

# LEARNING CENTER

# RESULTS

2008-2018





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## Introduction

Over the course of three decades, Lindamood-Bell has been honored to work with tens of thousands of children and adults. Through our founders' programs, our intervention approaches, and evidence-based research findings, we bring the imagery-language foundation for learning to our students and help them learn to their potential.

Our students include struggling readers who are just starting to learn sounds and letters, those who are not "getting" what they read or hear, students who simply wish to excel, and those who have been previously diagnosed with dyslexia, developmental delays, or autism. Our continued success in addressing the diverse needs of these individuals is due to our comprehensive approach to individualized diagnosis and evidence-based research on rising sensory-cognitive instruction.

This summary highlights the results of our work in our Learning Centers. As we address the needs of the individuals we serve, we continue to participate in scientifically-based studies of our founders' programs as we monitor the results in learning achievement at our Learning Centers. All of this is done to ensure state-of-the-science diagnosis and instruction, maintaining and improving on our standards of quality instruction.

Sincerely,

Paul Worthington

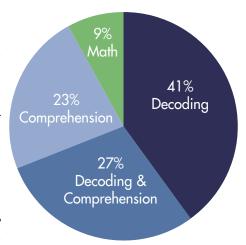
Director of Research and Development

# Lindamood-Bell® Learning Centers

## Types of Instruction

At Lindamood-Bell Learning Centers, students receive what we have identified as sensory-cognitive instruction differentiated to meet learning processing needs. Some students receive customized instruction based on a need in one area, utilizing one of our intervention programs. Many students receive instruction for learning needs in two or three areas, utilizing a combination of prioritized interventions.

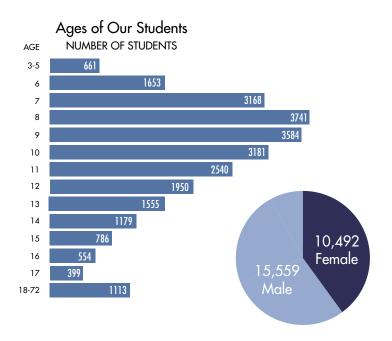
Decoding and encoding instruction (Seeing Stars® program) develops word attack, sight word recognition, spelling, and paragraph reading. Comprehension instruction

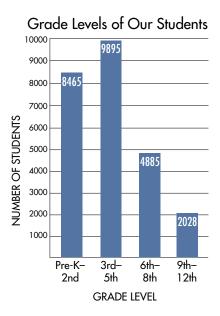


(Visualizing and Verbalizing® program) develops memory, oral and written language comprehension, language expression, vocabulary, following oral directions, and critical thinking. Math instruction (On Cloud Nine® program) develops math computation and math problem solving.

#### 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 2018.





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: 33%
- receiving remedial reading help at school: 25%
- repeating a grade: 11%
- being identified as Gifted: 5%

# **Learning Ability Evaluation**

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

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	
Comprehension	Answer multiple-choice questions after reading a paragraph aloud	
Following Oral Directions	Mark visual material after hearing spoken directions	
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	
Silent Reading Comprehension	Read a series of paragraphs silently and answer questions	

#### **Percentiles**

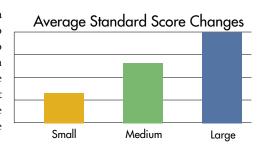
One of the most common ways test publishers provide results is through the use of percentiles. A percentile score is a ranking (1 to 99) among people of the same age range. For example, if a student scores at the 75th percentile, he or she scores as well or better than 75% of people the same age. The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

Percentiles	Range	Definition
Below 25 <sup>th</sup>	Below Normal	Weakness
$25^{th} - 36^{th}$	Within Normal	Moderate Difficulty
$37^{th} - 62^{nd}$	Within Normal	Adequate Ability
$63^{\rm rd} - 74^{\rm th}$	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**

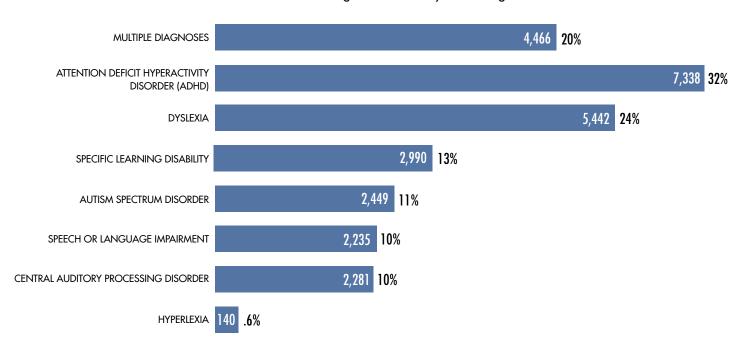
Pre- to retest results that are deemed statistically significant ( $p \le .05$ ), not due to chance, are noted with an asterisk. For accurate psychometric comparative analysis, paired t tests are performed on standard scores.

# Students with Prior Diagnoses

Approximately 43% of Lindamood-Bell® students reported having received a diagnosis prior to instruction at our Learning Centers.

- 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

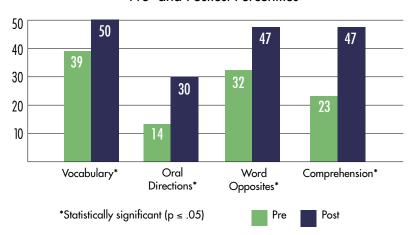


It is significant that 57% of students receiving services do not have a prior diagnosis in spite of having formative language processing issues. It is also significant to note that 32% of students who did have language-processing deficits have an entry diagnosis of ADHD.

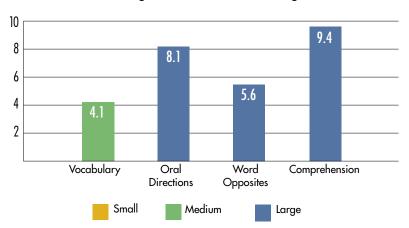
# Comprehension

### Results of Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell & Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2018 Average Age: 12.5

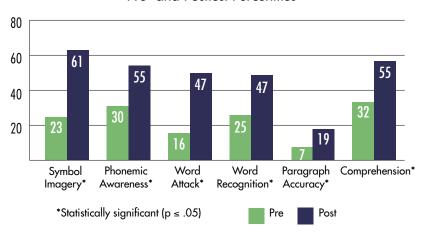
Number of Students: 5,072 Average Hours of Instruction: 98

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

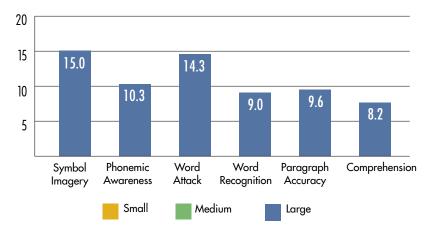
## **Decoding**

## Results of Students Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

Years: 2008-2018 Average Age: 9.6

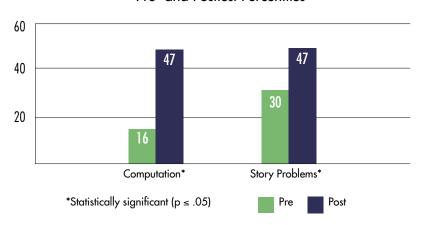
Number of Students: 7,796 Average Hours of Instruction: 103.3

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

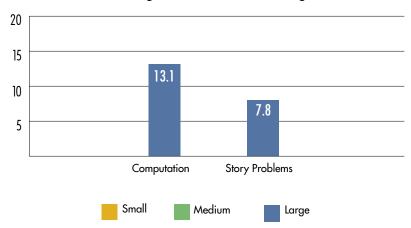
## Math

#### Results of Students Who Received Mathematics Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: On Cloud Nine Math

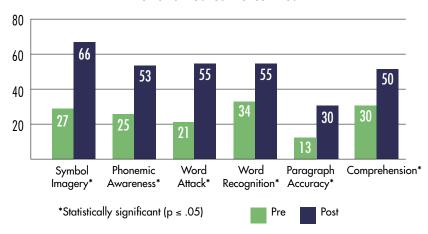
Number of Students: 415 Average Hours of Instruction: 100.5

**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 (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). Their pre- to posttest results were statistically significant on both measures.

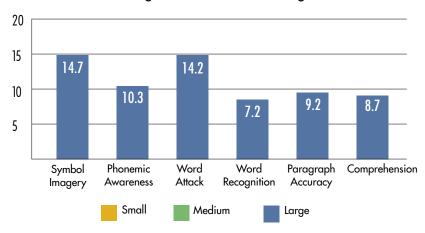
# **Decoding & Comprehension**

## Results of Students Who Received Decoding & Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

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

**Years:** 2008-2018 Average Age: 11.2

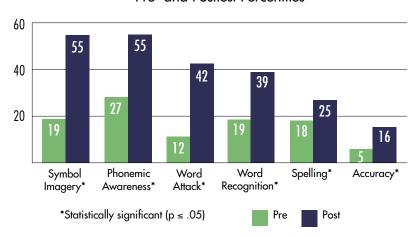
Number of Students: 5,310 Average Hours of Instruction: 124.8

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

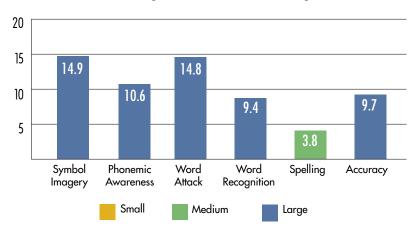
## **Dyslexia**

## Students with Dyslexia Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

Years: 2008-2018 Average Age: 10.3

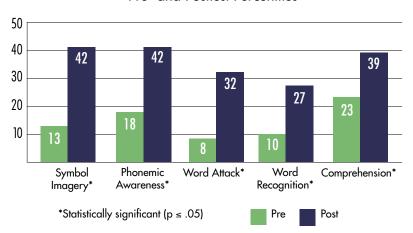
Number of Students: 1,824 Average Hours of Instruction: 113.9

Results: On average, students with a prior diagnosis of Dyslexia who received Seeing Stars® instruction achieved significant improvements in reading. They made large (significant) standard score changes on nearly all 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. Their pre- to posttest results were statistically significant on all measures.

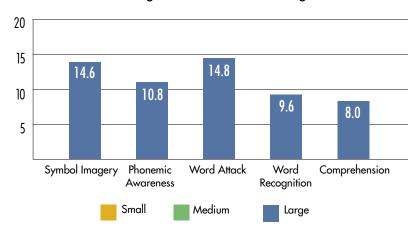
# Specific Learning Disability

# Students with a Specific Learning Disability (SLD) Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

Years: 2008-2018 Average Age: 10.6

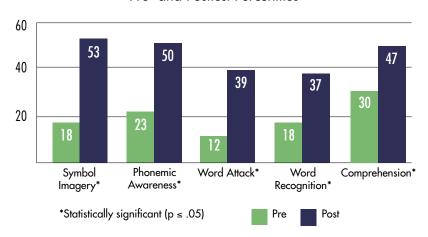
Number of Students: 684 Average Hours of Instruction: 118.1

**Results:** On average, students with a diagnosed SLD who received Seeing Stars® instruction achieved significant improvements in reading. They made large (significant) standard score changes on all measures. Additionally, the 17-point percentile increase in Word Recognition and the 26-point increase in Comprehension puts these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures

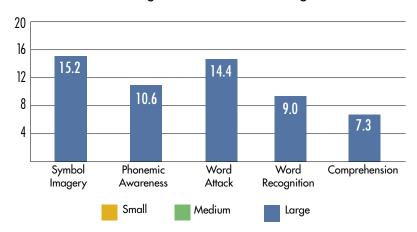
# Attention Deficit Hyperactivity Disorder

# Students with Attention Deficit Hyperactivity Disorder (ADHD) Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

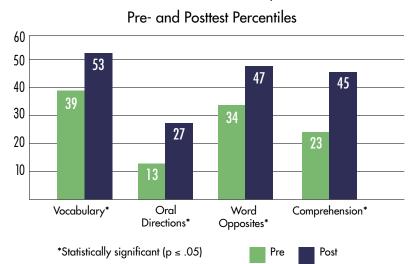
Years: 2008-2018 Average Age: 10.2

Number of Students: 1,519 Average Hours of Instruction: 113.9

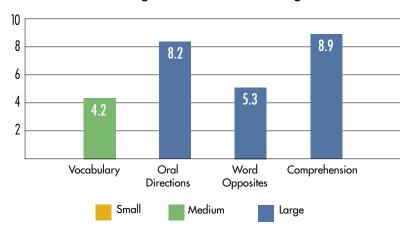
Results: On average, students with ADHD coupled with decoding difficulties who received Seeing Stars® instruction achieved significant improvements in reading. They made large (significant) standard score changes on all measures. Additionally, the 19-point percentile increase in Word Recognition and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

# Attention Deficit Hyperactivity Disorder

# Students with Attention Deficit Hyperactivity Disorder (ADHD) Who Received Comprehension Instruction



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2018 Average Age: 12.9

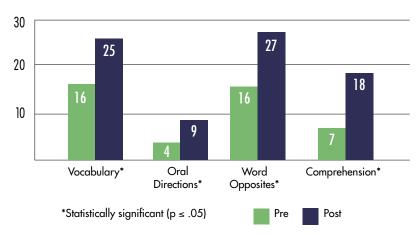
Number of Students: 1,202 Average Hours of Instruction: 104.0

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

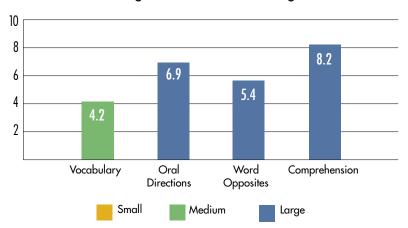
## Autism Spectrum Disorder

Students with Autism Spectrum
Disorder (ASD) Who Received Comprehension Instruction
(Including Students Diagnosed with Asperger's Syndrome and Pervasive Developmental Disorder)

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## **Summary**

Lindamood-Bell @ Instruction Implemented: V is ualizing and Verbalizing

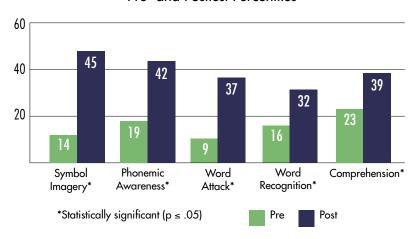
Number of Students: 771 Average Hours of Instruction: 122.6

Results: On average, students diagnosed with ASD who received Visualizing and Verbalizing® instruction achieved significant improvements in comprehension, a major deficit for many students with ASD. They made large (significant) standard score changes on three of the four measures. Their pre- to posttest results were statistically significant on all measures.

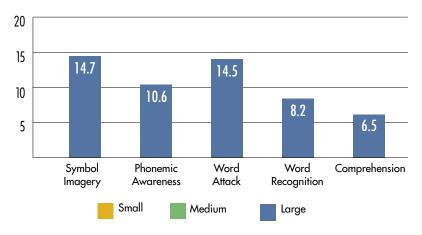
# Central Auditory Processing Disorder

# Students with Central Auditory Processing Disorder (CAPD) Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

Years: 2008-2018 Average Age: 10.5

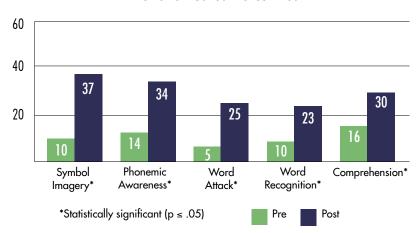
Number of Students: 357 Average Hours of Instruction: 115.3

Results: On average, students previously diagnosed with CAPD who received Seeing Stars® instruction achieved significant improvements in reading. They made large (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, students' large increase in average standard scores on the Comprehension measure indicate a significant gain in understanding what they read. Their pre– to posttest results were statistically significant on all measures.

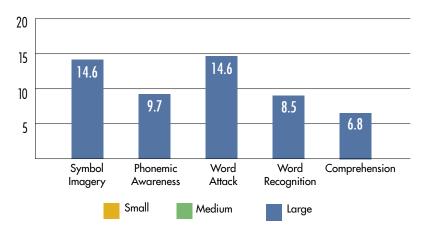
# Speech or Language Impairment

# Results of Students with Speech or Language Impairment (SLI) Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

Years: 2008-2018 Average Age: 10.3

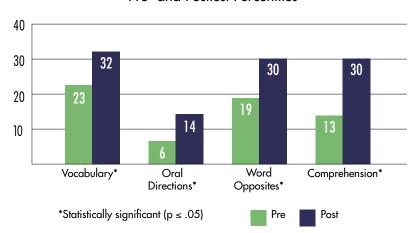
Number of Students: 353 Average Hours of Instruction: 123.1

Results: On average, students with an SLI, in addition to decoding difficulties, who received Seeing Stars® instruction achieved significant improvements in reading. They made large (significant) standard score changes on all measures. Additionally, the significant increase in Symbol Imagery, Word Attack, and Word Recognition puts these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

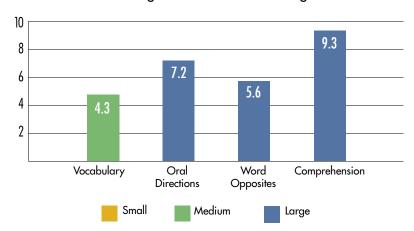
# Speech or Language Impairment

# Results of Students with Speech or Language Impairment (SLI) Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2018 Average Age: 12.2

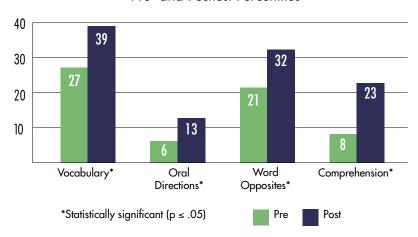
Number of Students: 446 Average Hours of Instruction: 113.4

**Results:** On average, students with an SLI, coupled with language comprehension difficulties, who received Visualizing and Verbalizing<sup>®</sup> instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on three of the four measures. Additionally, the 17-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile). Their pre– to posttest results were statistically significant on all measures.

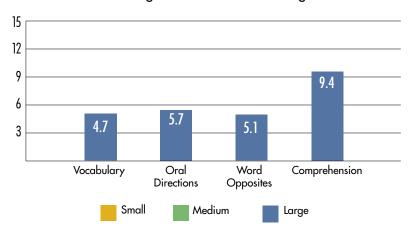
# Hyperlexia

## Students with Hyperlexia Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

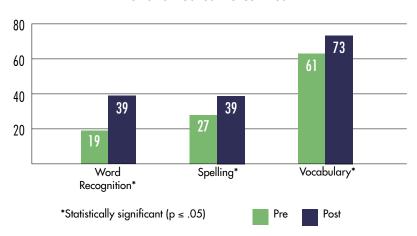
Number of Students: 76 Average Hours of Instruction: 116.3

Results: On average, students diagnosed with Hyperlexia who received Visualizing and Verbalizing® instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on all measures. Additionally, the 15-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

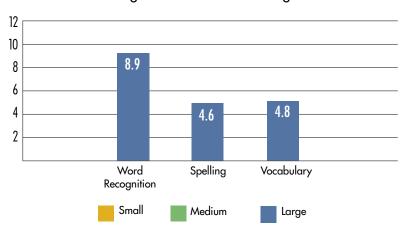
## Pre-Kindergarten

### Results of Pre-Kindergarten Students Who Received Decoding and Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

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

Years: 2008-2018 Average Age: 5.7

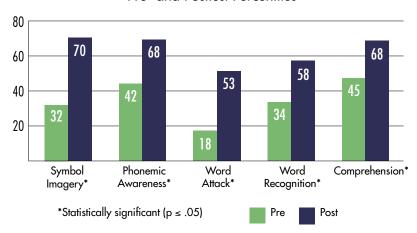
Number of Students: 149 Average Hours of Instruction: 87.0

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

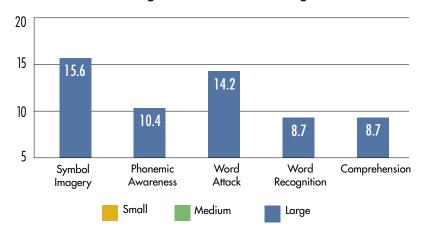
## Gifted

## Results of Gifted Students Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

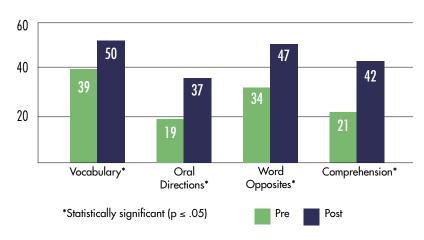
Number of Students: 515 Average Hours of Instruction: 92.0

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

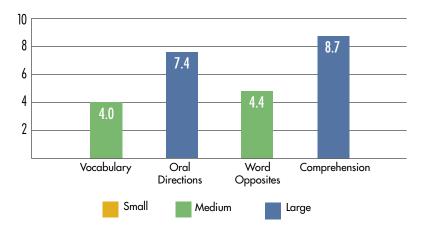
## Middle School

### Results of Middle School Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

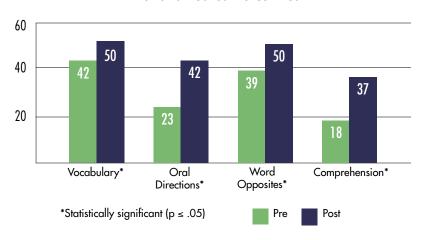
Number of Students: 1,313 Average Hours of Instruction: 99.2

**Results:** On average, Middle School students who received Visualizing and Verbalizing<sup>®</sup> instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on two of the four measures. Additionally, the 21-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

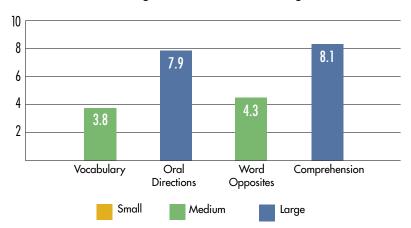
# **High School**

### Results of High School Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

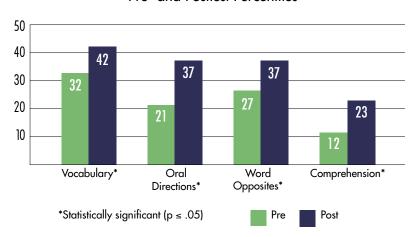
Number of Students: 694 Average Hours of Instruction: 96.7

Results: On average, High School students who received Visualizing and Verbalizing® instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on two of the four measures. Additionally, the 19-point percentile increase in Comprehension put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

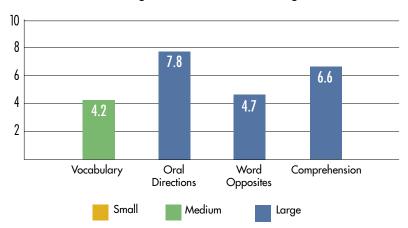
# College-Aged

### Results of College-Aged Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2018 Average Age: 19.8

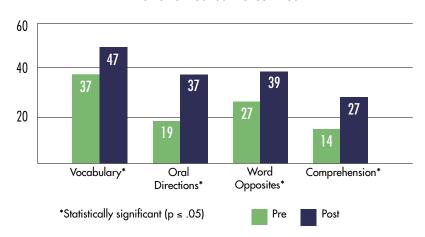
Number of Students: 216 Average Hours of Instruction: 108.7

**Results:** On average, students who received Visualizing and Verbalizing<sup>®</sup> instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on three of the four measures. Additionally, the 16-point percentile increase in following Oral Directions put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

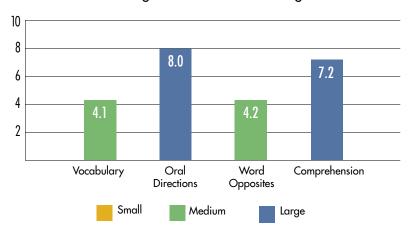
## Adult

## Results of Adult Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

Years: 2008-2018 Average Age: 26.1

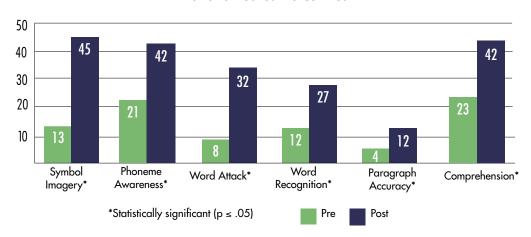
Number of Students: 354 Average Hours of Instruction: 104.6

**Results:** On average, Adult students who received Visualizing and Verbalizing® instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on two of four measures. Additionally, the 18-point percentile increase in following Oral Directions put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.

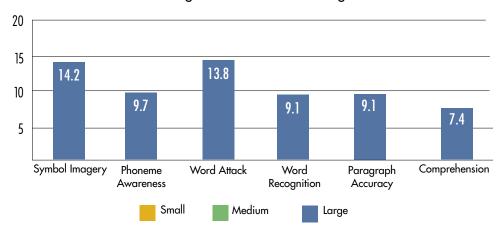
# **Special Education**

## Results of Special Education Students Who Received Decoding Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes



## Summary

Lindamood-Bell® Instruction Implemented: Seeing Stars

**Years:** 2008-2018 **Average Age:** 10.5

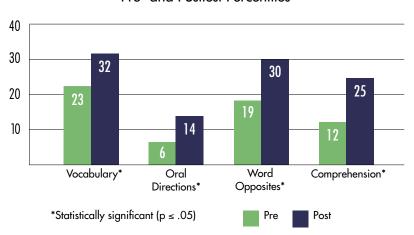
Number of Students: 1,819 Average Hours of Instruction: 115.8

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

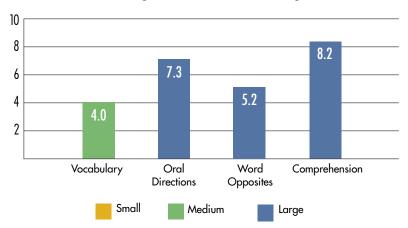
## **Special Education**

### Results of Special Education Students Who Received Comprehension Instruction

#### Pre- and Posttest Percentiles



#### Average Standard Score Changes

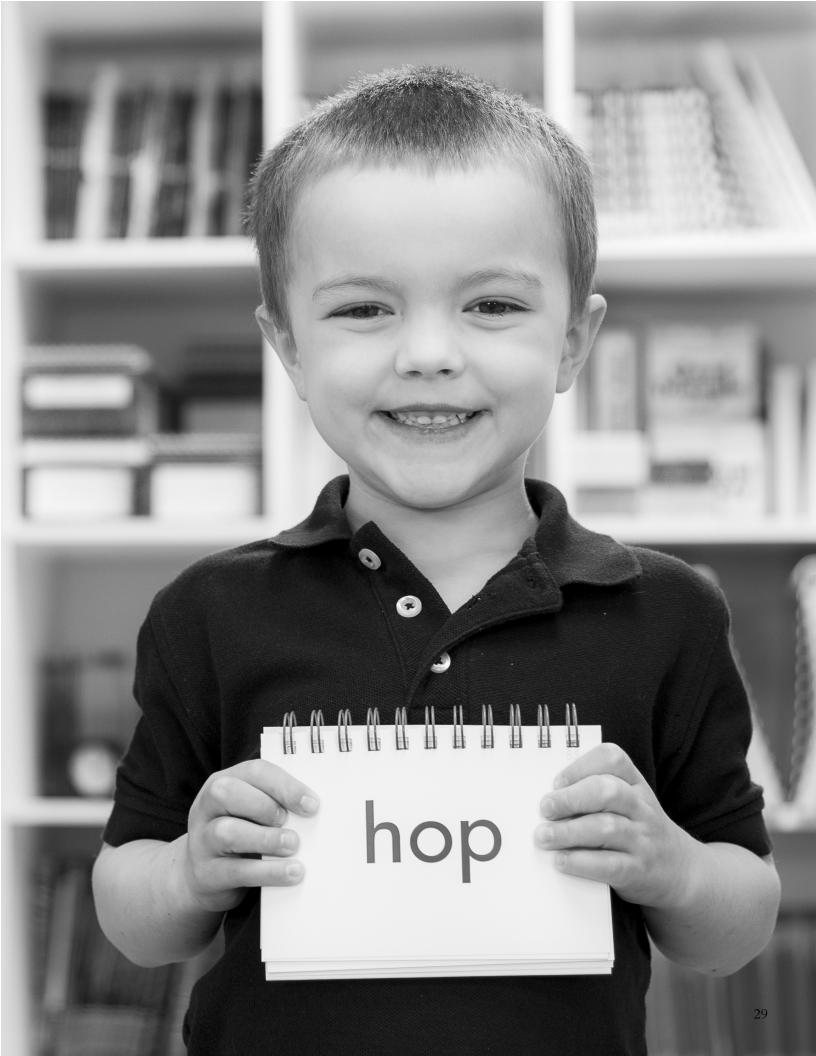


## Summary

Lindamood-Bell® Instruction Implemented: Visualizing and Verbalizing

Number of Students: 1,473 Average Hours of Instruction: 113.8

Results: On average, students receiving Special Educations services who received Visualizing and Verbalizing® instruction achieved significant improvements in comprehension. They made large (significant) standard score changes on three of four measures. Additionally, the 13-point percentile increase in language Comprehension put these students within the normal range (25th–75th percentile). Their pre- to posttest results were statistically significant on all measures.





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Due to the extremely diverse nature of the population of individuals we service, Lindamood-Bell makes no guarantee or representation of warranty (express or implied) regarding an individual's results from program participation, or as compared to the aggregate results contained in this report. Results will vary from student to student.

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