamood-Bell Learning Processes, conducted a randomized controlled trial involving children with autism spectrum disorders (ASD). This experiment investigated the constructs of Dual Coding Theory (DCT) using the Visualizing and Verbalizing (V/V) program, which develops concept imagery for comprehension. Functional magnetic resonance imaging (fMRI) was used to study the effect of V/V on brain activation in areas associated with comprehension. Before and after instruction, children's brains were scanned and they were administered a reading comprehension test. A similar group of children with ASD went through the same procedures but did not receive V/V instruction (i.e., control group). Children in the V/V group received approximately 200 hours of instruction over a 10-week period of time. Instruction was delivered by specially trained Lindamood-Bell staff. The figure below shows brain activation while children read multisentence passages before and after V/V instruction.



Note: *Statistically significant ($p \leq .05$). Figure used with author's permission.

RESULTS:

On average, the V/V group exhibited significantly greater brain activation during word, sentence, and multisentence tasks after instruction (multisentence shown in figure). In addition, the V/V group also had a significantly ($p = .04$) larger change in reading comprehension than the control group. The average standard scores before and after were 77.5 and 87.9 for the V/V group and 84.5 and 84.1 for the control group. Furthermore, researchers found that changes in reading comprehension significantly predicted changes in brain activation. The results of this study illustrate that instruction in the Visualizing and Verbalizing program supports the DCT model of cognition, leading to greater brain activation and improved comprehension for children with ASD.

LOCATION:

Department of Psychology, University of Alabama at Birmingham, Birmingham, AL, USA

Murdaugh, D. L., Deshpande, H. D., & Kana, R. K. (2017). From word reading to multisentence comprehension: Improvements in brain activity in children with autism after reading intervention. Neuroimage, 16, 303-312. doi:10.1002/aur.1503

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Changes in Intrinsic Connectivity of the Brain's Reading Network Following Intervention in Children with Autism

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

PROFILE:

Number of Subjects:
- 16 Visualizing and Verbalizing
- 15 Control

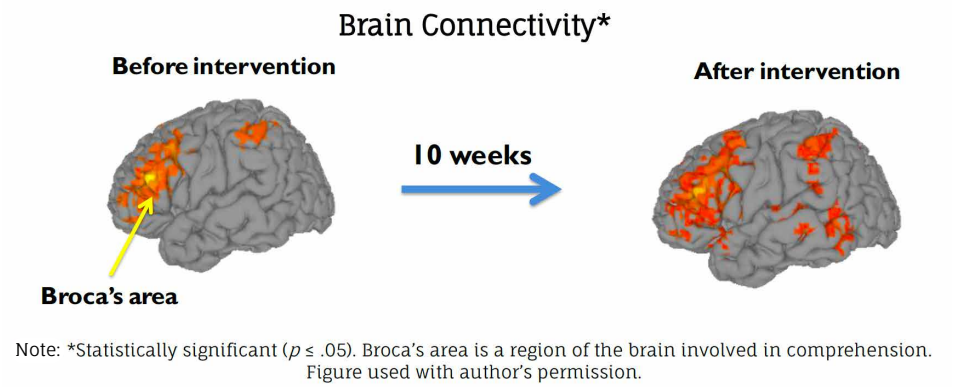
Age: 8-13

Program Implemented:
- Visualizing and Verbalizing

Outcome Measures:
- Brain connectivity (fMRI)
- Gray Oral Reading Tests-4th (comprehension)

BACKGROUND:

The University of Alabama at Birmingham Department of Psychology, in collaboration with Lindamood-Bell Learning Processes, conducted a randomized controlled trial involving children with Autism Spectrum Disorders (ASD). This experiment investigated the constructs of Dual Coding Theory (DCT) using the Visualizing and Verbalizing (V/V) program, which develops concept imagery for comprehension. Resting state functional magnetic resonance imaging (rsfMRI) was used to study the effect of V/V on the connectivity of regions of the brain associated with comprehension. Children with ASD typically have weaker connectivity, or underconnectivity, in these areas of the brain. Before and after instruction, children's brains were scanned and they were administered a reading comprehension test. A similar group of children with ASD went through the same procedures but did not receive V/V instruction (i.e., control group). Children in the V/V group received approximately 200 hours of instruction over a 10-week period of time. Instruction was delivered by specially trained Lindamood-Bell staff. The figure below shows pre- and posttest connectivity for the V/V group.



Note: *Statistically significant ($p \leq .05$). Broca's area is a region of the brain involved in comprehension.
Figure used with author's permission.

RESULTS:

On average, the V/V group exhibited significantly greater brain connectivity after instruction than the control group. In addition, the V/V group also had a significantly (p = .0006) larger change in reading comprehension than the control group (16.4% and 2.6% respectively). Furthermore, researchers found that improvements in reading comprehension were correlated with increases in brain connectivity. The results of this study illustrate that instruction in the Visualizing and Verbalizing program supports the DCT model of cognition, leading to greater brain connectivity and improved comprehension for children with ASD.

LOCATION:

Department of Psychology, University of Alabama at Birmingham, Birmingham, AL, USA

Murdaugh, D. L., Maximo, J.O., & Kana, R.K. (2015). Changes in intrinsic connectivity of the brain's reading network following intervention in children with autism. Human Brain Mapping, 36, 2965-2979. doi:10.1002/hbm.22821

Impact of Intensive Summer Reading Intervention for Children with Reading Disabilities and Difficulties in Early Elementary School

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

PROFILE:

Number of Subjects:
- 23 Seeing Stars
- 24 Control

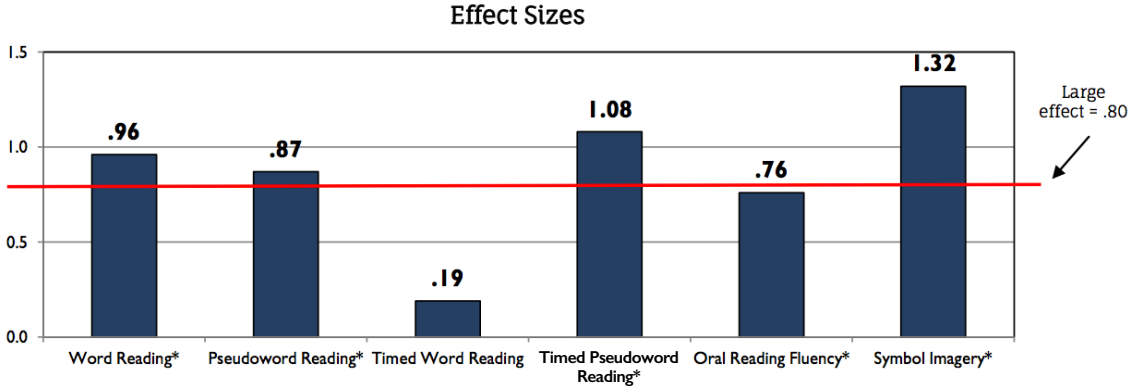
Age: 6-9

Program Implemented:
- Seeing Stars

Outcome Measures:
- Woodcock Johnson Tests of Achievement-3rd (Word Identification and Word Attack)
- Test of Word Reading Efficiency-2nd (Sight Word Efficiency and Phonemic Decoding Efficiency)
- Dynamic Indicators of Basic Early Literacy Skills (Oral Reading Fluency)
- Symbol Imagery Test

BACKGROUND:

The Massachusetts Institute of Technology (MIT) McGovern Institute for Brain Research and Department of Brain and Cognitive Sciences, in collaboration with Lindamood-Bell Learning Processes, conducted a randomized controlled trial involving young children with reading disabilities and difficulties. This experiment investigated the efficacy of the Seeing Stars program, which develops symbol imagery for reading. Children were randomly assigned to intervention (Seeing Stars) or non-intervention (control) groups. All children were pre- and post-tested on a battery of reading measures. Over a six-week period of time, children in the Seeing Stars group received between 100 and 120 hours of instruction that was delivered by specially trained Lindamood-Bell staff. Gains made by the Seeing Stars group were compared to gains made by the control group. Effect sizes were calculated to determine the magnitude of the differences between the groups.



Note: *Statistically significant ($p \leq .05$).

RESULTS:

Large effects were realized on four of the six measures, with Oral Reading Fluency being near the large threshold, and statistical significance ($p \leq .05$) favoring the Seeing Stars group was reached on five of the six measures. A very large effect size ($\eta_p^2 = .60$) was realized on a composite across all measures, which was also significant ($p \leq .001$) in favor of the Seeing Stars group. The results of this study illustrate that instruction in the Seeing Stars program supports the development of phonological and orthographic processing resulting in improvements in reading for children with reading disabilities and difficulties.

LOCATION:

McGovern Institute for Brain Research and Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA

Christodoulou, J. A., Cyr, A., Murtagh, J., Chang, P., Lin, J., Guarino, A. J. … Gabrieli, J. D. (2015). Impact of intensive summer reading intervention for children with reading disabilities and difficulties in early elementary school. Journal of Learning Disabilities, 50(2), 115-127. doi:10.1177/0022219415617163

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

The Impact of Reading Intervention on Brain Responses Underlying Language in Children with Autism

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

PROFILE:

Number of Subjects:
- 13 Visualizing and Verbalizing
- 13 Control

Age: 8-13

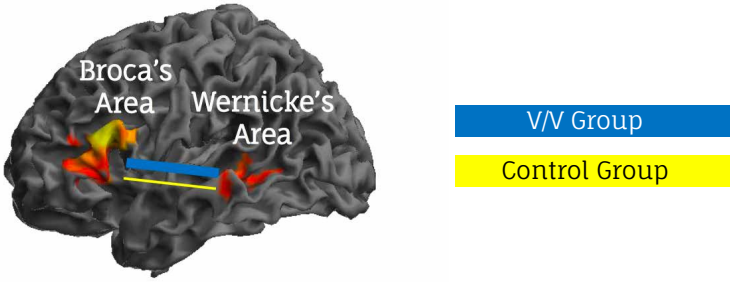
Program Implemented:
- Visualizing and Verbalizing

Outcome Measures:
- Brain activation/connectivity (fMRI)
- Gray Oral Reading Tests-4th (comprehension)

BACKGROUND:

The University of Alabama at Birmingham Department of Psychology, in collaboration with Lindamood-Bell Learning Processes, conducted a randomized controlled trial involving children with autism spectrum disorders (ASD). This experiment investigated the constructs of Dual Coding Theory (DCT) using the Visualizing and Verbalizing (V/V) program, which develops concept imagery for comprehension. Translational functional magnetic resonance imaging (fMRI) was used to study the effect of V/V on sentence comprehension, brain activation, and functional connectivity. Children with ASD typically have weaker connectivity, or underconnectivity, in the areas of the brain associated with language. Before and after instruction, children's brains were scanned and they were administered a reading comprehension test. A similar group of children with ASD went through the same procedures but did not receive V/V instruction (i.e., control group). Children in the V/V group received approximately 200 hours of instruction over a 10-week period of time. Instruction was delivered by specially trained Lindamood-Bell staff. The figure below shows increased brain connectivity between Broca's and Wernicke's language areas for the V/V group (thicker blue line) compared to control group (thinner yellow line) during a task of visual imagery sentence comprehension. The thickness of the lines represents the magnitude of connectivity between the two brain areas.

Increased Brain Connectivity



Note: Figure used with author's permission.

RESULTS:

The strength of connectivity was significantly greater ($p < .05$) for the V/V group. In addition, the V/V group also had a significantly larger change ($p = .05$) in reading comprehension than the control group (13.9% and 3.9% respectively). Furthermore, researchers found a significant positive correlation between improvements in reading comprehension and brain activation. The results of this study illustrate that instruction in the V/V program supports the DCT model of cognition, leading to greater brain connectivity and improved comprehension for children with ASD.

LOCATION:

Department of Psychology, University of Alabama at Birmingham, Birmingham, AL, USA

Murdaugh, D. L., Deshpande, H. D. & Kana, R. K. (2015). The Impact of Reading Intervention on Brain Responses Underlying Language in Children With Autism. Autism Research, 9, 141-154. doi:10.1002/aur.1503

Abnormal Vision Motion Processing Is Not a Cause of Dyslexia

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

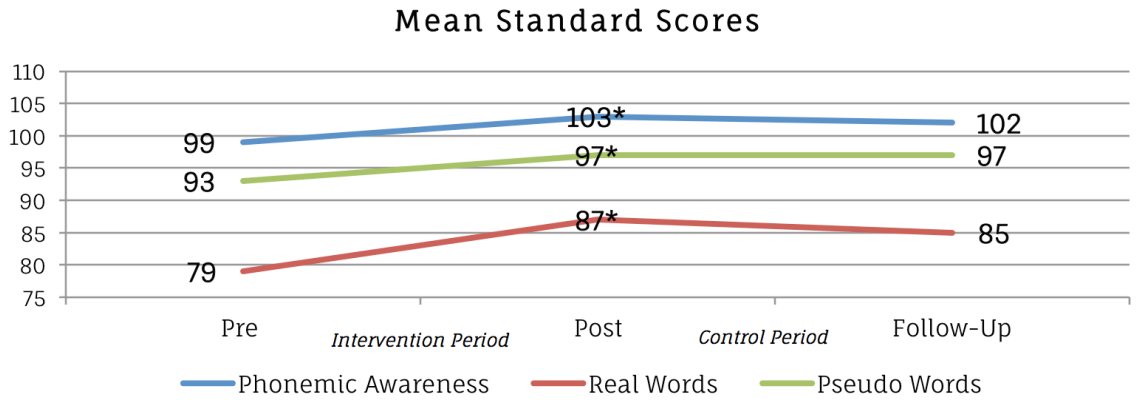
PROFILE:

Number of Subjects: 22
Age: 7–12
Program Implemented:
- Seeing Stars

Outcome Measures:
- Lindamood Auditory Conceptualization Test-3rd
- Woodcock Johnson Tests of Achievement-3rd (Word Identification and Word Attack)
- Brain activity (fMRI)

BACKGROUND:

Georgetown University's Center for the Study of Learning, in collaboration with Lindamood-Bell Learning Processes, conducted an experiment involving children with dyslexia. This study investigated the efficacy of the Seeing Stars program, which develops symbol imagery for reading. Children were pretested on a battery of reading assessments, received approximately 120 hours of Seeing Stars instruction, and were posttested. Eight weeks later the children received follow-up testing. Brain scans were obtained using functional magnetic resonance imaging (fMRI) at the three points in time. Small-group instruction was delivered by specially trained Lindamood-Bell staff. Behavioral (i.e., reading assessment) and neuroimaging results during the intervention period were compared to results during the control period.



Note: *Statistically significant ($p \leq .05$)

RESULTS:

On average, pre- to posttest results were statistically significant on all three reading assessments, and activity in the area of the brain associated with visual processing (right V5/MT) also increased significantly after the intervention. Post- to follow-up results (behavioral and neuroimaging) were not significant; demonstrating that the improvements were specific to the intervention. The results of this study illustrate that Lindamood-Bell instruction in the Seeing Stars program leads to increased brain activity and improved reading for children with dyslexia.

LOCATION:

Center for the Study of Learning, Georgetown University Medical Center, Washington, D.C., USA

Olulade, O. A., Napoliello, E. M., & Eden, G. F. (2013). Abnormal visual motion processing is not a cause of dyslexia. Neuron, 79(1), 180-190. doi:10.1016/j.neuron.2013.05.002

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Gray Matter Volume Changes following Reading Intervention in Dyslexic Children

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

PROFILE:

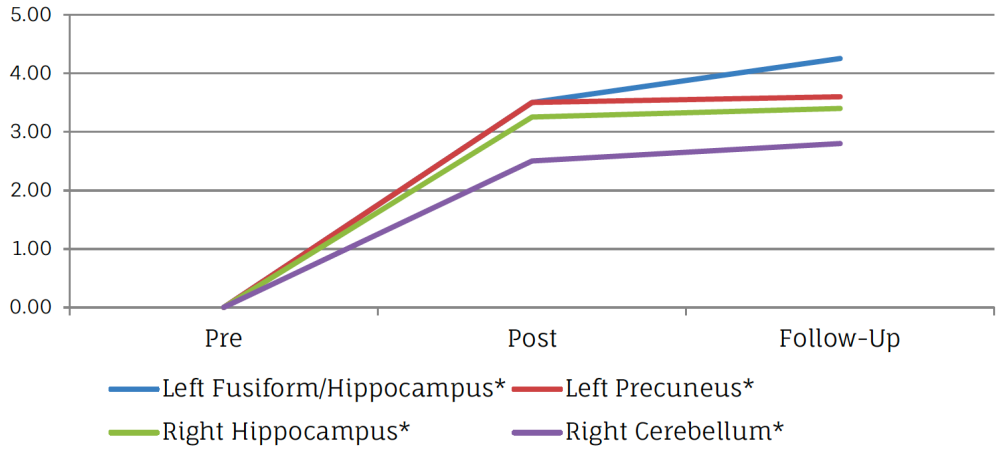
Number of Subjects: 11
Age: 7-11
Program Implemented:
- Seeing Stars

Outcome Measures:
- Brain Structure (fMRI)
- Rapid Automatized Naming
- Lindamood Auditory Conceptualization Test-3rd
- Woodcock-Johnson (Word Identification and Word Attack)
- Symbol Imagery Test

BACKGROUND:

Georgetown University's Center for the Study of Learning, in collaboration with Lindamood-Bell Learning Processes, conducted a neuroscientific experiment involving children with dyslexia. This study investigated the efficacy of the Seeing Stars program, which develops symbol imagery for reading. Children were pretested on a battery of reading assessments, received eight weeks of Seeing Stars instruction, and were posttested. Eight weeks later the children received follow-up testing. Brain scans were obtained using functional magnetic resonance imaging (fMRI) at the three points in time. Instruction was delivered by teachers who received professional development in Seeing Stars.

Percent Change in Gray Matter Volume



Note: *Statistically significant (p ≤ .05)

RESULTS:

On average, pre- to posttest results were statistically significant in all brain regions and on all reading assessments. Post- to follow-up results (neuroimaging and behavioral) were not significant; demonstrating that the improvements were specific to the intervention. In addition, follow-up results showed that improvements were maintained. The results of this study illustrate that Lindamood-Bell instruction in the Seeing Stars program leads to increased brain structure and improved reading for children with dyslexia.

LOCATION:

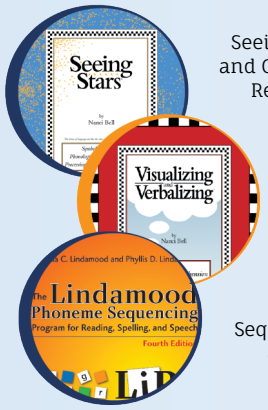
Center for the Study of Learning, Georgetown University Medical Center, Washington, D.C., USA

Krafnick, A. J., Flowers, D. L., Napoliello, E. M., & Eden, G. F. (2011). Gray matter volume changes following reading intervention in dyslexic children. Neuroimage, 57, 733-741. doi:10.1016/j.neuroimage.2010.10.062

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Effects of a Theoretically Based Large-Scale Reading Intervention in a Multicultural Urban School District



Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

Lindamood Phoneme Sequencing Program for Reading, Spelling, and Speech (LiPS)

PROFILE:

Number of Schools†:
- 13-22 Lindamood-Bell
- 291-684 Comparison

†Sample size varied depending on analysis

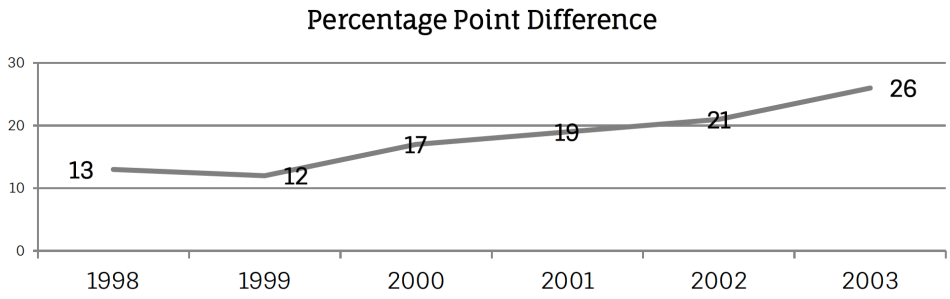
Grades: 3rd-5th

Programs Implemented:
- Seeing Stars
- Lindamood Phoneme Sequencing
- Visualizing and Verbalizing

Outcome Measures:
- Colorado Student Assessment Program (reading)

BACKGROUND:

Pueblo City Schools in Pueblo, Colorado, serve a large percentage of students who are at-risk for reading failure. From the 1998/99 to the 2002/03 school years, Pueblo implemented Lindamood-Bell instruction to address the language processing needs of this student population. Students received Seeing Stars, Visualizing and Verbalizing, and Lindamood Phoneme Sequencing instruction to develop symbol imagery, concept imagery, and phonemic awareness. This study investigated the constructs of Dual Coding Theory (DCT) using the Seeing Stars and Visualizing and Verbalizing programs. Instruction was delivered by Pueblo teachers who received professional development in the programs. Student gains were measured with the state reading test and the results were compared to gains made by students from other, similar schools in Colorado who did not receive Lindamood-Bell instruction. Schools were comparable controlling for school size, free and reduced-price lunch, and minority populations. Third-grade results for Title I schools are provided below.



RESULTS:

The line in the chart above shows the percentage point difference (in percent proficient and advanced on the state reading test) between Pueblo (Lindamood-Bell) schools and comparison schools. By 2003, schools partnering with Lindamood-Bell were 26 percentage points above the average of the comparison schools. The independent evaluators who conducted this research determined that the main effect of Lindamood-Bell instruction was statistically significant ($p < .0001$). The authors state that "[Pueblo] Title I schools outperformed the average of the remaining comparable Title I schools in the state in an increasingly positive way during the years 1998-2003." The results of this study support the DCT model of cognition and illustrate that Lindamood-Bell instruction in the Seeing Stars, Visualizing and Verbalizing, and Lindamood Phoneme Sequencing programs leads to improved reading, which is essential to achieving success with school curricula.

LOCATION:

College of Education and Human Development, Texas A&M University, College Station, TX, USA

Sadoski, M. & Willson, V. (2006). Effects of theoretically based large-scale reading intervention in a multicultural urban school district. American Educational Research Journal, 43(1), 137-154. doi:10.3102%2F00028312043001137

LINDAMOOD-BELL
LEARNING PROCESSES

RESEARCH

Neural Changes Following Remediation in Adult Developmental Dyslexia

Seeing Stars for Phonological and Orthographic Processing in Reading and Spelling (SI)

Visualizing and Verbalizing for Language Comprehension and Thinking (V/V)

Lindamood Phoneme Sequencing Program for Reading, Spelling, and Speech (LiPS)

PROFILE:

Number of Subjects:
- 9 Lindamood-Bell
- 10 Control

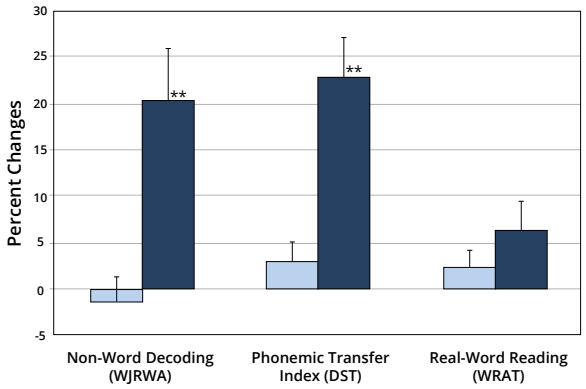
Programs Implemented:
- Seeing Stars
- Lindamood Phoneme Sequencing
- Visualizing and Verbalizing

Outcome Measures:
- Test of Auditory Analysis Skills
- Symbol Imagery Test
- Brain Activity (fMRI)

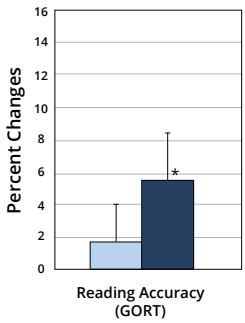
BACKGROUND:

Georgetown University's Center for the Study of Learning, in collaboration with Lindamood-Bell Learning Processes, conducted an experiment involving adults with dyslexia. This study investigated the efficacy of the Seeing Stars, Visualizing and Verbalizing, and Lindamood Phoneme Sequencing programs, which develop symbol imagery, concept imagery, and phonemic awareness. Subjects were pretested on phonological processing assessments, received approximately 112 hours of Lindamood-Bell instruction, and were posttested. In addition, pre- and posttest brains scans were obtained using functional magnetic resonance imagings (fMRI). Instruction was delivered by specially trained Lindamood-Bell staff.

Single Word Decoding



Secondary Reading Skills



Non-Intervention Group
Intervention Group

* p < .05
** p < .005

RESULTS:

On average, Lindamood-Bell subjects demonstrated greater improvements, statistically, than comparison subjects as correlated with behavioral gains in reading. In addition, Lindamood-Bell subjects had comparatively larger increases in brain activity than comparison subjects. The results of this study support the Dual Coding Theory model of cognition and illustrate that instruction in the Lindamood-Bell programs lead to improved reading and increased strength in activation areas.

LOCATION:

Georgetown University Medical Center, Washington, D.C., USA, Wake Forest University Medical Center, Winston-Salem, NC, USA

Eden, G. F., Jones, K. M., Cappell, K., Gareau, L., Wood, F. B., Zeffiro, T. A., & Flowers, D. L. (2004). Neural changes following remediation in adult developmental dyslexia. Neuron, 44, 411-422. https://doi.org/10.1016/j.neuron.2004.10.019

LINDAMOOD-BELL
LEARNING PROCESSES

ARTICLE

Sensory-Cognitive Factors in the Controversy over Reading Instruction

Authors: Patricia Lindamood, Nanci Bell, and Phyllis Lindamood
Publication: Journal of Developmental and Learning Disorders, 1(1)

SUMMARY:

In the early days of education, it was assumed that students coming to school had adequate vision and hearing. Over time it became evident that this was not necessarily the case, and it is now routine for schools to test the visual and auditory acuity of students so families can be advised if there are impairments that require attention. It was then assumed that if students had normal visual and auditory acuity, it was their responsibility to learn the content provided by their teachers.

However, specific levels of sensory-cognitive processing are at least as critical to learning as specific levels of sensory acuity. The advent of sensory-cognitive measures has equipped us as educators to determine if students are processing sensory information consciously enough at the central level to be able to learn, think, and reason. Pribram (1991) clarified this cognitive aspect of perception when he observed that individuals cannot think about something of which they are not consciously aware, and cannot be aware of something not perceived sufficiently at the sensory level to come to consciousness.

Several promising areas for research have been indicated through our clinical experience. The possible contribution of symbol imagery, phonemic awareness, and concept imagery needs to be studied in formal research in the areas of organic disorders such as deafness and hearing impairments, cerebral palsy, cleft palate, and apraxia, as well as strokes, aneurysms, and traumatic brain injury. Much to our surprise, we have observed degrees of improvement that we wouldn't have expected for the limited numbers of such clients that we have served. It appears that lack of conscious awareness of sensory feedback and its conscious integration with language, as needed for sensory-cognitive functions, may have more effect on impaired speech or language within these conditions than the organic condition itself. Areas such as developmental delay, high level autism, resistant cases of functional articulation disorder, and the acquisition of a second language also appear to be fruitful areas for further research.

LOCATION:

Lindamood-Bell Learning Processes, San Luis Obispo, CA, USA

Lindamood, P. C., Bell, N., & Lindamood, P. D. (1997). Sensory-cognitive factors in the controversy over reading instruction. Journal of Developmental and Learning Disorders 1(1), 143-182. Retrieved from http://www.icdl.com/bookstore/icdl-publications/journal-of-development-and-learning

LINDAMOOD-BELL
LEARNING PROCESSES
ARTICLE

Gestalt Imagery: A Critical Factor in Language Comprehension

Author: Nanci Bell

Publication: Annals of Dyslexia, 41(1)

SUMMARY:

Reading is cognition. Gestalt imagery contributes to the cognition process of comprehending oral and written language. The imaging factor, discussed for many years in the field of cognitive psychology, appears to be automatic for many individuals and has, perhaps, been assumed to be present for all. This assumed factor, as well as the focus on decoding, the lack of good oral and written comprehension tests, the continuing dispute over context, phonological processing, and sight word instruction has left comprehension without the attention it requires. Instructional procedures to develop comprehension have been in the format of decoding and/or listening and simply answering questions—a format that tests comprehension rather than teaches comprehension.

Historically, because of the psycholinguists' cry for meaning and deep structure, the field of reading has been turned away from excessive concern over surface structure—a focus on decoding only. However, it has since been found that increasing vocabulary and stimulating background knowledge or use of context clues does not guarantee comprehension development.

With specific attention to the integration of imagery and verbalization, it is possible to develop an imaged gestalt from which interpretation and reasoning can be processed. "According to the Dual Coding Theory, meaning consists of the relations between external stimuli and the verbal and nonverbal representational activity they initiate in the individual," Paivio (1986).

It is my hope that this initial inquiry will serve to generate further discussion and research focusing on the diagnosis and development of the imaged gestalt and language comprehension.

LOCATION:

Lindamood-Bell Learning Processes, San Luis Obispo, CA, USA

Bell, N. (1991). Gestalt imagery: A critical factor in language comprehension. Annals of Dyslexia, 41(1), 246-260. doi:10.1007/BF02648089

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LINDAMOOD-BELL

EST. 1986

LEARNING CENTER RESULTS

2008-2019

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Introduction

Over the course of more than three decades, Lindamood-Bell has been honored to work with tens of thousands of children and adults. Through our founders' programs, our sensory-cognitive instructional methodologies, and evidence-based research findings, we offer a theoretically sound, brain-based literacy foundation for learning, helping our students achieve their potential.

Our students include struggling readers who are just starting to learn the phonetic and orthographic structure of English (sounds and letters) and those who are not "getting" what they read or hear. We serve a diverse population of students, such as students who speak English as a second language, those who have been previously diagnosed with language-based disabilities, including dyslexia, developmental delays, or autism, and those who simply wish to excel. Our continued success in addressing the varied needs of these individuals is due to our comprehensive approach to individualized diagnosis and evidence-based research on sensory-cognitive instruction.

The enclosed data summary highlights the results of our internal accountability reporting on the work we do in our Learning Centers and Lindamood-Bell Academy. As we address the needs of the individuals we serve, we continue to support and participate in scientifically based studies of our founders' programs. Our goal is to utilize and continually improve upon state-of-the-science diagnosis and instruction toward literacy development, setting forth a standard for world-class literacy instruction.

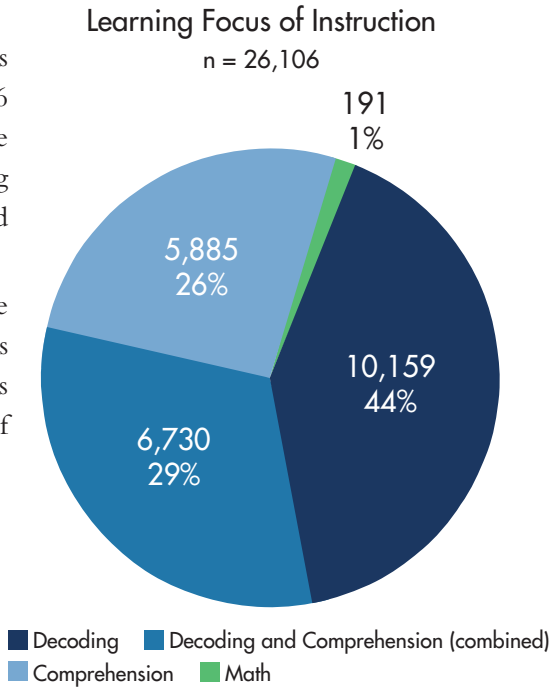
Sincerely,

Paul Worthington
Director of Research and Development

Lindamood-Bell® Learning Centers

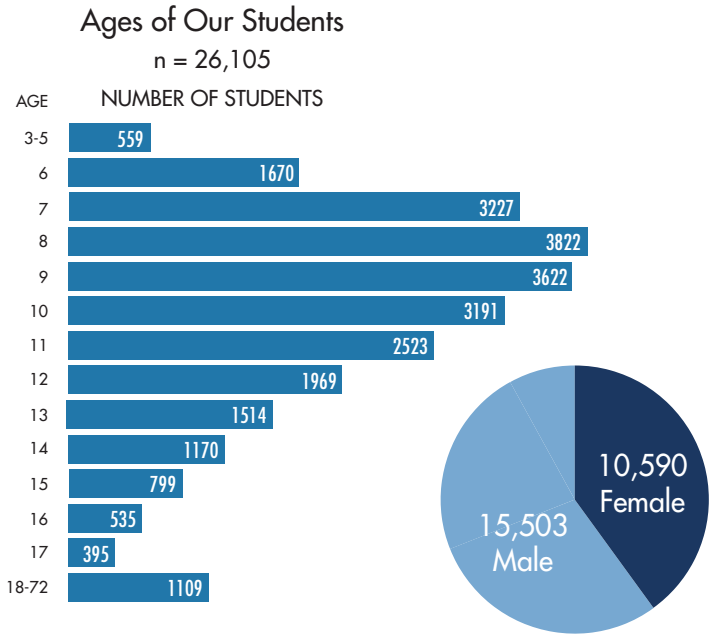
From 2008 to 2019, Lindamood-Bell® Learning Centers has assessed 28,647 students. Of the 28,647 students, 26,106 received over twenty hours of instruction in one or more of our sensory-cognitive programs (Seeing Stars, Visualizing and Verbalizing, On Cloud Nine, Talkies, and/or Lindamood Phoneme Sequencing).

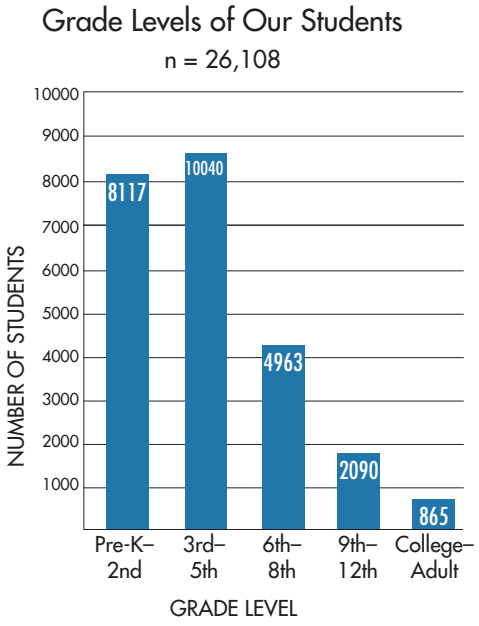
Note: For the categorical reporting found herein, the numbers of students reported on will be somewhat less due to the analysis being based on the number of students with a complete testing battery specific to the program of instruction being analyzed.



Student Profiles

The tables below show the distribution of the ages and grades of more than 26,000 students who received instruction at our Learning Centers from 2008 to 2019.





Many individuals have sought help from their school districts and other reading instruction providers before seeking help from Lindamood-Bell. Individuals who reported...

- receiving special education services: 36%
- receiving remedial reading help at school: 27%
- repeating a grade: 10%
- being identified as Gifted: 6%

Learning Ability Evaluation

Each student receives a Learning Ability Evaluation to determine his or her areas of strength and weakness in reading, spelling, comprehension, and math.

Test	Task
Symbol Imagery	Image and manipulate orthographic and phonemic patterns
Phonemic Awareness	Perceive sounds in isolation and within words
Word Attack	Read a list of progressively difficult nonsense words
Word Recognition	Read a list of progressively difficult real words
Spelling	Spell a list of progressively difficult real words
Vocabulary	Select one picture from four that matches a spoken word
Word Opposites	Say the opposite of a verbally provided word
Math Computation	Solve problems from basic arithmetic fractions to basic algebra
Math Story Problems	Read and solve simple to complex story problems that require computation
Paragraph Reading Rate, Accuracy, and Fluency	Read paragraphs aloud

Percentiles

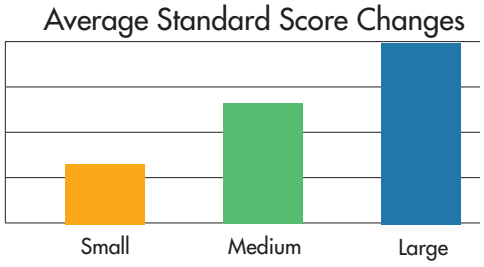
One of the most common ways test publishers provide results is through the use of percentiles. A percentile score is a ranking (1 to 99) among people of the same age range. For example, if a student scores at the 75th percentile, he or she scores as well or better than 75% of people the same age. The following can be used to interpret percentiles:

Percentiles	Range	Definition
Below 25th	Below Normal	Weakness
25th - 36th	Within Normal	Moderate Difficulty
37th - 62nd	Within Normal	Adequate Ability
63rd - 74th	Within Normal	Ease
At or above 75th	Above Normal	Strength

Standard scores (see Standard Scores below) are averaged and converted to percentiles based on a normal distribution of a given age of the population. For example, an average standard score of 100 for a group of students is equivalent to the 50th percentile.

Standard Scores

A standard score is a raw score that has been transformed to a common scale (mean of 100 and standard deviation of 15) so comparisons can be made. Standard score changes are used to determine the magnitude of change from pre- to retest. Each student's retest standard score is subtracted from the pretest score to get a change score, and all of those scores are averaged to get an average standard score change. While there is no definitive interpretation, researchers generally agree that a standard score change of practical significance ranges from 3.0 to 4.5 points.



Analyzing Learning Progress

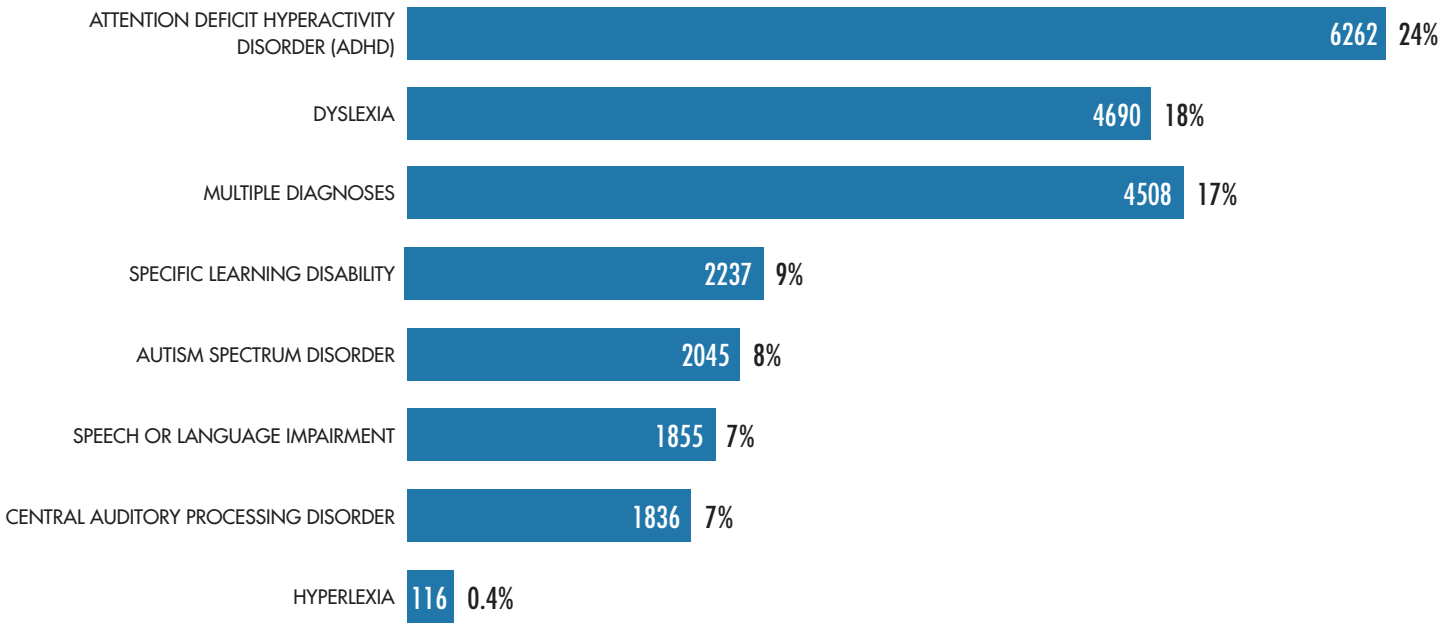
Pre- to retest results that are deemed statistically significant ($p \leq .05$), not due to chance, are noted with an asterisk. For accurate psychometric comparative analysis, paired *t* tests are performed on standard scores.

Students with Prior Diagnoses

Overall, approximately 43% of Lindamood-Bell students reported having received a diagnosis prior to Lindamood-Bell instruction.

- Attention Deficit Hyperactivity Disorder
- Multiple Diagnoses
- Dyslexia
- Specific Learning Disability
- Autism Spectrum Disorder
- Speech or Language Impairment
- Central Auditory Processing Disorder
- Hyperlexia

Number and Percentage of Students by Prior Diagnosis
n = 11,300



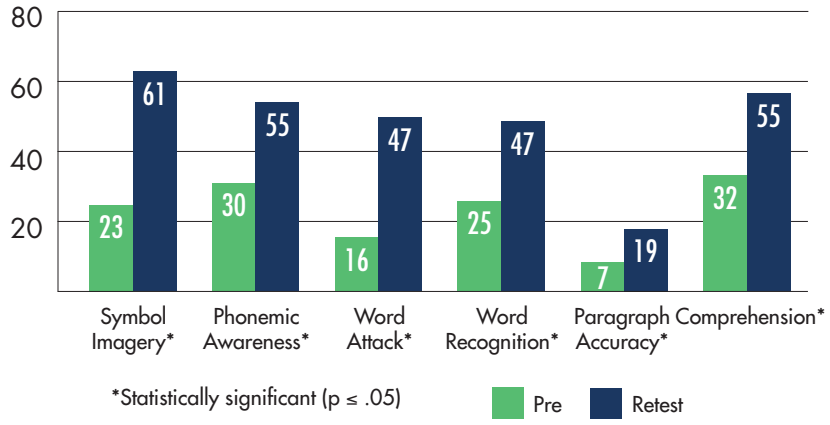
Note: The 11,300 students are out of the 26,106 students with over twenty hours of Lindamood-Bell instruction in one or more of our sensory-cognitive programs.

57% of students did not have a prior diagnosis.

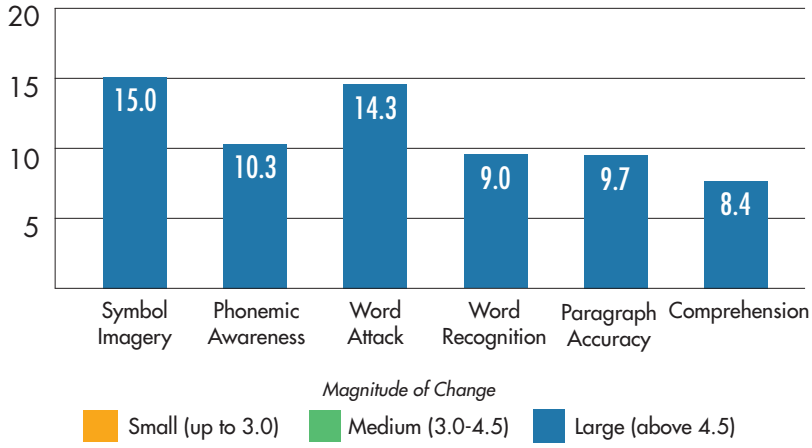
Decoding

Results of Students Who Received Decoding Instruction Only

Pre- and Retest Percentiles



Average Standard Score Changes



Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 9.6

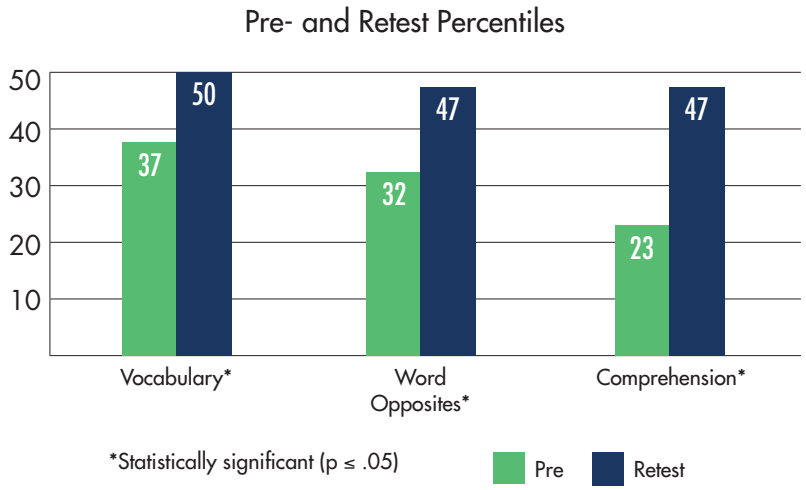
Number of Students: 8,698

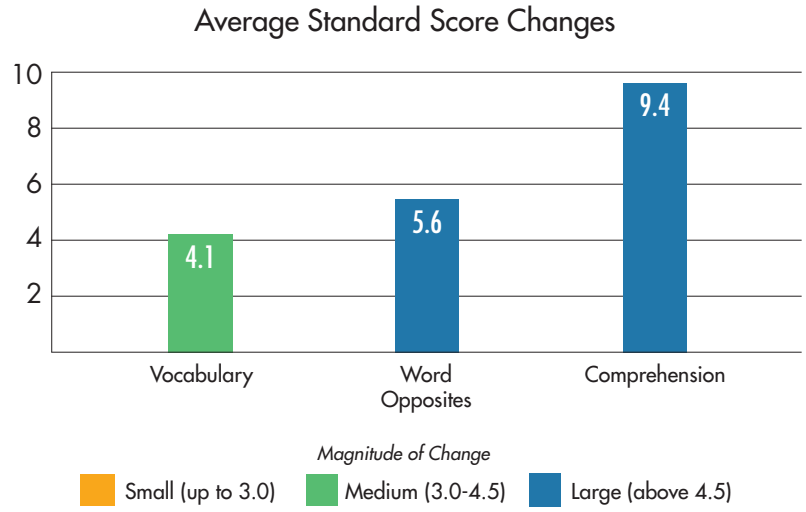
Average Hours of Instruction: 107.3

Results: On average, students who received Seeing Stars® instruction for decoding issues achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures. Additionally, the 22-point percentile increase in Word Recognition puts these students within the normal range (25th–75th percentile). While the largest average standard score change can be seen on the Symbol Imagery measure, it is important to note the large average standard score change in reading Comprehension as an artifact of their improvement in reading. Students' gains in decoding resulted in a great improvement in comprehension, the only reason to decode.

Comprehension

Results of Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2019

Average Age: 12.4

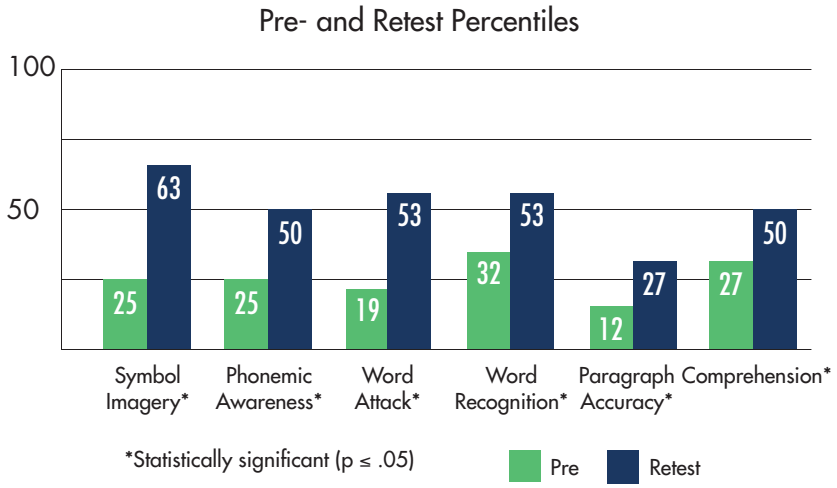
Number of Students: 5,633

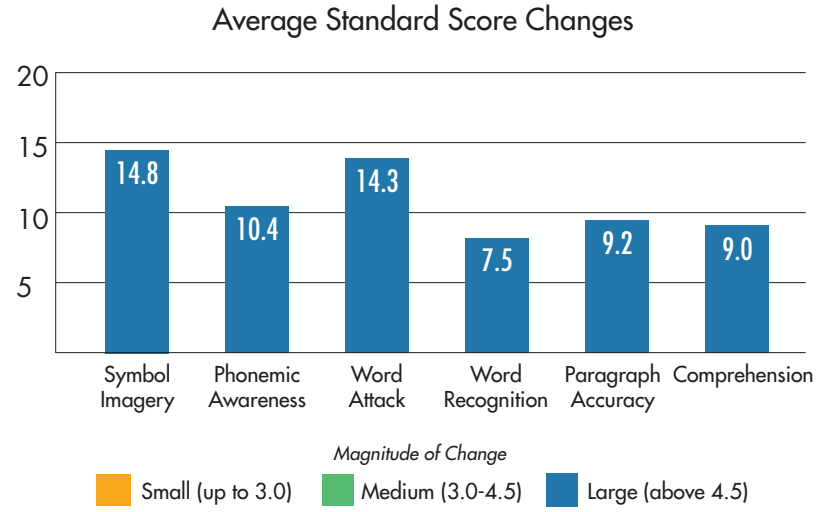
Average Hours of Instruction: 101.5

Results: On average, students who received Visualizing and Verbalizing® instruction achieved significant improvements in areas associated with language comprehension. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 24-point percentile increase in Comprehension puts these students well within the normal range (25th–75th percentile).

Decoding & Comprehension (Combined)

Results of Students Who Received Both Decoding and Comprehension Instruction





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars and Visualizing and Verbalizing

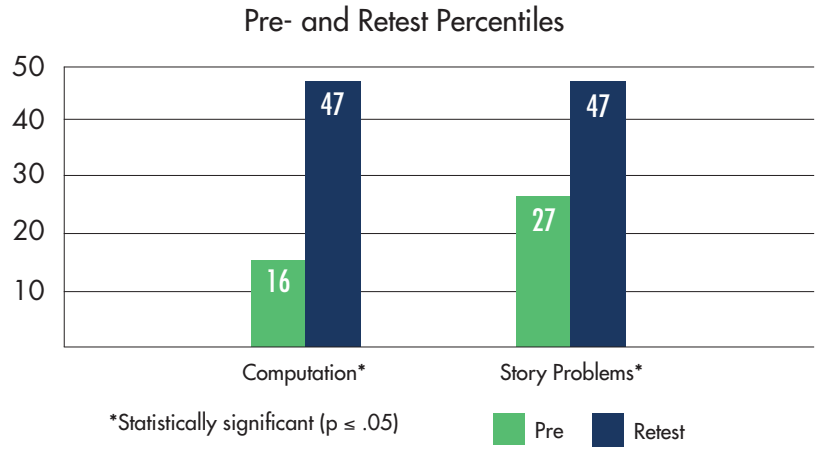
Years: 2008-2019 **Average Age:** 11.3

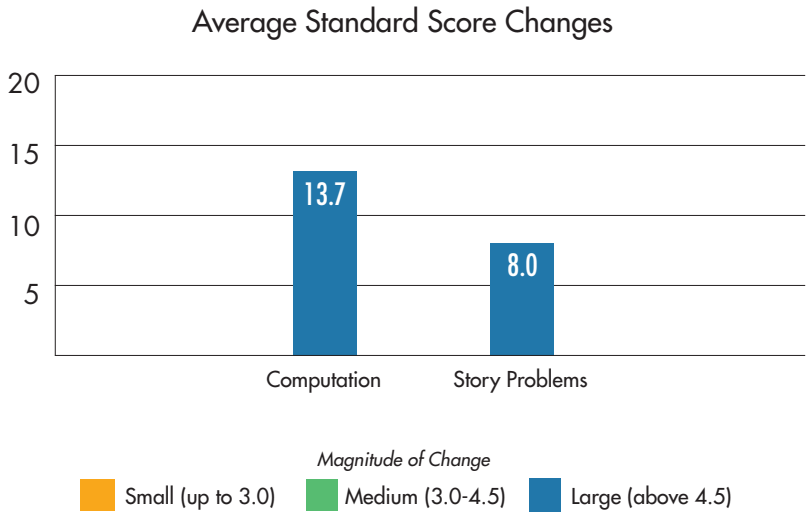
Number of Students: 5,983 **Average Hours of Instruction:** 139.1

Results: On average, students who received Seeing Stars combined with Visualizing and Verbalizing instruction achieved significant improvements in reading and comprehension. They made large (statistically significant) standard score changes on all measures. Although the large average standard score gain on the Word Recognition measure is notable, it is equally if not more important to note the large average standard score gains in Paragraph Reading Accuracy and Comprehension.

Math

Results of Students Who Received More than 45% of Their Hours in Math Instruction





Summary

Lindamood-Bell Instruction Implemented: On Cloud Nine Math

Years: 2008-2019

Average Age: 11.5

Number of Students: 454

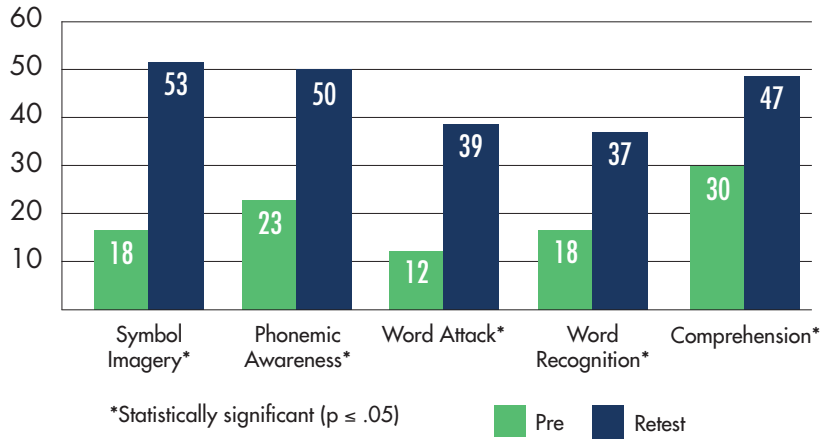
Average Hours of Instruction: 101.9

Results: On average, students who received all or most of their instruction in On Cloud Nine® Math achieved significant improvements in math. They made large (statistically significant) standard score changes on both measures. Additionally, the 31-point percentile increase in Computation puts these students within the normal range (25th–75th percentile).

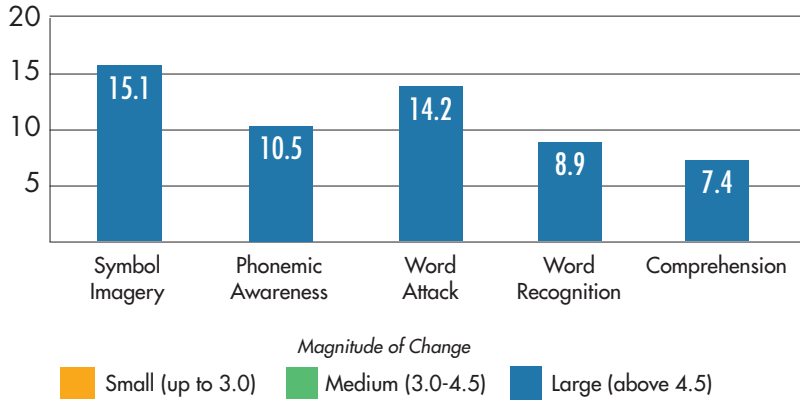
Attention Deficit Hyperactivity Disorder (ADHD)

Students with a Prior ADHD Diagnosis Who Received Decoding Instruction Only

Pre- and Retest Percentiles



Average Standard Score Changes



Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 10.2

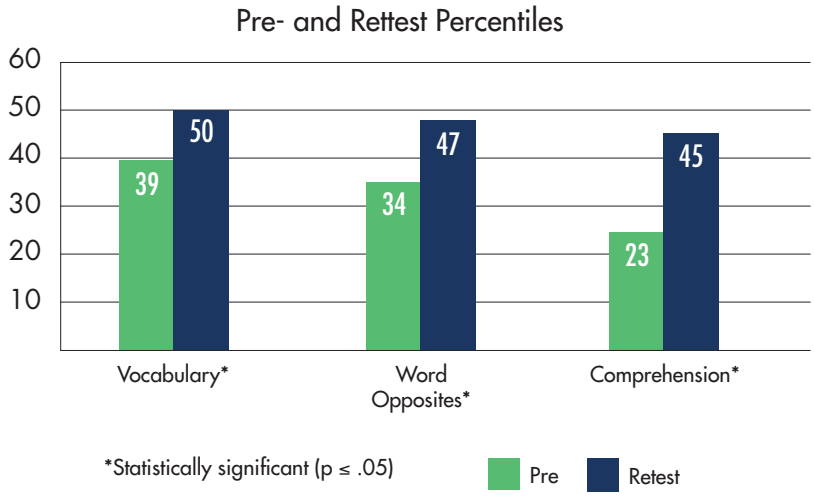
Number of Students: 1,705

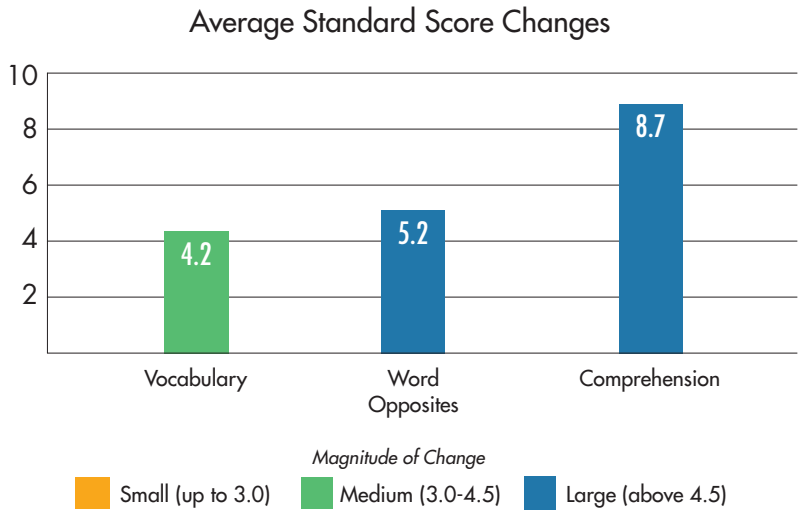
Average Hours of Instruction: 117.5

Results: On average, students with a prior ADHD diagnosis with decoding difficulties who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures. Additionally, a 19-point percentile increase in Word Recognition and a 17-point percentile increase in Comprehension puts these students within the normal range (25th–75th percentile).

Attention Deficit Hyperactivity Disorder (ADHD)

Students with a Prior ADHD Diagnosis Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2019

Average Age: 12.8

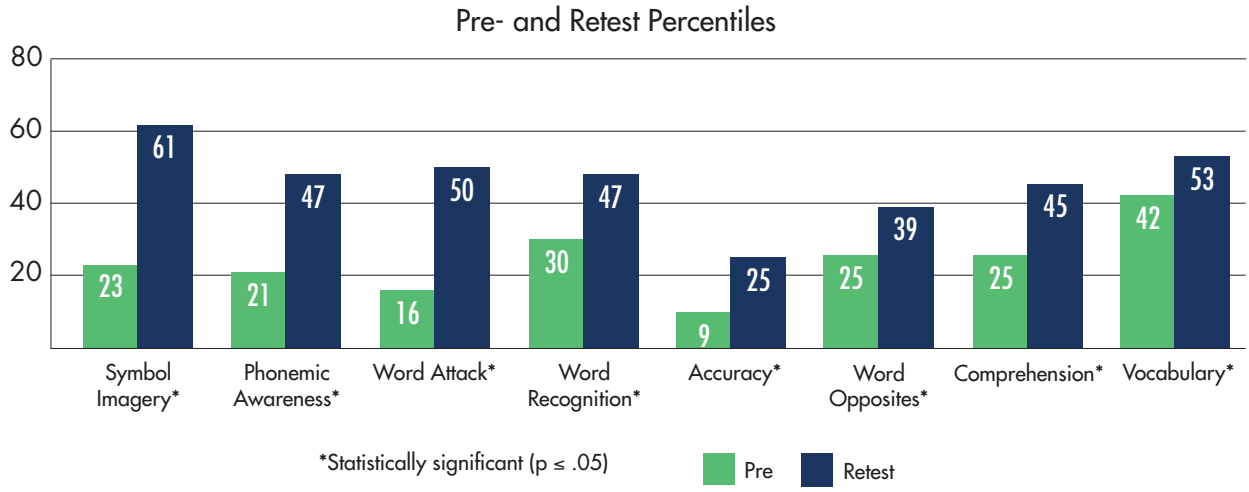
Number of Students: 1,347

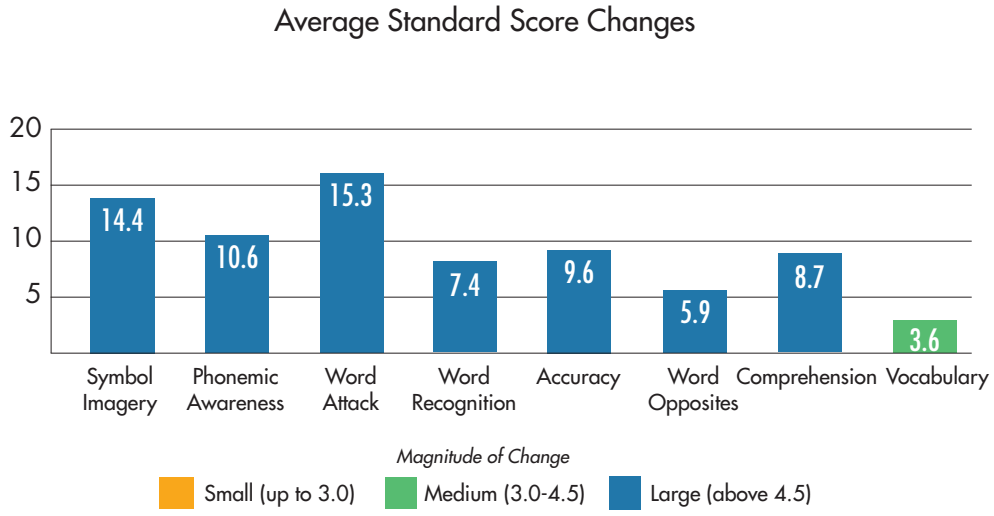
Average Hours of Instruction: 106.0

Results: On average, students with ADHD diagnosis with language comprehension difficulties who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 22-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile).

Attention Deficit Hyperactivity Disorder (ADHD)

Students with a Prior ADHD Diagnosis Who Received Decoding and Comprehension (Combined) Instruction





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars and Visualizing and Verbalizing

Years: 2008-2019

Average Age: 11.7

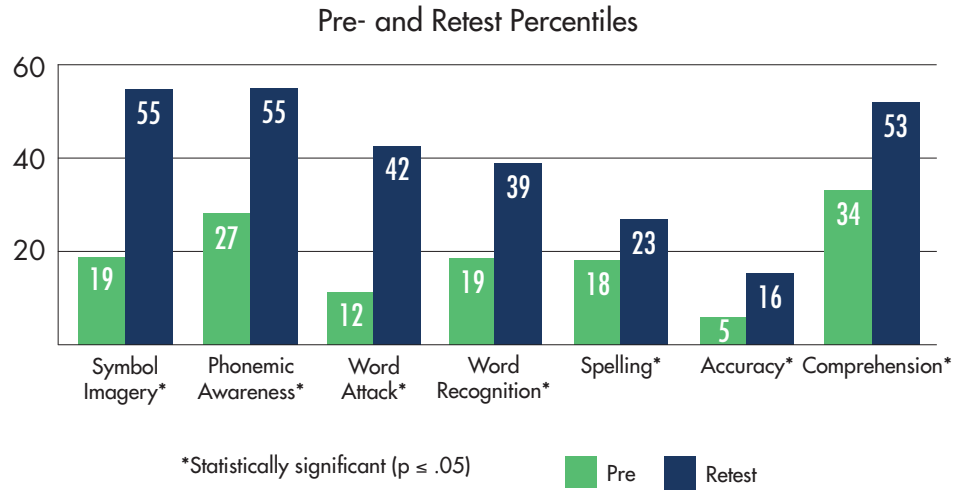
Number of Students: 1,402

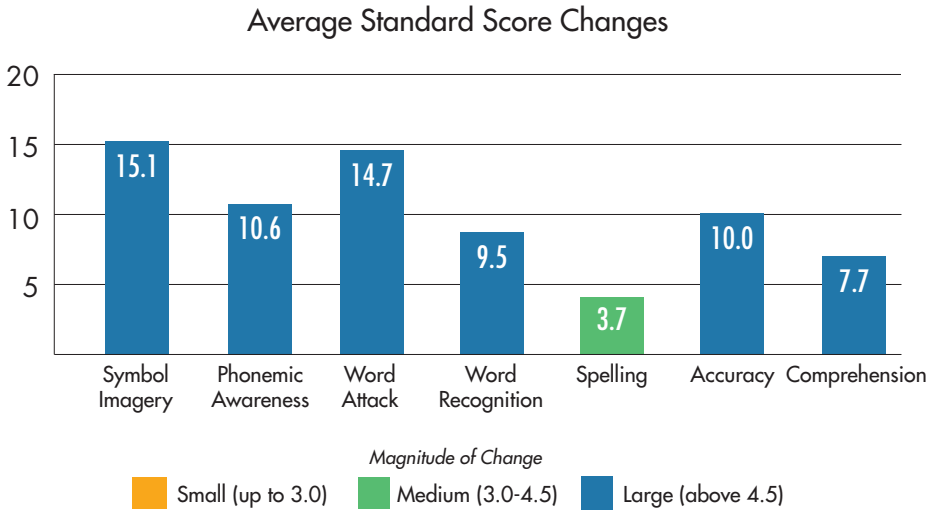
Average Hours of Instruction: 144.9

Results: Students with a prior ADHD diagnosis who had decoding, along with language comprehension difficulties, received both Seeing Stars and Visualizing and Verbalizing instruction. These students achieved significant improvements in decoding and comprehension. They made large (statistically significant) standard score changes on seven of the eight measures. Additionally, the 17-point percentile increase in Word Recognition and 20-point percentile increase in Comprehension puts these students within the normal range (25th–75th percentile).

Dyslexia

Students with a Prior Dyslexia Diagnosis Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 10.2

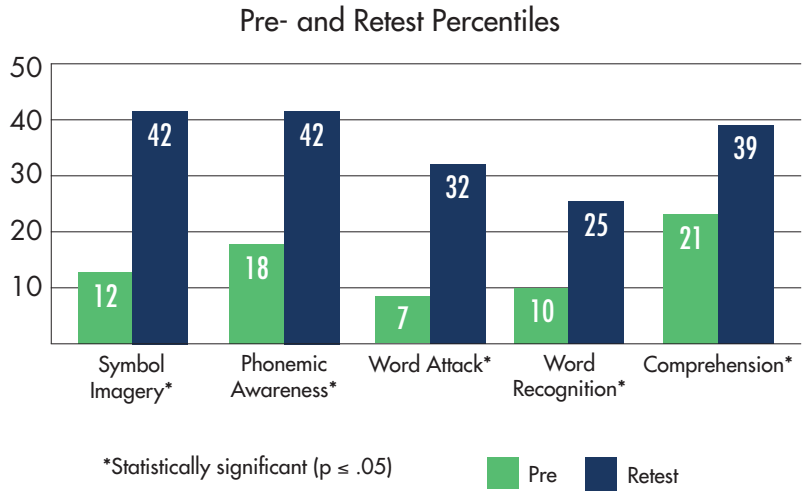
Number of Students: 2,101

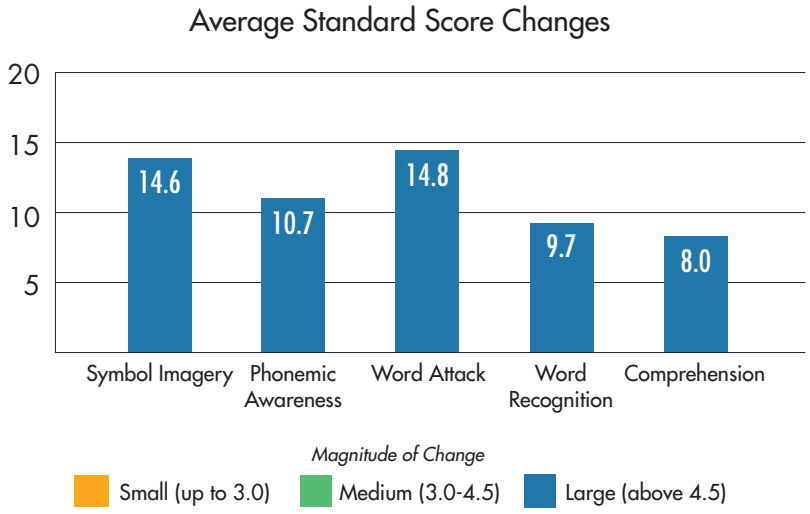
Average Hours of Instruction: 119.4

Results: On average, students with a prior Dyslexia diagnosis who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on six of the seven measures. The 20-point percentile increase in Word Recognition put these students well within the normal range (25th–75th percentile). The large average standard score change in Reading Accuracy should also be noted.

Specific Learning Disability (SLD)

Students with a Prior SLD Diagnosis Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 10.6

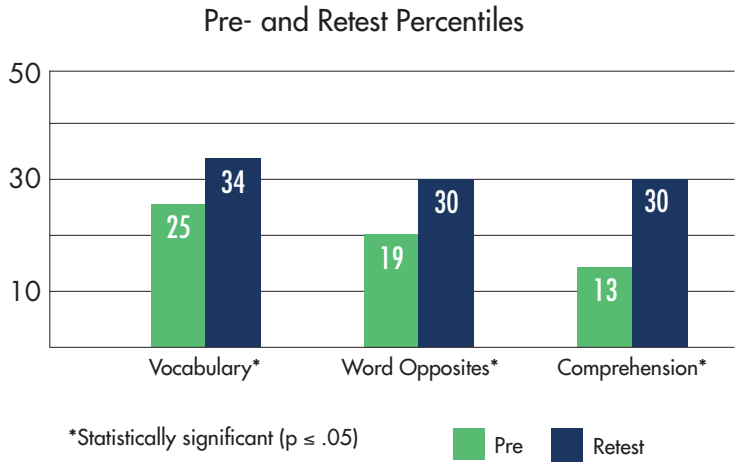
Number of Students: 696

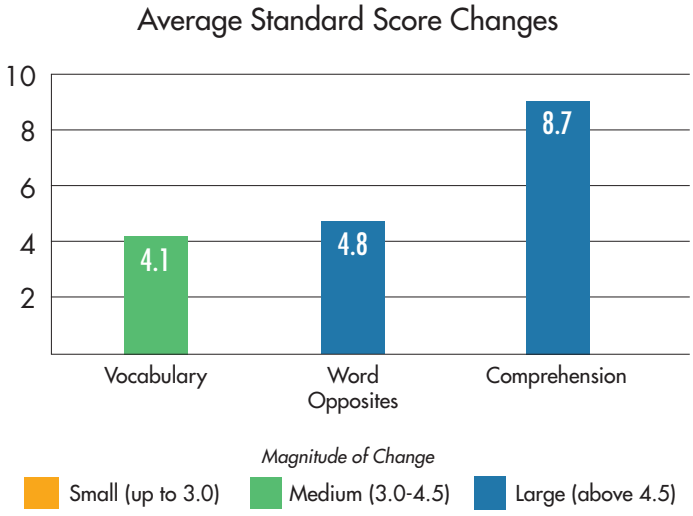
Average Hours of Instruction: 123.2

Results: On average, students with a prior SLD diagnosis who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures. Additionally, the 15-point percentile increase in Word Recognition and the 18-point increase in Comprehension puts these students within the normal range (25th–75th percentile).

Specific Learning Disability (SLD)

Students with a Prior SLD Diagnosis Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

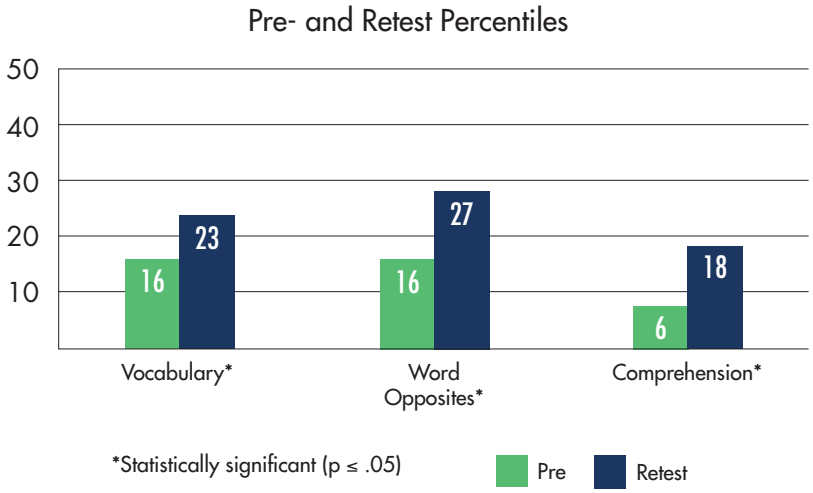
Years: 2008-2019 **Average Age:** 13.9

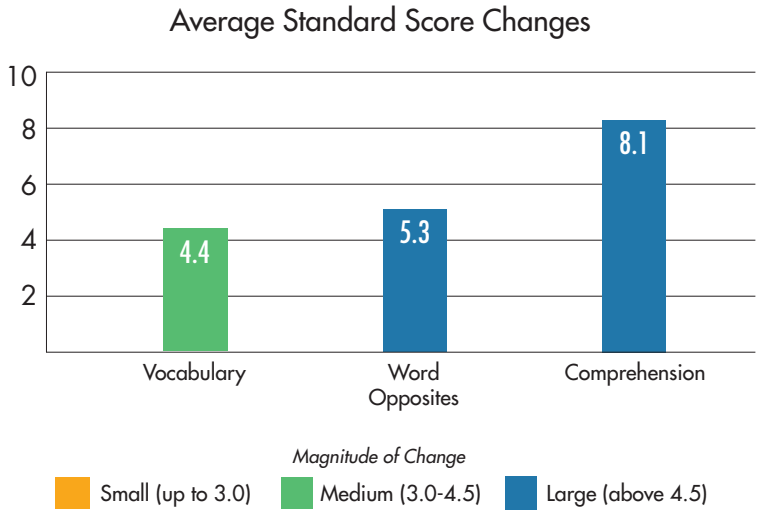
Number of Students: 343 **Average Hours of Instruction:** 111.7

Results: On average, students with a prior SLD diagnosis who received Visualizing and Verbalizing instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 17-point percentile increase in reading Comprehension put these students within the normal range (25th–75th percentile).

Autism Spectrum Disorder (ASD)

Students with a Prior ASD Diagnosis Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

Years: 2008–2019

Average Age: 11.9

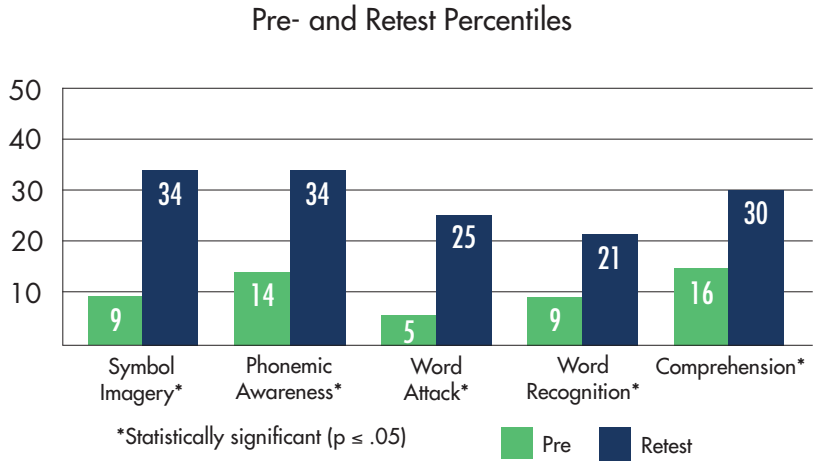
Number of Students: 871

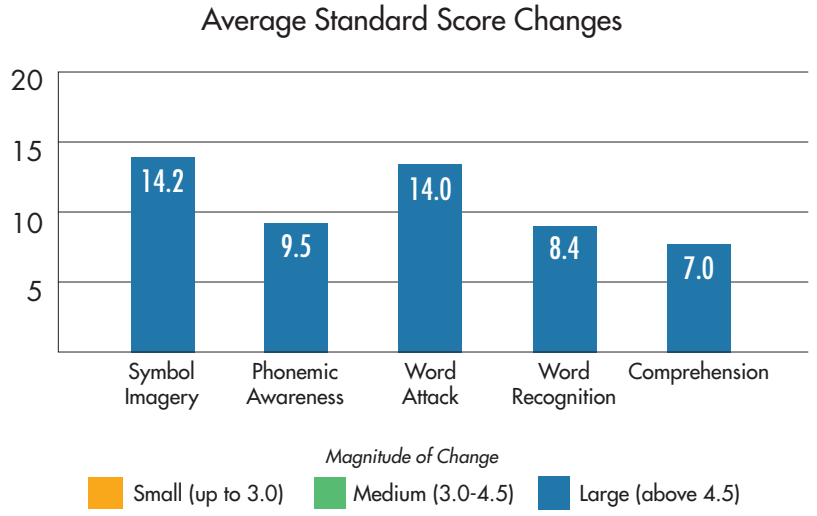
Average Hours of Instruction: 131.9

Results: On average, students with a prior ASD diagnosis who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension, a major deficit for many students with ASD. They made large (statistically significant) standard score changes on two of the three measures.

Speech or Language Impairment (SLI)

Results of Students with a Prior SLI Diagnosis Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 10.2

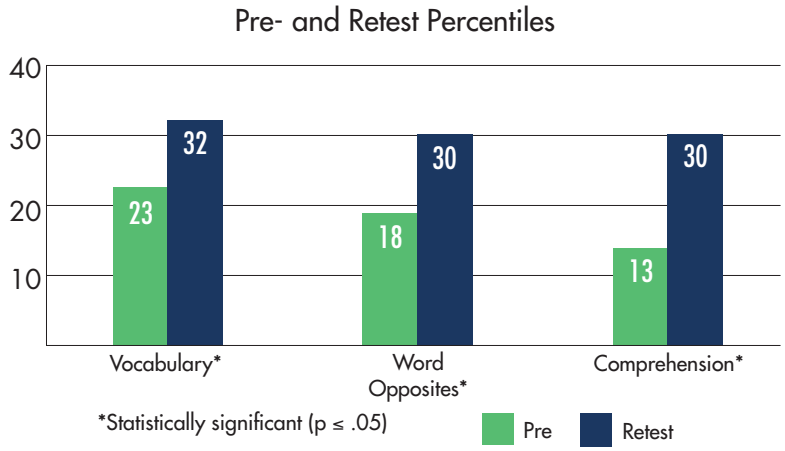
Number of Students: 385

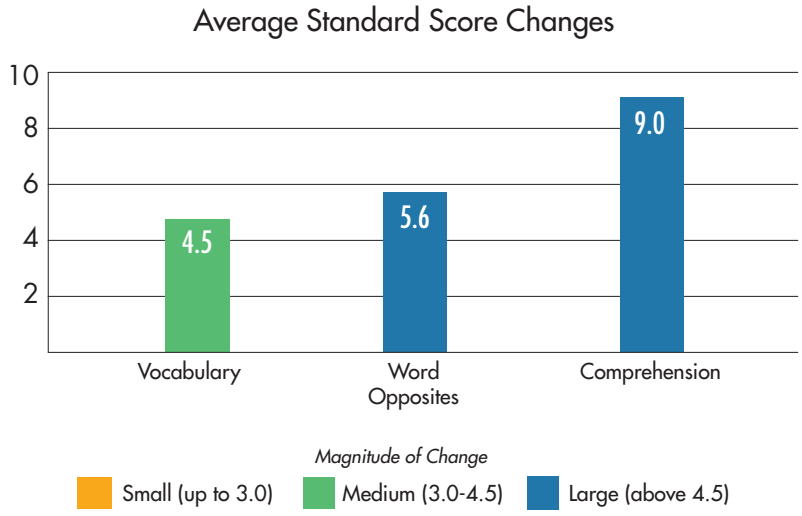
Average Hours of Instruction: 127.5

Results: On average, students with a prior SLI diagnosis with decoding difficulties who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures. Additionally, the significant increases in Symbol Imagery, Word Attack, and Word Recognition resulted in reading comprehension to now enter the normal range (25th–75th percentile).

Speech or Language Impairment (SLI)

Students with a Prior SLI Diagnosis Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

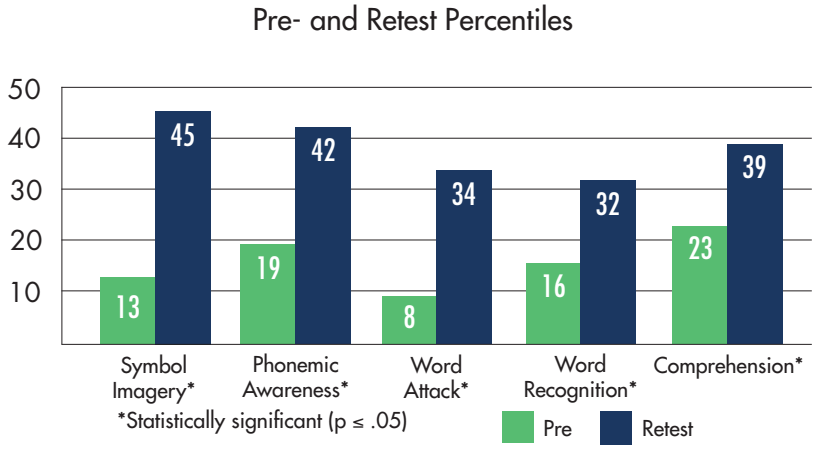
Years: 2008–2019 **Average Age:** 12.3

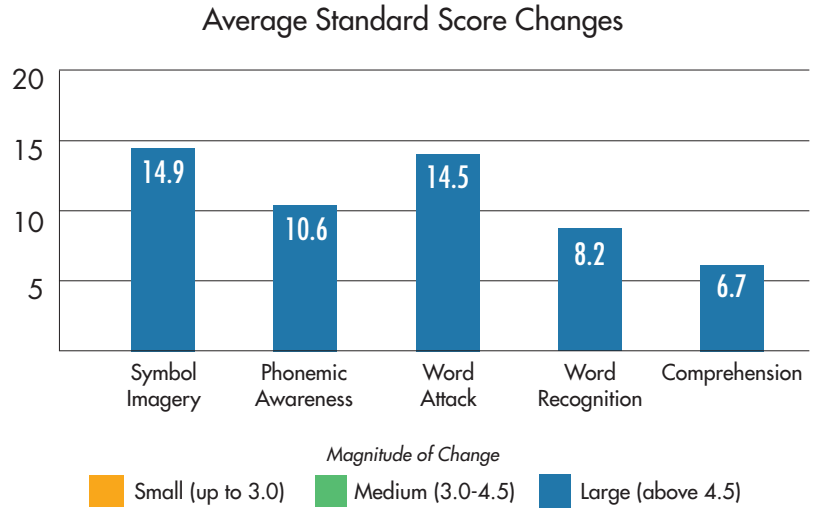
Number of Students: 501 **Average Hours of Instruction:** 119.3

Results: On average, students with a prior SLI diagnosed, coupled with language comprehension difficulties, who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 17-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile).

Central Auditory Processing Disorder (CAPD)

Students with a Prior CAPD Diagnosis Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 10.6

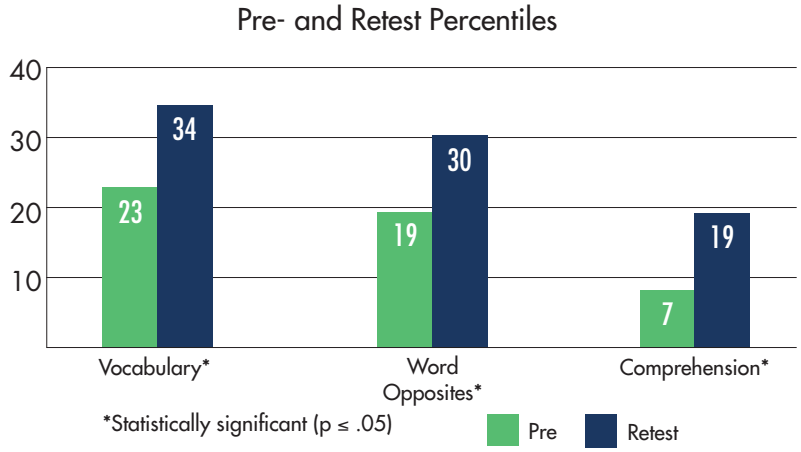
Number of Students: 402

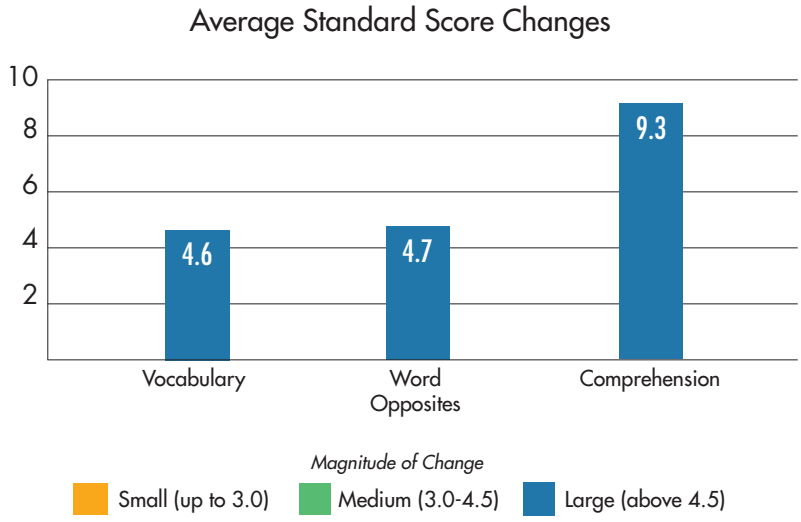
Average Hours of Instruction: 122.3

Results: On average, students with a CAPD diagnosis who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures. The 16-point percentile increase in Word Recognition put these students within the normal range (25th–75th percentile). Additionally, the large average standard score change on the Comprehension measure indicates a strong improvement in understanding what they are reading.

Hyperlexia

Students with a Prior Diagnosis of Hyperlexia Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

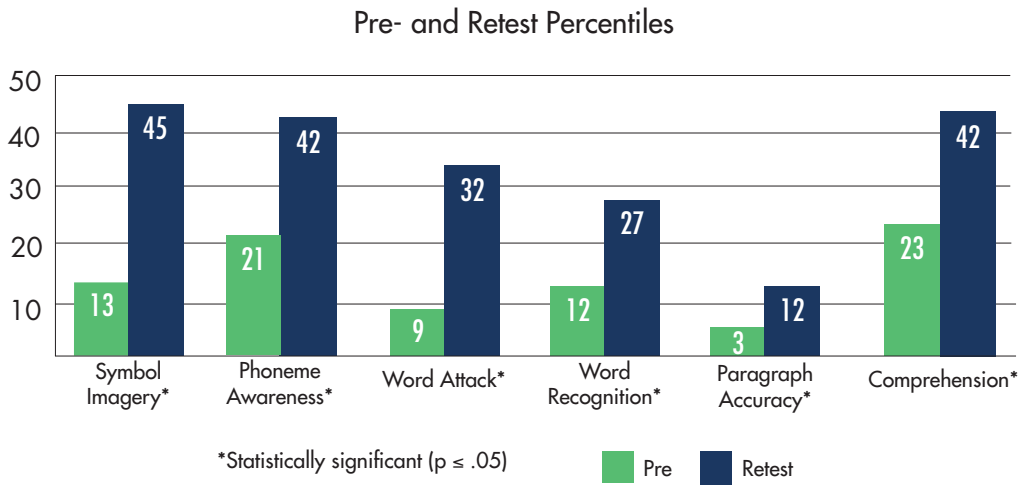
Years: 2008-2019 **Average Age:** 12.0

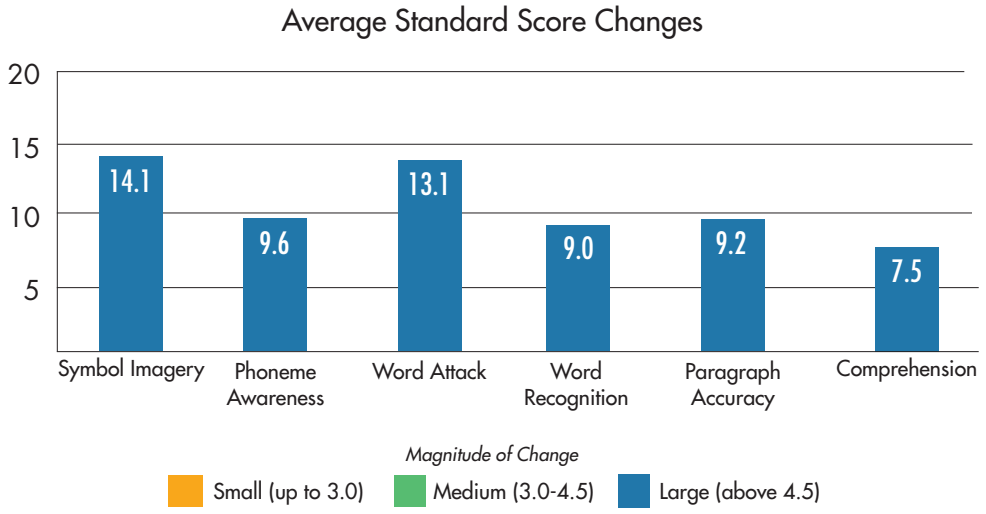
Number of Students: 83 **Average Hours of Instruction:** 124.1

Results: On average, students with a prior diagnosis Hyperlexia who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on all measures. Additionally, the 12-point percentile increase in receptive (Vocabulary) and expressive (Word Opposites) Vocabulary put these students within the normal range (25th–75th percentile).

Special Education (SPED)

Results of SPED Students Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Number of Students: 2,150

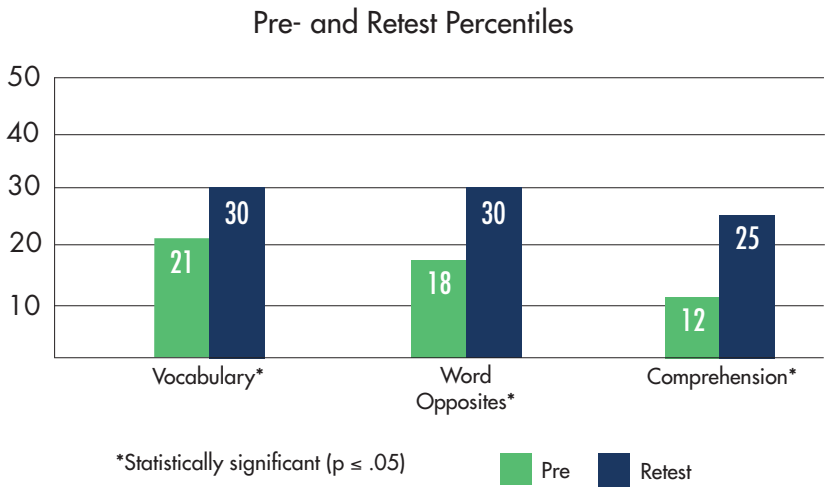
Average Age: 10.5

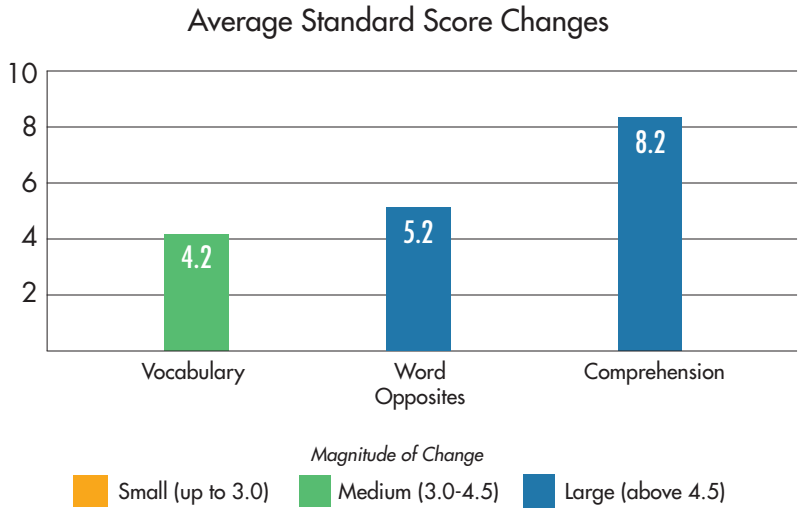
Average Hours of Instruction: 123.2

Results: On average, students receiving Special Education services who received Seeing Stars instruction achieved significant improvements in decoding. They made large (statistically significant) standard score changes on all measures. Additionally, the 15-point percentile increase in Word Recognition and, notably, the 19-point percentile increase in Comprehension puts these students within the normal range (25th–75th percentile).

Special Education (SPED)

Results of SPED Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

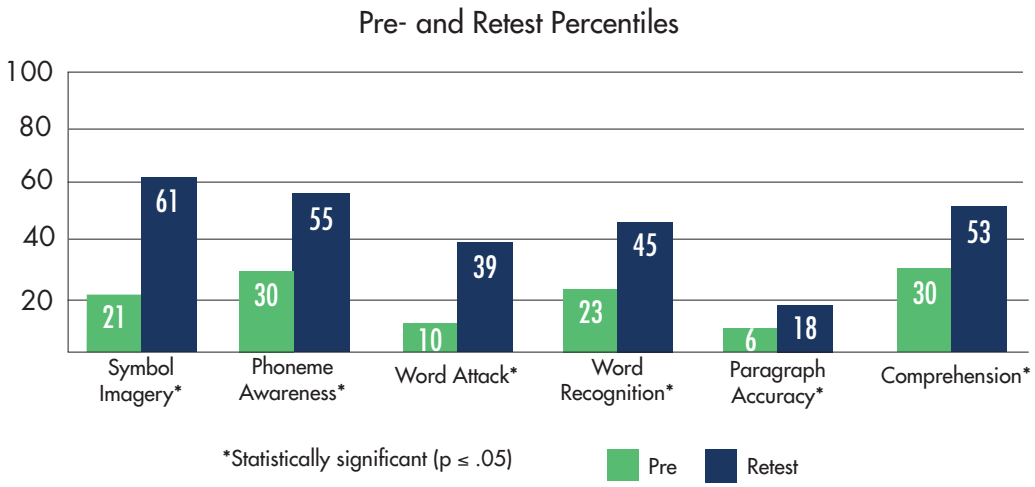
Years: 2008-2019 **Average Age:** 12.8

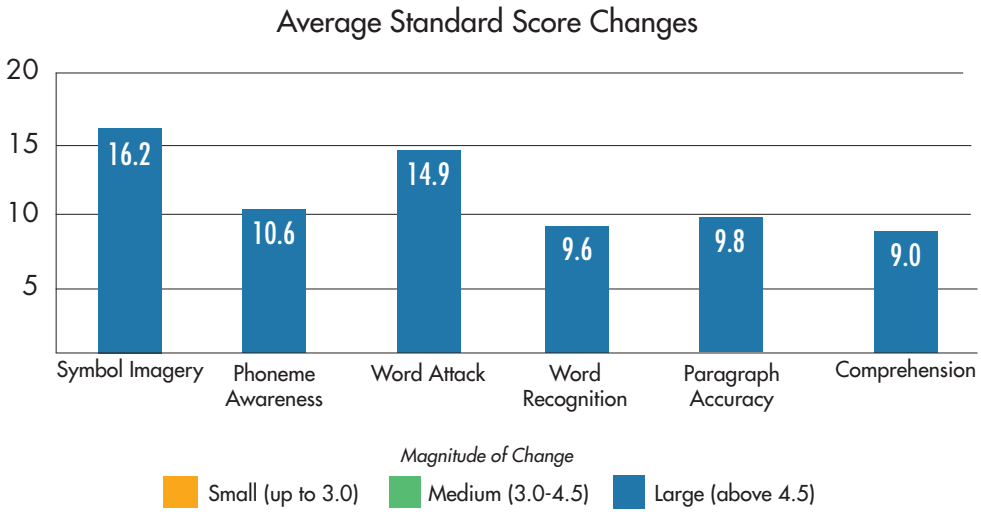
Number of Students: 1,655 **Average Hours of Instruction:** 121.6

Results: On average, students receiving Special Education services who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 13-point percentile increase in language Comprehension, a statistically significant large standard score change, put these students within the normal range (25th–75th percentile).

English as a Second Language (ESL)

Results of ESL Students Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008–2019

Average Age: 9.5

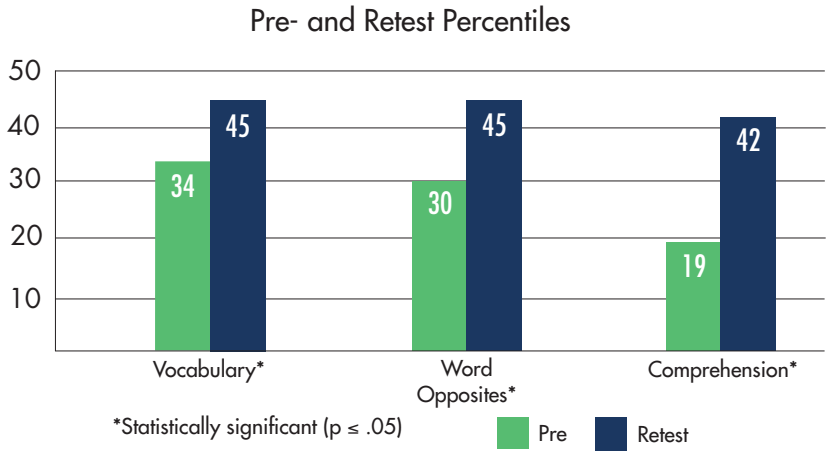
Number of Students: 1,877

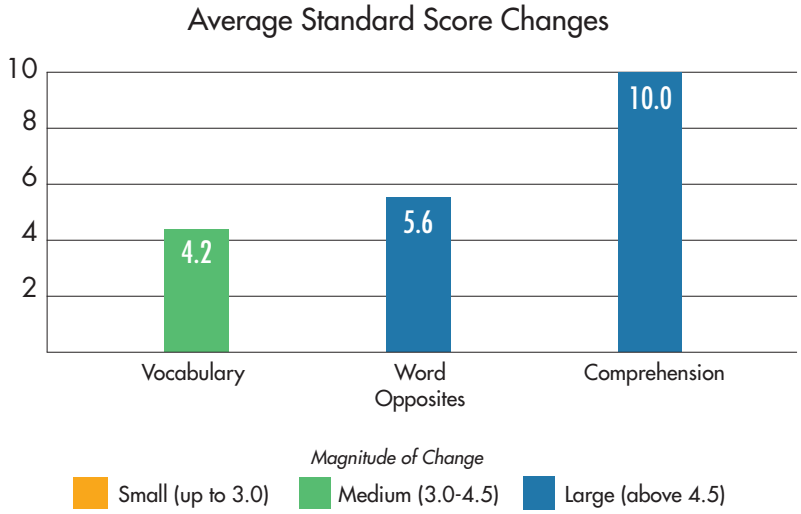
Average Hours of Instruction: 103.9

Results: On average, ESL students who requested an accelerated approach to develop their decoding skills received instruction in the Seeing Stars program. They achieved excellent improvements on all measures of reading. They made large (statistically significant) standard score changes on all reading measures. As a result of significant improvements in phonological awareness and orthographic awareness (Symbol Imagery), they experienced an average 22-point percentile increase in Word Recognition and a 23-point percentile increase in Comprehension. These increases in their English reading skills put these students well within the normal range (25th–75th percentile).

English as a Second Language (ESL)

Results of ESL Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

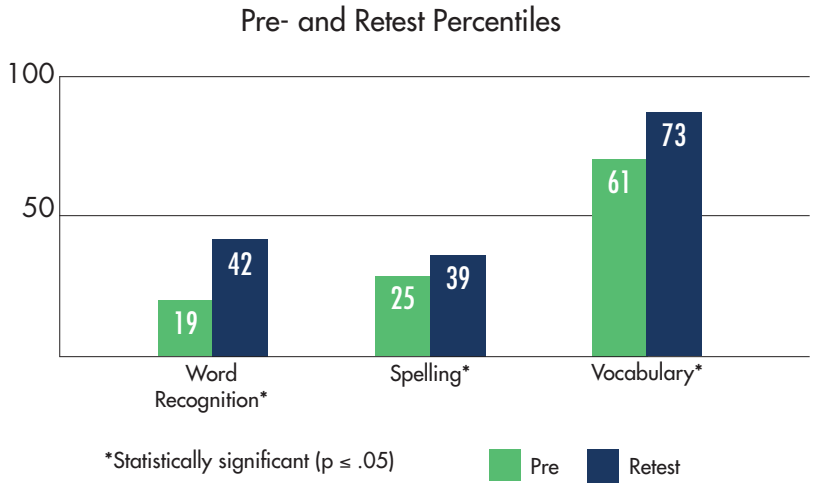
Years: 2008-2019 **Average Age:** 12.3

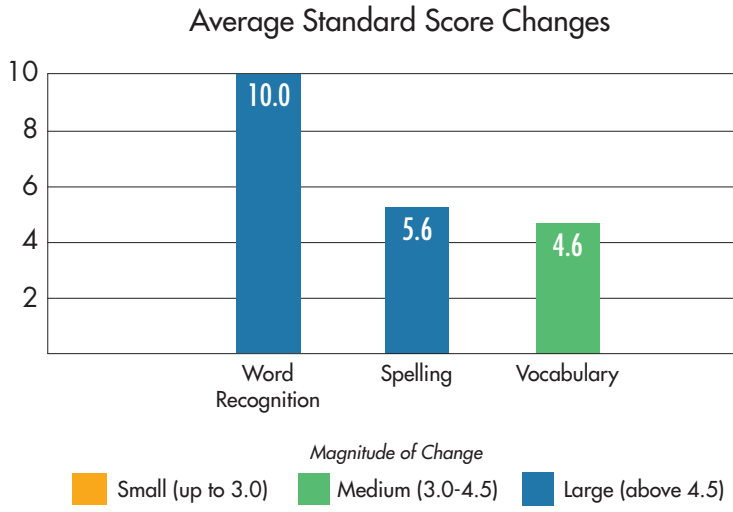
Number of Students: 1,284 **Average Hours of Instruction:** 103.1

Results: On average, ESL students who requested an accelerated approach to increase their vocabulary and comprehension skills received instruction in the Visualizing and Verbalizing program. They achieved excellent improvements in those targeted areas of reading. They made (statistically significant) standard score changes on receptive (Vocabulary) and expressive (Word Opposites) oral vocabulary and reading Comprehension measures. As a result of significant improvements in these students' ability to visualize and verbalize, they experienced an average 23-point percentile increase in reading Comprehension. These increases in their English reading skills put these students well within the normal range (25th–75th percentile).

Pre-Kindergarten

Results of Pre-K Students Who Received Any Program of Instruction





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars and Visualizing and Verbalizing

Years: 2008–2019

Average Age: 5.5

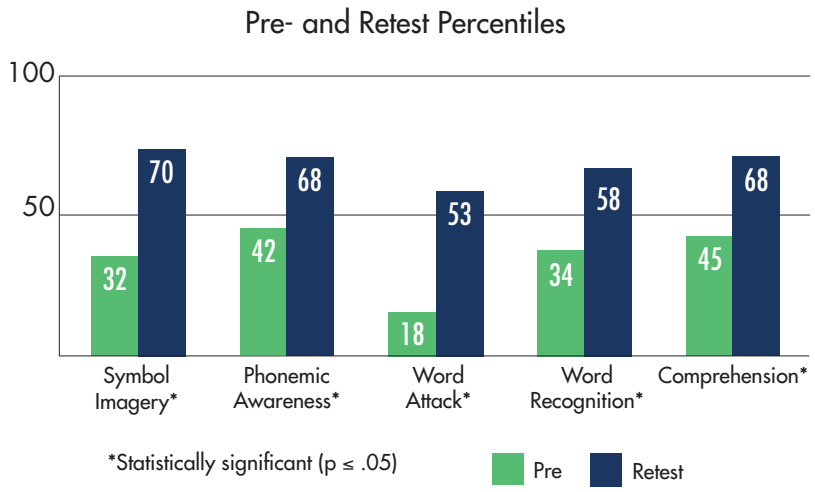
Number of Students: 153

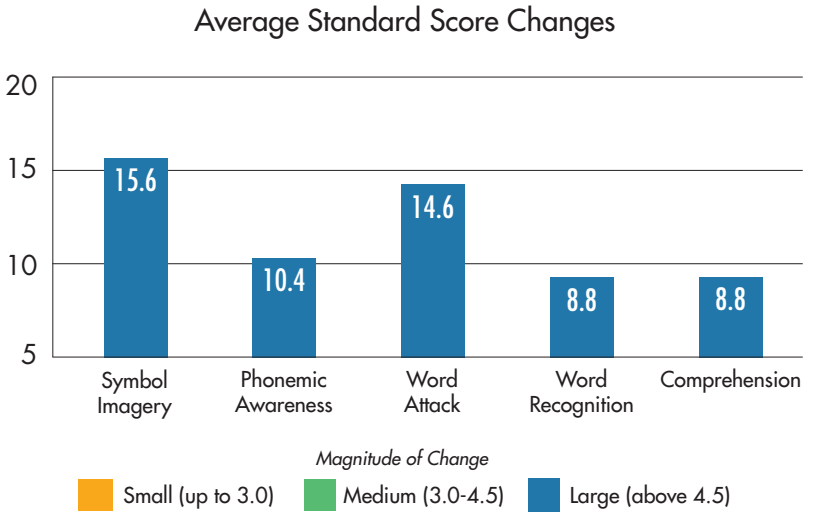
Average Hours of Instruction: 95.3

Results: On average, Pre-Kindergarten students who received developmental instruction achieved significant improvements. They made large (statistically significant) standard score changes on two of the three measures. Additionally, the 23-point percentile increase in Word Recognition put these students within the normal range (25th–75th percentile).

Gifted

Results of Gifted Students Who Received Decoding Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Seeing Stars

Years: 2008-2019

Average Age: 9.9

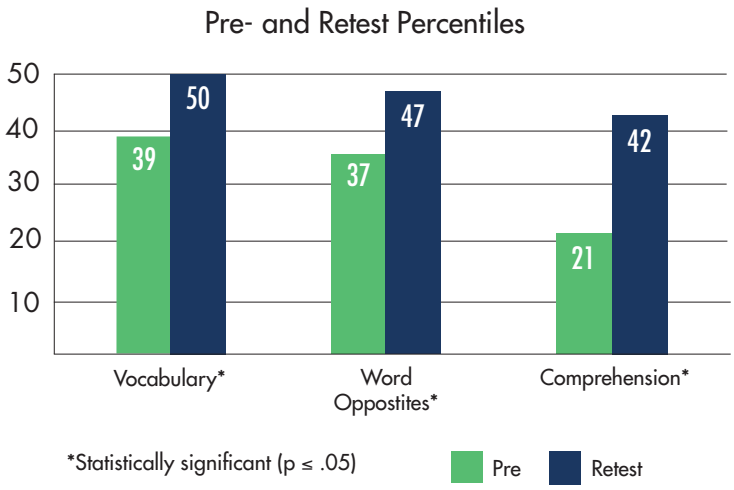
Number of Students: 517

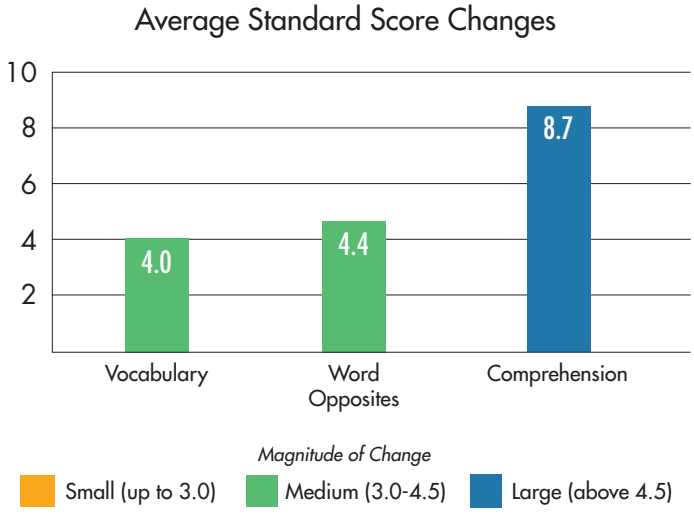
Average Hours of Instruction: 92.4

Results: On average, students categorized as Gifted who received Seeing Stars instruction achieved significant improvements in reading. They made large (statistically significant) standard score changes on all measures.

Middle School

Results of Middle School Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

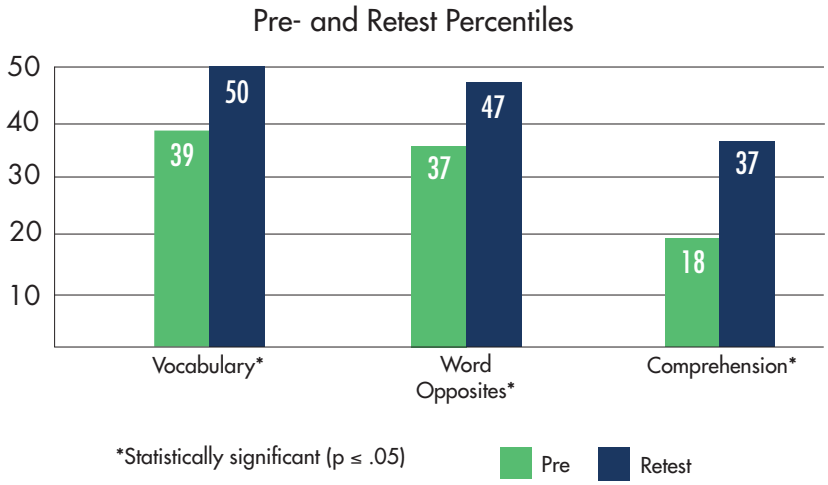
Years: 2008-2019 **Average Age:** 13.1

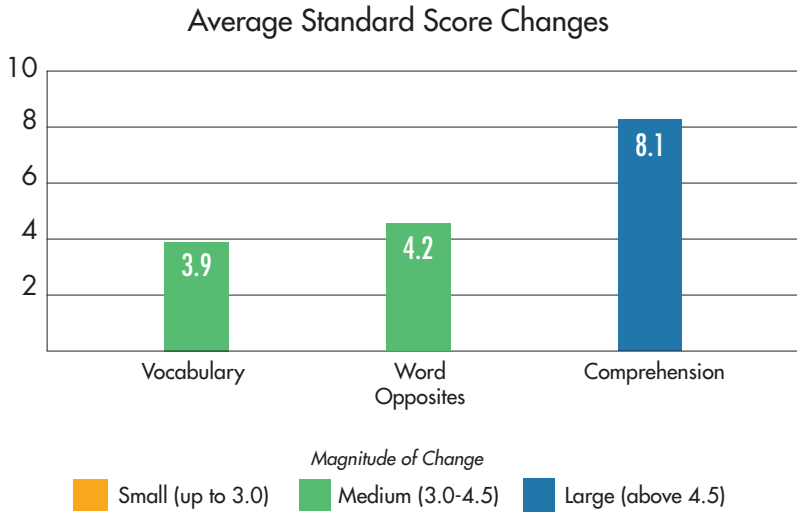
Number of Students: 1,499 **Average Hours of Instruction:** 103.6

Results: On average, Middle School students who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on their language Comprehension measure. Additionally, the 21-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile).

High School

Results of High School Students Who Received Comprehension Instruction Only





Summary

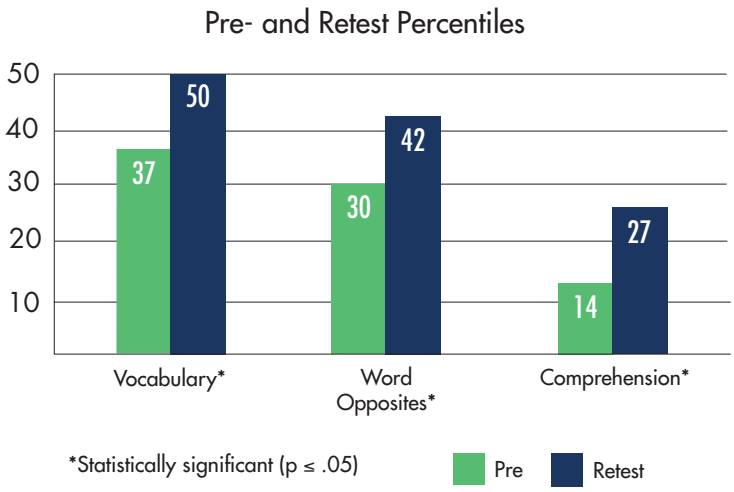
Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

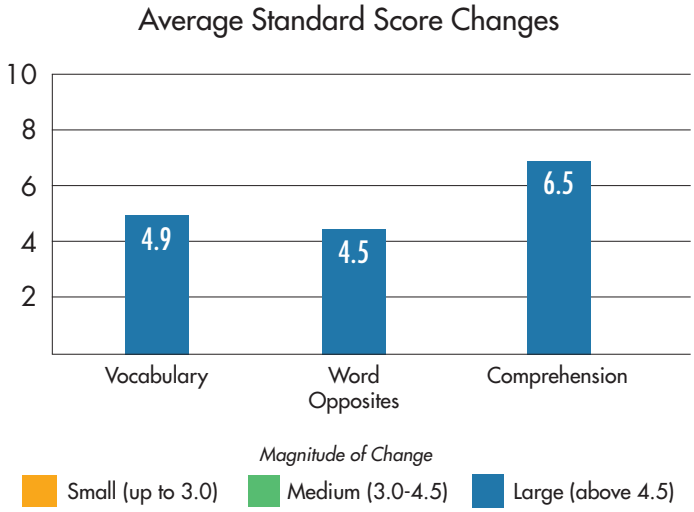
Years: 2008-2020
Average Age: 16.3
Number of Students: 791
Average Hours of Instruction: 102.0

Results: On average, High School students who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made medium (statistically significant) standard score changes on two of the three measures and significantly large growth (a 19-point percentile increase) in language Comprehension. That growth put these students well within the normal range (25th–75th percentile).

College-Aged

Results of College-Aged School Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2019

Average Age: 20.2

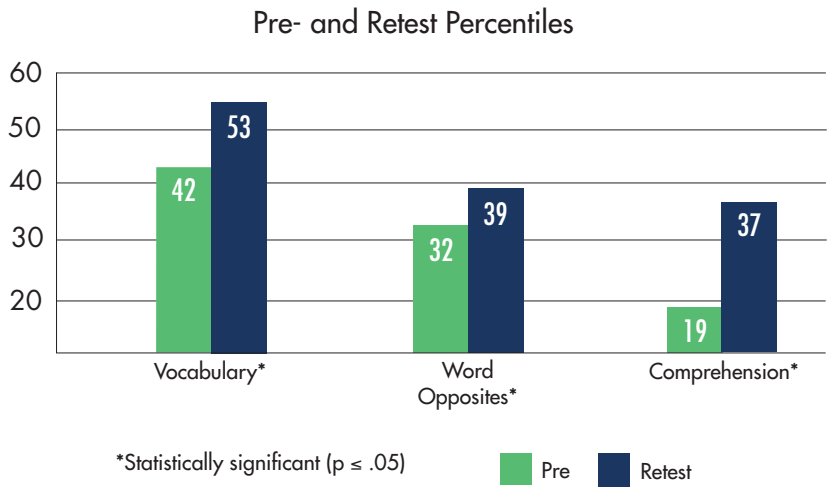
Number of Students: 159

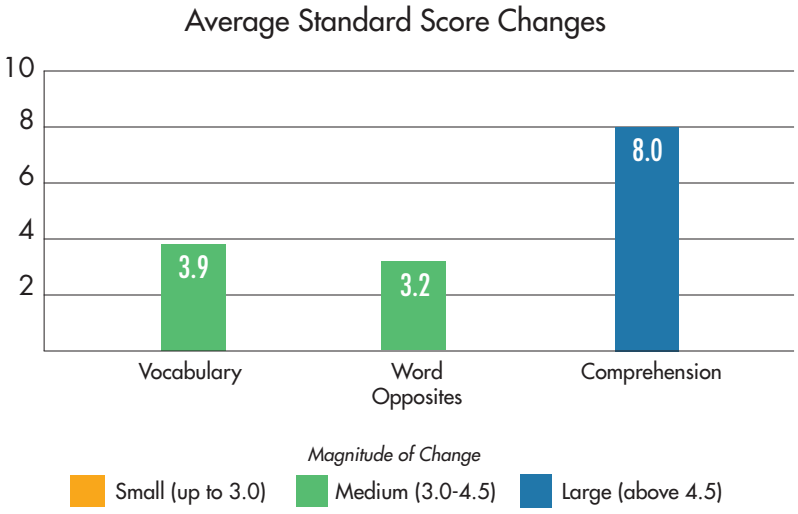
Average Hours of Instruction: 113.0

Results: On average, College-Aged students who received Visualizing and Verbalizing instruction achieved significant improvements in comprehension. They made large (statistically significant) standard score changes on all measures.

Adult

Results of Adult Students Who Received Comprehension Instruction Only





Summary

Lindamood-Bell Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2019
Average Age: 36.1
Number of Students: 145
Average Hours of Instruction: 100.7

Results: On average, Adult students who received Visualizing and Verbalizing program instruction achieved significant improvements in comprehension. They made medium (statistically significant) standard score changes on two of the three measures, while experiencing a statistically-significant large increase in reading Comprehension. These changes placed them well into the normal range of functioning (25th–75th percentile).


hop

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Evidence-Based Studies

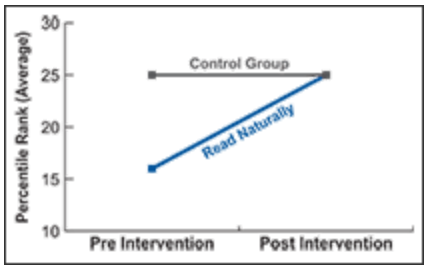
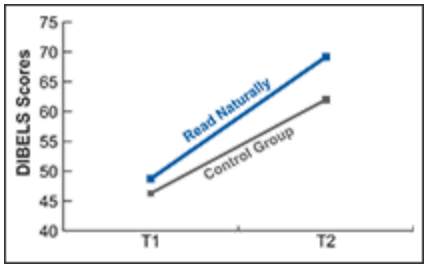
The research studies below, which examine the effectiveness of the Read Naturally intervention program, have been reviewed and found to contain substantial evidence to support the use of the Read Naturally Strategy under the Every Student Succeeds Act (ESSA, 2015).

Danielle Dupuis, Ph.D., Assistant Director for Research and Assessment at the University of Minnesota's Center for Applied Research and Educational Improvement found that two studies provide **strong evidence** for the effectiveness of the Read Naturally Strategy, four studies provide **moderate evidence** of Read Naturally's effectiveness, and three other studies provide **promising evidence**.

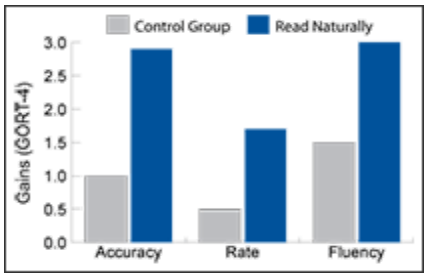
Dr. Dupuis also found that multiple other studies show that the Read Naturally Strategy is an effective intervention, but those studies do not meet the definition of "evidence based" due to methodological flaws in the studies' designs, not because Read Naturally was ineffective for the students in the studies.

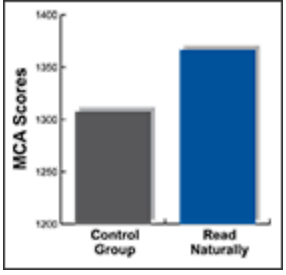
- Read Danielle Dupuis's complete report

Strong Evidence for the Read Naturally Strategy

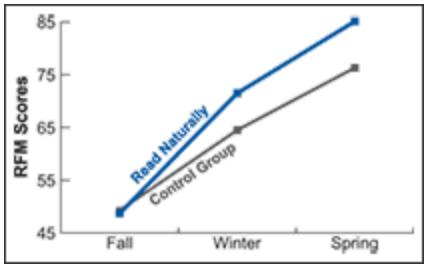
	**Christ, T. J., & Davie, J. (2009). Empirical evaluation of Read Naturally effects: A randomized control trial.** *The Christ & Davie study showed effect sizes of .66 for fluency with the Grey Oral Reading Test–Fourth Edition: Fluency (GORT 4: Fluency) and .66 for accuracy with the GORT 4: Accuracy.* - Learn more about the Christ & Davie study
	**Arvans, R. (2010). Improving reading fluency and comprehension in elementary students using Read Naturally.** *At the end of the eight-week Arvans study, the Read Naturally group had a large effect size of .81 for fluency. The control group had a moderate effect size of .57 for fluency. This effect size difference of .24 in eight weeks is significant, especially if extrapolated over a school year.* - Learn more about the Arvans study

Moderate Evidence for the Read Naturally Strategy

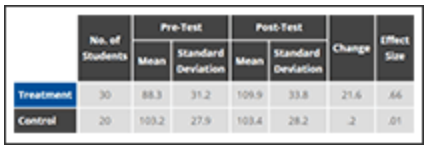
	**Tucker, C. & Jones, D. (2010). Response to intervention: Increasing fluency, rate, and accuracy for students at risk for reading failure.** *The Tucker & Jones study showed effect sizes of .51 for rate with the GORT 4: Rate, .87 for accuracy with the GORT 4: Accuracy, and .75 for fluency with the GORT 4: Fluency.* - Learn more about the Tucker & Jones study
	Heistad, D. (2005). The effects of Read Naturally on fluency and reading comprehension:



A supplemental service intervention (four-school study).
In this four-school study, Read Naturally students showed an effect size for reading comprehension of .38 on the Minnesota Comprehensive Assessments (MCA).
- Learn more about the Heistad four-school study



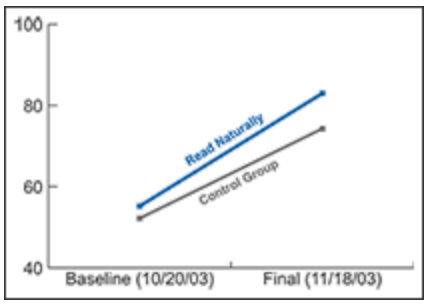
Heistad, D. (2008). The effects of Read Naturally on grade 3 reading: A study in the Minneapolis Public Schools.
In this study of third graders in the Minneapolis Public Schools, students using Read Naturally showed reading gains that were statistically greater than students in a control group, based on student scores on the Northwest Achievement Levels Test and Read Naturally's benchmark assessment for oral reading fluency.
- Learn more about the Heistad study of third graders



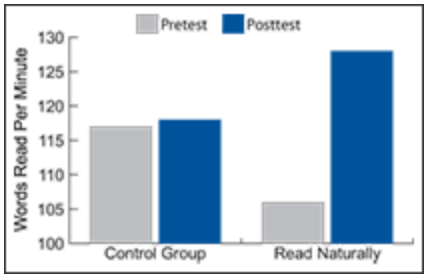
	No. of Students	Pre-Test		Post-Test		Change	Effect Size
		Mean	Standard Deviation	Mean	Standard Deviation		
Treatment	30	88.3	31.2	109.9	33.8	21.6	.66
Control	20	103.2	27.9	103.4	28.2	.2	.01

Graves, A. W., Duesbery, L., Pyle, N. B., Brandon, R. R., & McIntosh, A. S. (2011). Two studies of Tier II literacy development: Throwing sixth graders a lifeline.
In the Graves study, students who received a combined intervention package of Read Naturally, Corrective Reading or Rewards, and Daybrook made statistically significant gains in oral reading fluency and passage comprehension compared to a control group.
- Learn more about the Graves et al. study

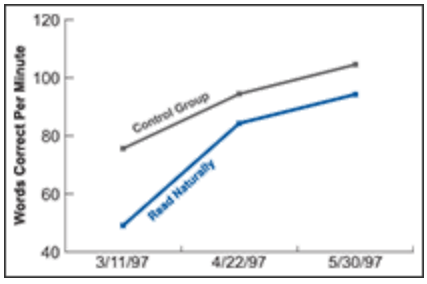
Promising Evidence for the Read Naturally Strategy



Mesa, C. (n.d.). First-grade students, South Forsyth County, GA.
In the Mesa study, first graders using the Read Naturally Strategy had significantly greater gains in fluency and comprehension than a control group who did not use Read Naturally.
- Learn more about the Mesa study



Wright, S. (2006). The effects of Read Naturally on students' oral reading fluency and reading comprehension.
?In the Wright study, students using the Read Naturally Strategy had greater gains in fluency and comprehension than students in a matched control group.
- Learn more about the Wright study



Read Naturally, Inc. (1997). Second-grade students, Elk River, MN.
In the Elk River study, second-grade students who used the Read Naturally Strategy over 12 weeks increased their reading fluency by an average of 92 percent, compared to a control group that made an average gain of 38 percent over the same period.
- Learn more about the Elk River study

See also:

- Additional Studies and Reviews

Evidence-Based Studies

Treatment Group/Control Group Study

Improving reading fluency and comprehension in elementary students using Read Naturally

Arvans, R. (2005)

Arvans Study Compared to Christ & Davie Study

An analysis of the Arvans study reveals that the Read Naturally group's fluency gains were quite significant. At the end of the eight-week study, the Read Naturally group had a large effect size of .81 for fluency. The control group had a moderate effect size of .57 for fluency. This effect size difference of .24 in eight weeks is significant, especially when extrapolated over a school year.

The Arvans study may also be analyzed using the Hasbrouck-Tindal Oral Reading Fluency Norms. According to these averages, third-grade students at the 50th percentile have an average weekly improvement in fluency of 1.1 words correct per minute (WCPM). An analysis conducted on the Arvans dataset estimates that the performance of the Read Naturally group would be significantly greater than this (1.43 WCPM per week).

Technical Analysis of the Arvans Study

Ethan R. Van Norman, M.A., performed an analysis of the Arvans study that is similar to what appeared in the Christ and Davie study (2009). In the Christ and Davie study, the authors first calculated a slope estimate from three time points for each student in the control group and the Read Naturally group. The slope estimate represented the number of words read correct per minute (WCPM) improvement per week. The mean and standard deviation of slopes were then calculated for each group. The percent of improvement of the Read Naturally group in relation to the control group was calculated. After this, the authors used the percent of improvement and applied it to an aggressive rate of growth (1.50 WCPM improvement per week). That value and 1.50 were then multiplied by 36 (the typical number of weeks in a school year). The difference between these two values was interpreted as a hypothetical effect if the Read Naturally intervention was delivered across an entire school year.

Similarly, on the Arvans dataset, slope estimates were calculated for each student from two observations eight weeks apart. The mean slope value for the Read Naturally group was 2.92 WCPM improvement per week (SD = 1.54) compared to the control group, which had a mean slope estimate of 2.24 (SD = 2.36). The .68 difference in mean slope for the Read Naturally group represents a 30% improvement over the control group. Assuming an aggressive rate of growth of 1.50 WCPM for typical students, a 30% increase would translate to a 1.95 rate of growth for Read Naturally students. Extended across 36 weeks, this represents a net increase of 70 WCPM for a Read Naturally student, compared with a 54 WCPM increase for a non-Read Naturally student.

Although not ideal, slope estimates from two time points have been used to summarize growth in previous CBM-R research studies.

See: "Curriculum-Based Measurement of Oral Reading: An Evaluation of Growth Rates and Seasonal Effects Among Students Served in General and Special Education," Christ, Silberglitt, Yeo & Cormier, 2010.

Ethan R. Van Norman also did an analysis on the Arvans dataset to extrapolate growth using normative values. For third-grade students, weekly growth estimates for students in the 50th percentile typically approximate 1.10 WCPM per week. Assuming that the Read Naturally group has a 30% improvement over the control group and the intervention is delivered for 36 weeks, a student in the 50th percentile, on average, would improve at a rate of 1.43 WCPM per week. After 36 weeks, this would translate to a 51 WCPM improvement for a Read Naturally student and a 40 WCPM improvement for a non-Read Naturally student. This is a substantial difference.

Read the complete results of this study

FLORIDA DEPARTMENT OF EDUCATION
PROJECT APPLICATION

Please return to:	**A) Program Name:**	**DOE USE ONLY**
Florida Department of Education Office of Grants Management Room 332 Turlington Building 325 West Gaines Street Tallahassee, Florida 32399-0400 Telephone: (850) 245-0496	High-Quality Curriculum for Reading **TAPS NUMBER:** 21A160	Date Received
B) Name and Address of Eligible Applicant: Brevard County School District 2700 Judge Fran Jamieson Way, Viera, FL 32940		**Project Number (DOE Assigned)**

C) Total Funds Requested:	**D) Applicant Contact & Business Information**	
$511,873.63	Contact Name: Rebecca Villanueva Fiscal Contact Name: Wendy Knippel	Telephone Numbers: (321) 633-1000 Ext. 11348
DOE USE ONLY **Total Approved Project:** $	Mailing Address: 2700 Judge Fran Jamieson Way Viera, FL 32940	E-mail Addresses: villanueva.rebecca@brevardschools.org knippel.wendy@brevardschools.org
	Physical/Facility Address: 2700 Judge Fran Jamieson Way Viera, FL 32940	DUNS number: 364622886 FEIN number: F596000522003

CERTIFICATION

I, Mark W. Mullins, (*Please Type Name)* as the official who is authorized to legally bind the agency/organization, do hereby certify to the best of my knowledge and belief that all the information and attachments submitted in this application are true, complete and accurate, for the purposes, and objectives, set forth in the RFA or RFP and are consistent with the statement of general assurances and specific programmatic assurances for this project. I am aware that any false, fictitious or fraudulent information or the omission of any material fact may subject me to criminal, or administrative penalties for the false statement, false claims or otherwise. Furthermore, all applicable statutes, regulations, and procedures; administrative and programmatic requirements; and procedures for fiscal control and maintenance of records will be implemented to ensure proper accountability for the expenditure of funds on this project. All records necessary to substantiate these requirements will be available for review by appropriate state and federal staff. I further certify that all expenditures will be obligated on or after the effective date and prior to the termination date of the project. Disbursements will be reported only as appropriate to this project, and will not be used for matching funds on this or any special project, where prohibited.

Further, I understand that it is the responsibility of the agency head to obtain from its governing body the authorization for the submission of this application.

E)	Superintendent	12/3/2020
Signature of Agency Head	Title	Date

Instructions for Completion of DOE 100A

A. If not pre-populated, enter name and TAPS number of the program for which funds are requested.

B. Enter name and mailing address of eligible applicant. The applicant is the public or non-public entity receiving funds to carry out the purpose of the project.

C. Enter the total amount of funds requested for this project.

D. Enter requested information for the applicant's program and fiscal contact person(s). These individuals are the people responsible for responding to all questions, programmatic or budgetary regarding information included in this application. The Data Universal Numbering System (DUNS), or unique agency identifier number, requirements are explained on page A-2 of the Green Book. The Applicant name must match the name associated with their DUNS registration. The Physical/Facility address and Federal Employer Identification Number/Tax Identification Number (FEIN/FEID or TIN) (also known as) Employer Identification Number (EIN) are collected for department reporting.

E. **The original signature of the appropriate agency head is required.** The agency head is the school district superintendent, university or community college president, state agency commissioner or secretary, or the chairperson of the Board for other eligible applicants.

- **Note: Applications signed by officials other than the appropriate agency head identified above must have a letter signed by the agency head, or documentation citing action of the governing body delegating authority to the person to sign on behalf of said official. Attach the letter or documentation to the DOE 100A when the application is submitted.**