



# Designing Equitable K-3 Literacy Programs through Science of Reading Research

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Collaborative Conversations on Reopening Schools  
3.12.21

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# Today's Speakers



# AGENDA

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-  SoR 1.0: The *Science* of Reading
-  SoR 2.0: Ensuring Equity through Differentiation
-  SoR 3.0: Implementation for Equity



# The *Science* of Reading

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# RESEARCH CONTEXT

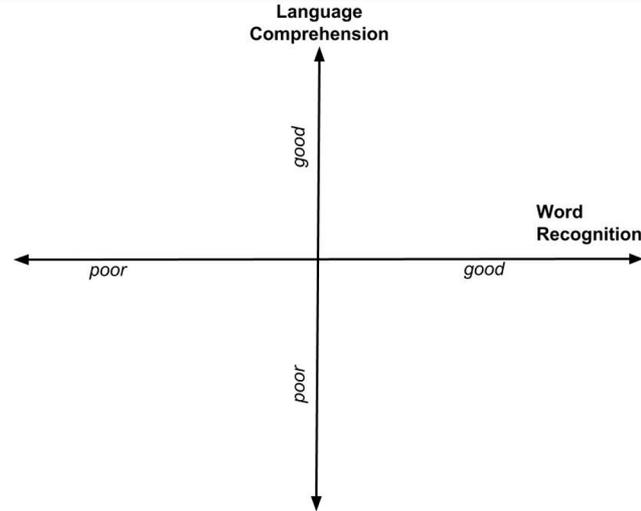


## The Five Pillars of Reading (2000):

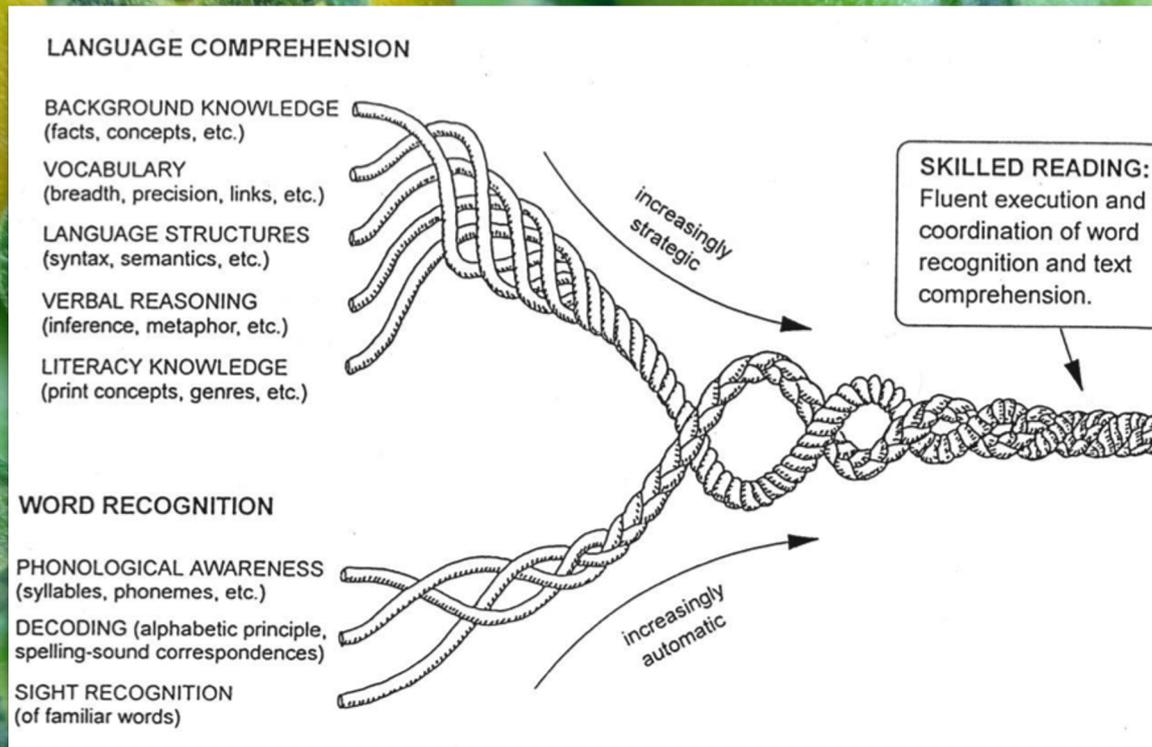
1. Phonemic Awareness
2. Phonics
3. Fluency
4. Vocabulary
5. Comprehension

## The Simple View of Reading

Word Recognition X Language Comprehension = Reading Comprehension



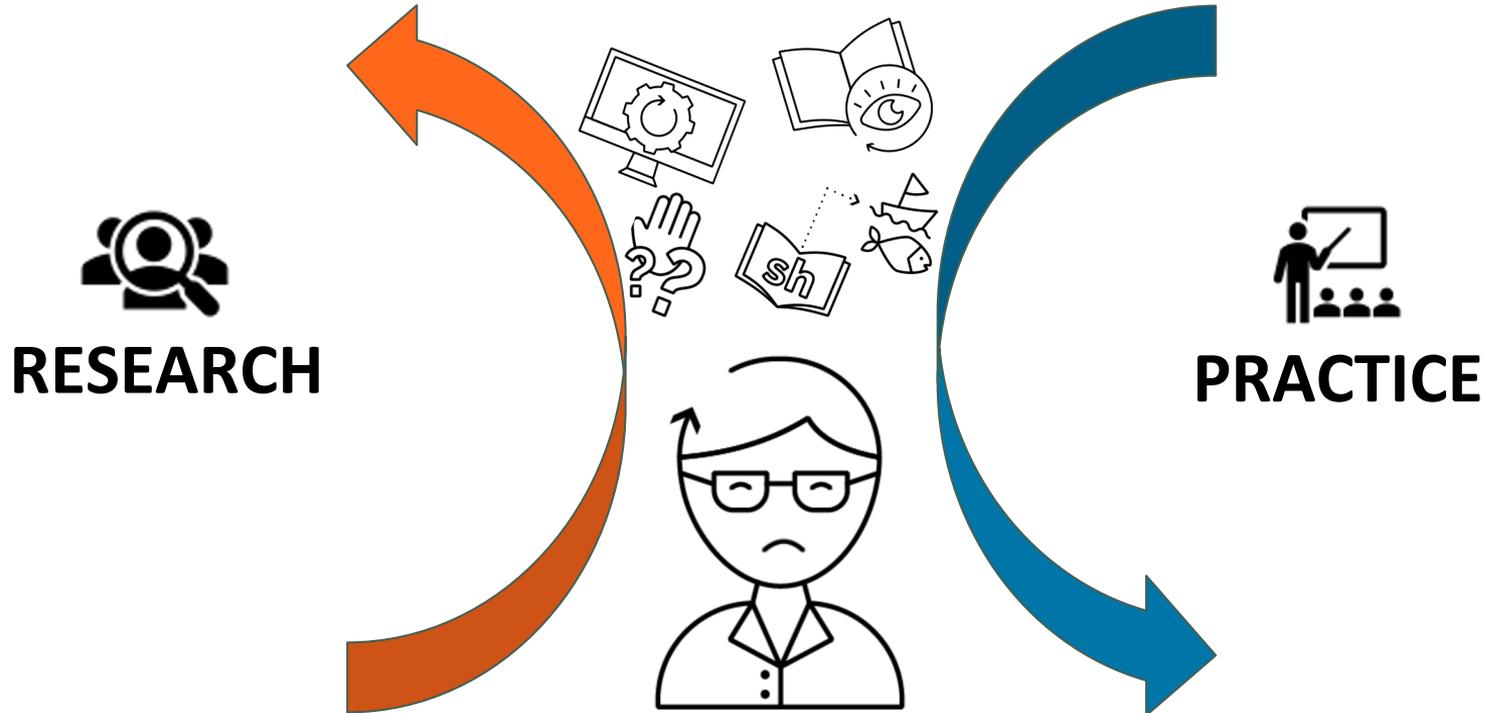
Gough and Tunmer (1986)



# Scarborough's Rope

Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice, by H. S. Scarborough, in S. B. Newman & D. K. Dickinson (Eds.), 2002, *Handbook of early literacy research*, p. 98, Copyright 2002, New York, NY: Guilford Press.

# RESEARCH VERSUS PRACTICE



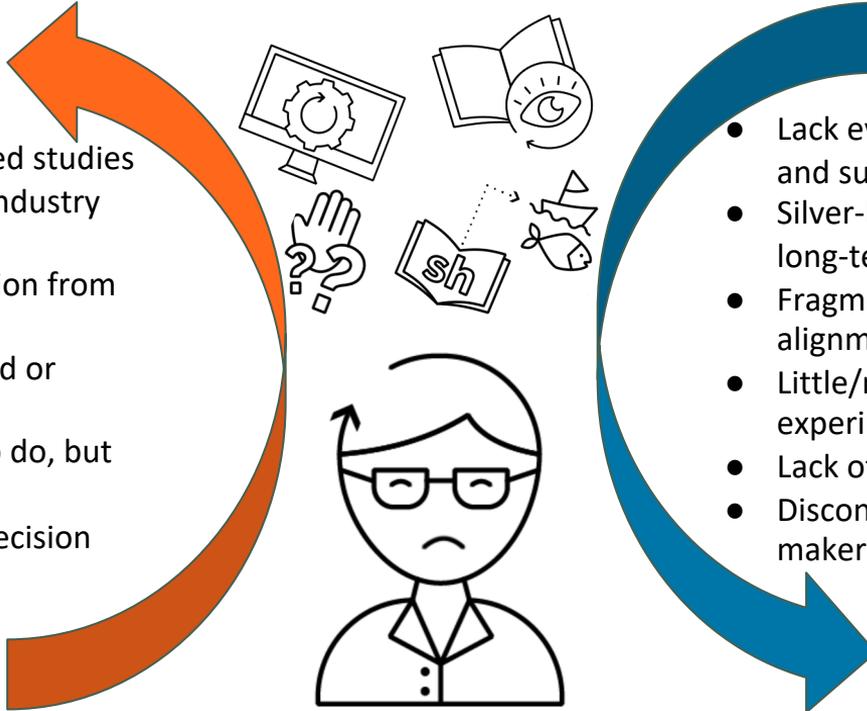
# What Else Do We Know?

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# RESEARCH VERSUS PRACTICE



- Lack of access to peer-reviewed studies
- Misconstrued research from industry vendors
- Inadequate lines communication from researchers to “the field”
- Insufficient numbers of applied or generalizable studies
- Recommendations on what to do, but not how to do it
- Disconnected from policy & decision makers



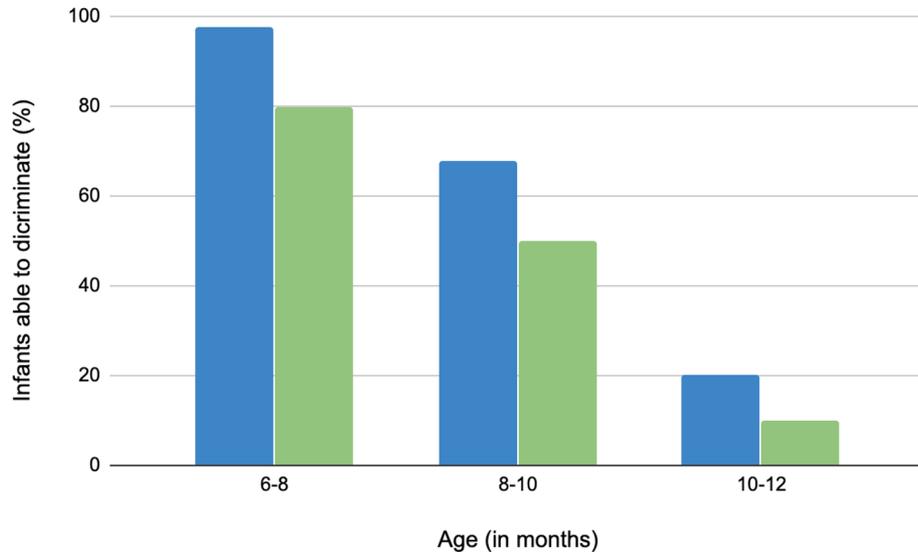
- Lack evidenced based materials, strategies, and supports
- Silver-bullet quick fixes recommended over long-term change
- Fragmented products with little/no alignment
- Little/no training on research, stats, or experimental methodology
- Lack of rigorous/ongoing PD
- Disconnected from policy & decision makers

# HISTORIC TIMELINE

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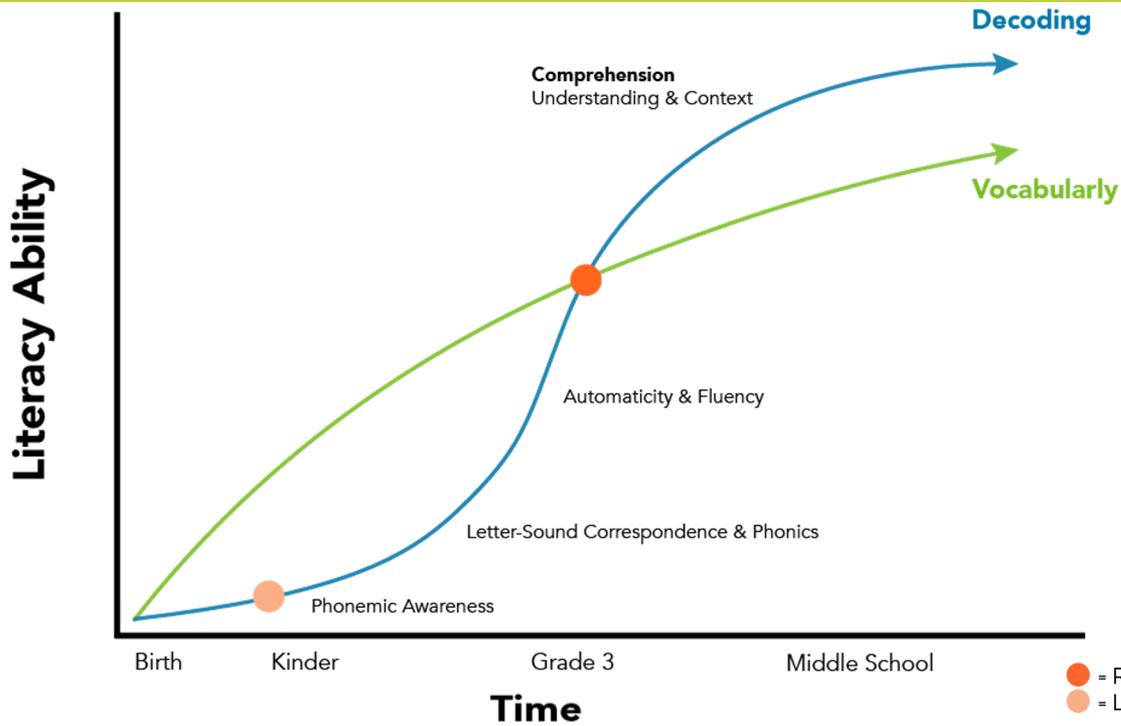
# DEVELOPMENT & LANGUAGE



“Percent of infants able to discriminate foreign-language speech sounds infant's ability to discriminate between speech sounds that are not in their native language declines between 6 and 12 months of age. Most 6-month-olds from English-speaking families readily discriminate between syllables in **Hindi (blue bars)** and **Nthlakapmx (green bars)**, but most 10-to 12-month olds do not.

(Adapted from Werker, 1989)”

# DEVELOPMENT & READING



# NEUROSCIENCE & EDUCATION

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## Reading Requires Building Neural Circuits Across Critical Brain Regions

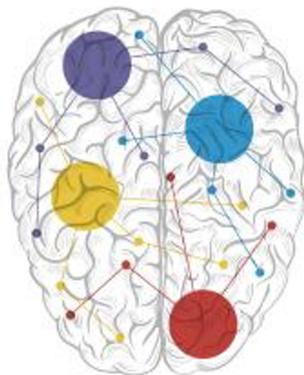
Regions of the Brain Activated While Reading, as Viewed in fMRI Scans

### VISUAL CORTEX

Recognizes visual representations of written letters and words

### AUDITORY CORTEX

Creates meaning out of speech sounds and builds comprehension



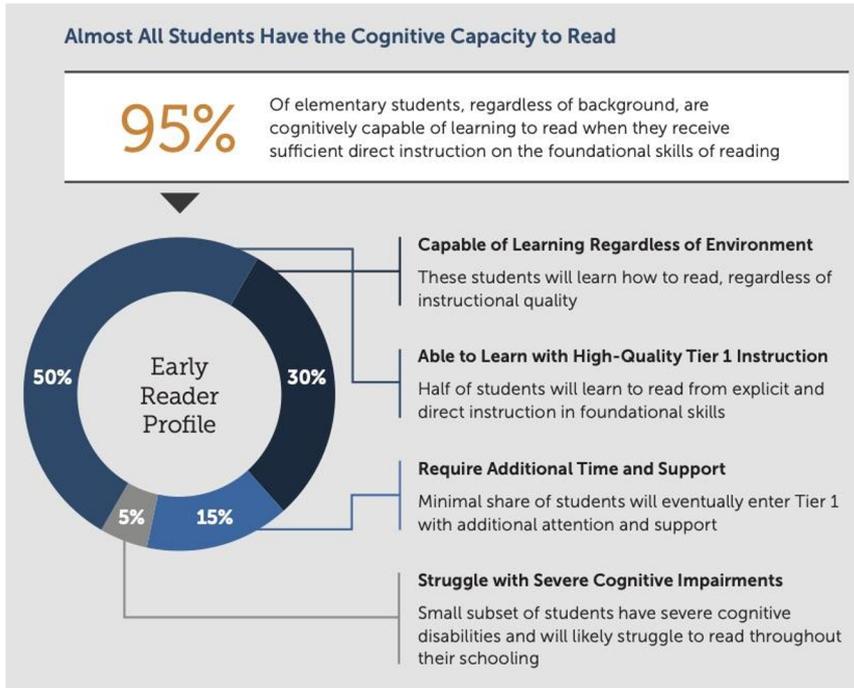
### ANGULAR GYRUS

Connects discrete sounds to letters in order to form words and meaning

### INFERIOR FRONTAL GYRUS

Aids in speech production, fluency, and comprehension

# NEUROSCIENCE & EDUCATION



# RESEARCH CONTEXT

## What DOESN'T work:

1. CURRICULUM
1. TEXTBOOKS
1. DATA-DRIVEN INSTRUCTION
1. PD / COACHING
1. EARLY DIAGNOSIS
1. TIER 2 & 3 INSTRUCTION
1. TEACHING THE 5 COMPONENTS OF READING

## KEY TAKEAWAYS

<p style="text-align: center;"><b>1</b></p> <p>We need to pay attention to the “science of reading” but <b>on its own</b> it’s not sufficient to improve reading outcomes.</p>	<p style="text-align: center;"><b>2</b></p> <p>Standards for English Language Arts matter, but <b>not enough to move outcomes.</b></p>	<p style="text-align: center;"><b>3</b></p> <p>All children need access to high-quality instructional materials, but we must balance this with effective strategies to meet the <b>individual needs of each child.</b></p>
<p style="text-align: center;"><b>4</b></p> <p>Most literacy assessments of what children learn are insufficient to solve the problem of what to teach and <b>how to teach it.</b></p>	<p style="text-align: center;"><b>5</b></p> <p>Teachers need the <b>right knowledge, skills and tools</b> to meet the needs of each child so they reach their full potential.</p>	<p style="text-align: center;"><b>6</b></p> <p>We need to move beyond “five parts of reading” to <b>integrate both code- focused &amp; meaning-focused skills</b> to meet individual student needs.</p>

# SoR 2.0: Ensuring Equity Through Differentiation

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The Science of Reading **2.0**



**Different kids need different things to be successful.**

**CHILD X INSTRUCTION**



## EQUALITY VERSUS EQUITY



In the first image, it is assumed that everyone will benefit from the same supports. They are being treated equally.



In the second image, individuals are given different supports to make it possible for them to have equal access to the game. They are being treated equitably.

# CHILD X INSTRUCTION

# 4 TYPES OF INSTRUCTION



## Teacher Managed Activities

### Code-Focused Skills

(Letter Knowledge, Phonemic Awareness, Phonics, Spelling & Fluency)

#### Teacher-Managed / Code-Focused

- Spelling
- Phonological awareness
- Alphabet activity
- Letter-sound correspondence
- Handwriting practice



## Child Managed Activities

### Child-Managed / Code-Focused

- Handwriting
- Alphabet activity
- Spelling activity

### Meaning-Focused Skills

(Vocabulary, Comprehension & Writing)

#### Teacher-Managed / Meaning-Focused

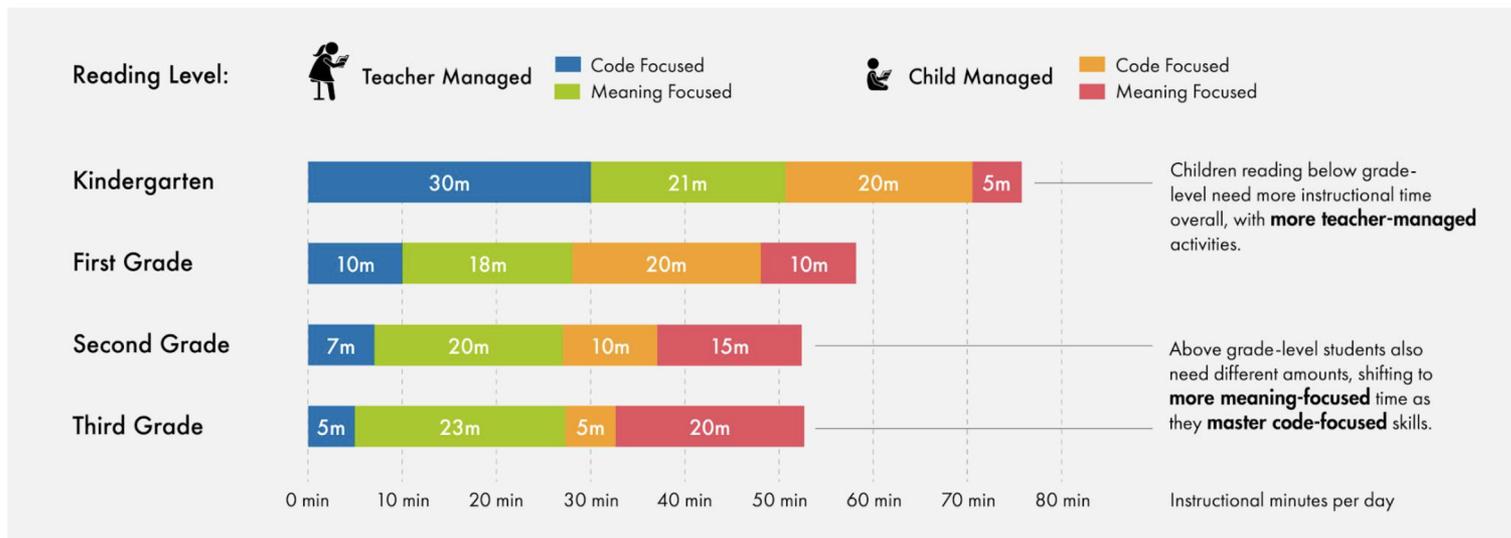
- Read aloud
- Choral reading
- Vocabulary activity
- Discussion
- Listening comprehension

### Child-Managed / Meaning-Focused

- Sustained silent reading
- Student read loud
- Reading comp. activity
- Writing activity
- Play (Pre-K only)
- Invented spelling (Pre-K only)

# DIFFERENT AMOUNTS

## RECOMMENDED MINUTES OF TYPES OF READING INSTRUCTION FOR FIRST GRADE STUDENTS READING AT DIFFERENT READING LEVELS (Fall Reading Assessment).



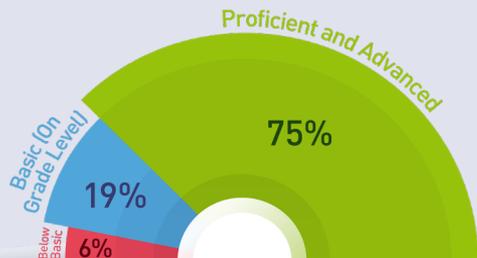
## RESEARCH RESULTS

- **Seven randomized controlled trials (RCTs)** from 2005 to 2011 with over 5,000 students total. Results **revealed a positive impact on reading outcomes (grade K-3)** for students whose teachers instruction was informed by the four types of reading instruction.
- A 3-year RCT (grade 1-3) found that **94% of students** whose teachers' instruction was informed by the four types of reading instruction all 3 years **were reading on grade-level by the end of 3rd grade.**
- The **average reading level was 5th grade** on the Woodcock-Johnson III.



### High-Need Districts Pre-A2i

Typical Learning Ovation District



Learning Ovation

YOU WILL KNOW US BY YOUR OUTCOMES

# THE TECHNOLOGY

## The A2i Professional Support System



# Outcomes Delivery System Framework

Differentiation	<ul style="list-style-type: none"><li>• Carol Connor's work on <a href="#">Child x Instruction Interactions</a></li><li>• Carol Ann Tomlinson's work on <a href="#">differentiation</a></li></ul>
Data Usage	<ul style="list-style-type: none"><li>• A2i Assessments determine what instruction is needed for outcomes (<a href="#">Assessment White Paper</a>)</li><li>• Just having data <b>isn't enough</b> to impact outcomes (<a href="#">IES Report</a>)</li><li>• A2i Usage leads to improved student outcomes (<a href="#">Connor et al., 2007</a>)</li></ul>
Instructional Materials	<ul style="list-style-type: none"><li>• Curriculum alone doesn't produce or change outcomes (there's <a href="#">no silver bullet</a>)</li><li>• Quality is varied and doesn't meet the needs of all students (<a href="#">Ed Reports</a>)</li><li>• Effective strategies are far more impactful vs specific resources (what you do, not what you use)</li></ul>
Classroom Structure	<ul style="list-style-type: none"><li>• <a href="#">Q-CLE</a> &amp; fidelity predicts classroom quality &amp; outcomes</li><li>• Importance of the <a href="#">First 6 Weeks</a></li><li>• Classroom Quality &amp; Non-instruction (<a href="#">McLean et al., 2016</a>)</li></ul>
Teacher Partnership	<ul style="list-style-type: none"><li>• Adult change <a href="#">cycle</a></li><li>• Need support to fully use/understand A2i (at first) proven in multiple implementation studies</li><li>• Full partnership: 100 x 100 (not 50:50)</li></ul>

# SoR 3.0: Implementation for Equity

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Planning for the 2021-22 School Year

# Differentiation

## Questions to Consider

Do teachers have structured and consistent time to teach in small groups?

Do teachers differentiate the majority of their teacher managed (synchronous) and child managed (asynchronous) instruction?

Are teachers differentiating learning by content, duration, and delivery?

## Learning Ovation

Customized Teacher Support:

- LOI Framework Tool used to identify current practice and next steps
- [Differentiating asynchronous work](#)
- [Digitally Accessible Asynchronous Work](#)

## District

District set explicit expectations:

- Shifting from whole group to small group
- Intervention happening within literacy block
- Professional development: How to differentiate content, duration, and delivery

# Data Usage

## Questions to Consider

How many assessments do teachers currently have to administer?

Are assessments being used to progress monitoring at the district, school, or classroom level?

Do teachers know what each of their current assessments assess?

Do your current assessments inform teachers how to differentiate learning by content, duration, and delivery?

## Learning Ovation

Online Assessments:

- Quick. Flexible. Adaptive.
- Available any time of the year
- Suggests student groups based on GE
- Prescribes minute recommendations within dimensions and content

## District

Mandated district assessment

Aligned assessment window dates

Encouraged teachers to progress monitor every 6 weeks

Professional support encouraged to use the assessment/recommendations to inform intervention strategies

# Classroom Structure

## Questions to Consider

Who manages the majority of student learning? The teacher or the student?

What systems and routines do you have set up to help students manage their own learning?

How are students set up to be successful and accountable for independent or asynchronous work?

## Learning Ovation

Customized Teacher Support:

- LOI Framework Tool used to identify current practice and next steps
- Coaching and planning of small group implementation
  - [In Person Model](#)
  - [Virtual Model](#)
  - [Hybrid Model](#)

## District

District provided materials supporting student focused learning:

- Leveled readers
- Kidney tables
- Listening centers
- List of digital resources

# Instructional Materials

## Questions to Consider

What evidence based materials are being used?

Are those resources accessible and effectively being used across ALL reading levels?

## Learning Ovation

Aligned Lesson Plan Tool:

- Uses existing district curriculum
- Recommends potential instructional activities across:

**Content** = code vs. meaning

**Delivery** = teacher vs. child

**Duration** = time spent

## District

District encourages teachers to consistently use Wonders resources

District aligned curriculum used for Intervention



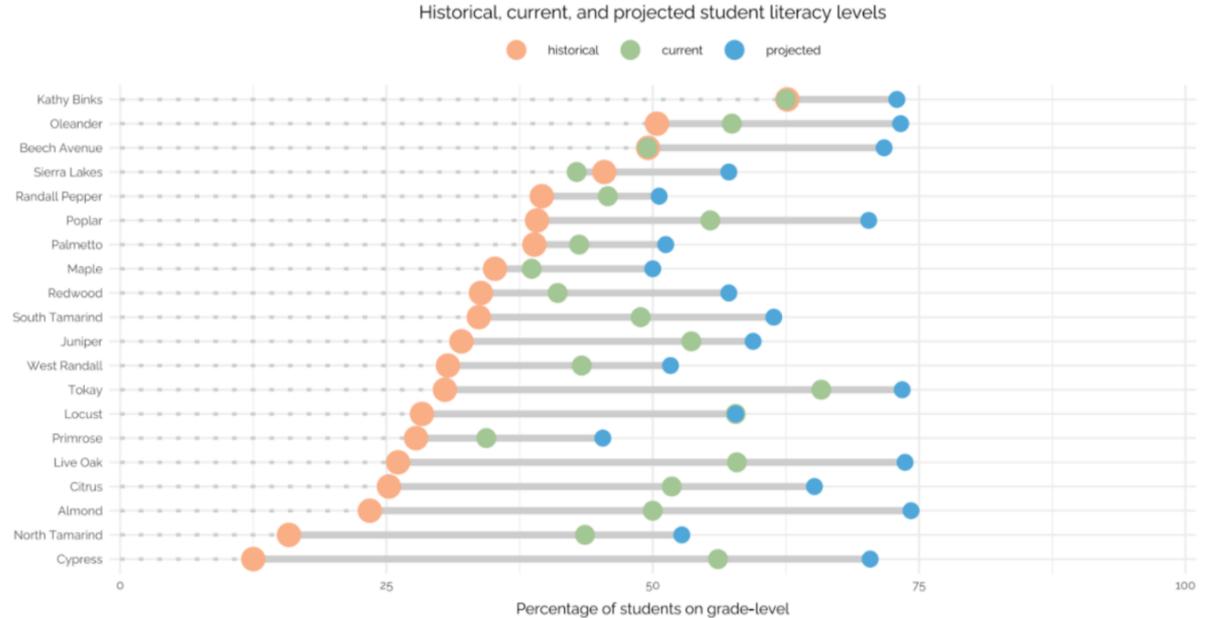
# Fontana Historical and Projected Literacy Levels

*By measuring how fast a student is developing literacy skills, and taking into account their starting literacy level, we can estimate their reading-level in the future.*

*When we do this for all students in a school or grade, we can get an estimate of the % of students that will reach the desired goal of reading on-level by the end of third grade.*

## FONTANA DEMOGRAPHICS

- 56-93% Free & Reduced Lunch
- 56-97% Hispanic
- 1-11% White
- 0-13% Asian



Historical: percent of 3rd Graders who met or exceeded ELA Standard  
 Current: percent of 3rd Graders testing at grade-level in the most recent assessment of this school year  
 Projected: percent of 3rd Graders projected to be at above grade-level by the end of 3rd grade

# SUPPORT SYSTEM

		Typical Core Curriculum	Typical Supplemental Resources	Pull-out Intervention Strategies	Push-in Intervention Strategies
Ensures diversity and inclusion					
Provides an optimized curriculum balance					
Applies data-driven assessment & monitoring					
Uses blended learning models					
Focuses on professional development					
Chooses programs based on evidence					

 Aligned

 Partially Aligned

Reach out to Amanda Jacobs,  
or click the link, if you would  
like a customized  
Framework Analysis!



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YOU WILL KNOW US BY YOUR OUTCOMES

ALL CHILDREN READING AT, OR ABOVE, GRADE LEVEL BY THE END OF THIRD GRADE.

# CONTACT INFO

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