

Literacyhow
Empower teaching excellence.

Dyslexia: The Science and Practice of Early Identification

Presented by
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The Dyslexia Knowledge Series
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Literacyhow
Empower teaching excellence.

Literacy is the key to opportunity.
Children are at the heart of all we do.
We believe that every child has the right to read.

We know that 95% can be taught to read.

We believe that teachers—not programs or products—teach students to read, write and spell.
So we empower teachers with the best ways to teach.

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Outline

-  Explain why teachers require coaching support to apply the science of reading.
-  Share the ELLI approach and how it provides early intervention for students at risk for reading difficulties, including dyslexia.
-  Describe the relationship between invented writing/spelling and the alphabetic principle and why it's important.
-  Share some activities for supporting children's language and literacy skill development.

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Why does Literacy How exist?

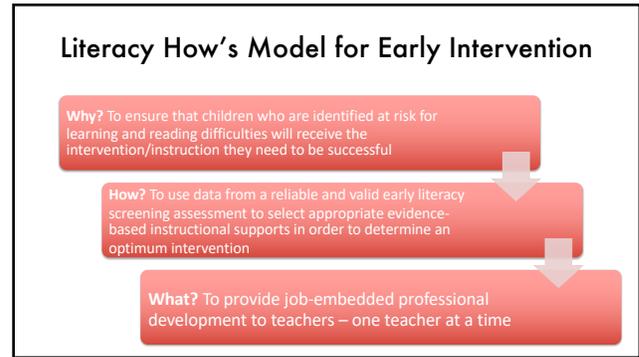
- 95% of children can be taught to read (Torgesen, 2004)
- However, 65% of the Nation's 4th graders read below grade level (<http://nces.ed.gov/nationsreportcard/naepdata/>)
- Teachers are typically not taught how to teach reading (Joshi et al., 2009; Brady et al., 2009; Cunningham et al., 2009; Spear-Swerling & Zibulsky, 2014, NCTQ Teacher Prep Reviews)
- However, teacher knowledge of effective literacy instruction strategies can override student disadvantages (Binks-Cantrell et al., 2012, Podhajski et al., 2009)

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Professional Development Outcomes			
PD Elements	Knowledge Level (~% participants who understand the content)	Skill Attainment (~% who demonstrate proficiency in instructional practice)	Transfer to Practice (~% who regularly implement instructional practices in the classroom)
Theory (presenter explains content: what it is, why it is important, how to teach it)	10%	5%	0%
Demonstration (presenter models instructional practice)	30%	20%	0%
Practice (participants practice instructional practice during the session)	60%	60%	5%
Coaching (participants receive ongoing support and coaching back in classroom)	95%	95%	99%

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What is ELLI?

- Early Language and Literacy development Initiative
- Evidence-based, intentionally designed learning experiences that infuse language and literacy, 21st century skill building, and an interdisciplinary mix of science, technology, engineering, art and math (STEAM) content within playful and complex environments.
- designed to improve school readiness → reduce the opportunity gap among children with weak language skills
- created through a unique partnership between Stepping Stones and Literacy How, an organization dedicated to the application of early literacy research

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What Makes ELLI Unique?

Language-rich environment: Supports children's early literacy development

Evidence-based: All lessons have a language and literacy objective based on research

Collaborative: Teachers have designated planning time every day and are supported by a Literacy How Mentor

Data-driven instruction: Uses a problem-solving approach to differentiate instruction

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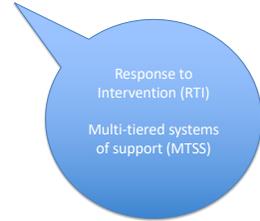
Preschool Early Literacy Indicator (PELI)

- The (PELI) is a storybook-embedded assessment of essential pre-literacy and oral language skills needed for kindergarten.
- Designed to identify children who are experiencing difficulties acquiring these skills.
- Administered to preschool and pre-kindergarten students (ages 3-5).
- Measures alphabet knowledge, vocabulary and oral language, phonological awareness, and listening comprehension.

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What are we talking about?

- universal screening
- continuous progress monitoring
- data-based decision making
- implementation fidelity
- evidence-based interventions



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PreK Data Meeting Process with the PELI

Note: To accomplish both 1. Classroom Data Analysis and 2. Small Group Instructional Planning, these data meetings need approximately 45 minutes with individual teachers. Teams of teachers may require 60-90 minutes but can be more efficient and supportive as teachers work with one another.

1. Classroom Data Analysis

Materials Needed:

- DIBELS test Papers- Class Overview and Benchmark Scores
- Scissors or paper cutter
- PreK Data Flowchart

1. Use the Class Overview Chart (see right) to consider the class as a whole.

- Which areas suggest sufficient whole group (for 1 intervention)?
 - Comprehension, Oral Language/Vocabulary, Phonological Awareness, Alphabet Knowledge
- Which areas suggest a need for further focus in whole group (for 1 intervention)?
 - Comprehension, Oral Language/Vocabulary, Phonological Awareness, Alphabet Knowledge

2. Use the Benchmark Scores Report (see above)

- Teachers may want to use a ruler to look at each student or easy cut the report to sort each student.
- Consider each student's 4 subtests. Are there areas where the student is below benchmark or well below benchmark?
- Sort students into groups using the Flow Chart for Determining Instructional Focus for Small Group Instruction (Preceding).
- Teachers may sort students into or use to the Flow Chart categories (Comprehension, Oral Language/Vocabulary, Phonological Awareness, Alphabet Knowledge).
- Document groups with students' names and instructional focus, for example:

Instructional Focus	PA, 1st Step	PA, 1st subtest only	Letter ID, High Res.	Comp/Oral/Vocab
Students: Names	Mark, Andrea	Viviana, Zariah	Ally, Tasha, Alyssa, Shelby	Taylor, Alyssa, RJ

Where do we start? How do we do this?

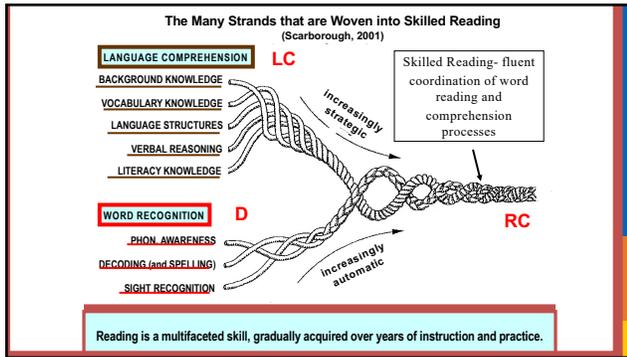
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The Literacy How Reading Wheel

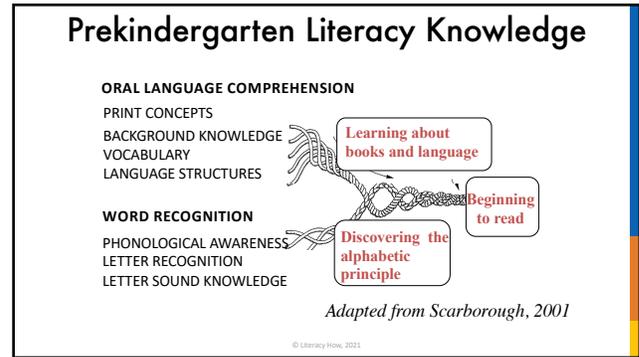
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Dyslexia is a specific learning disability that is **neurological** in origin. It is characterized by difficulties with **accurate and /or fluent word recognition** and by **poor spelling and decoding** abilities. These difficulties typically result from a deficit in the **phonological component of language** that is often **unexpected** in relation to other cognitive abilities and the provision of effective classroom instruction. **Secondary consequences** may include problems in **reading comprehension** and reduced reading experience that can impede growth of **vocabulary and background knowledge**.

International Dyslexia Association Definition

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Reading-related Measures Predict Risk for Dyslexia

Risk can be identified in preschool-K with 50-70% accuracy:

- **Phonological awareness**
- **Letter (sound) knowledge**
- **Rapid naming**
- **Vocabulary & oral language**

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The Importance of Early Reading Intervention

- When children do not receive adequate reading instruction, early reading difficulties are likely to lead to later reading difficulties.
- Many reading difficulties can be reduced or even eliminated as a result of evidence-based instructional interventions.
- Evidence-based intervention provided in the early grades is more effective than intervention provided in the later grades.

Solari, Hall and McGinty, 2021

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National Early Literacy Panel Results

Oral language, phonological processing and print knowledge are strongly predictive of how well children will learn to read and write.

Dunst, Trivette, Hamby, 2007

Targeted practices are more likely to be effective than non-targeted practices.

When many unrelated skills are targeted simultaneously, the learning outcomes are not as strong as compared to **interventions that focus on a one skill or a set of inter-related skills.**

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Three Aspects of ELLI

1. ELLI classrooms are *complex learning environments* designed for children to learn high level vocabulary and academic language.
2. Teachers facilitate *role-playing* so that children build vocabulary and background knowledge.
3. Invented writing is infused throughout the classroom to reinforce *the alphabetic principle* and to teach foundational literacy skills.

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The Alphabetic Principle



The alphabetic principle is the understanding that **letters are used to represent speech sounds and that spoken words can be represented with letters.**

Children learn the alphabetic principle as they use invented writing in the classroom.

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Invented Writing and the Alphabetic Principle



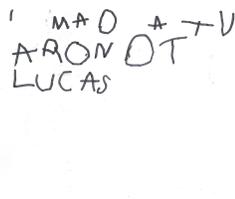
As children are introduced to invented writing in the classroom, they will learn the alphabetic principle.

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What do these words say? Children's Writing

U
Y
YL
YET
YUTS
CRIT
HRAN
WOT
THAQ



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Benefits of Developmental Spelling

- Enhances children's attitudinal and linguistic readiness for reading.
- Promotes children's interest in learning about what words say and how they are spelled.
- It's especially important for children who come to school with fewer literacy experiences.
- It develops phonemic awareness and the phonetic (sound-based) relationship between spoken and written words (Clarke, 1989).
- Early composing is predictive of children's reading comprehension in elementary school and facilitates the understanding that writing has a purpose and that print is meaningful (Shatil, Share, & Levin, 2000).

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Invented Writing – also known as Developmental Spelling

Three skills are required to **invent a spelling**:

1. **Phonemic awareness:** To invent a spelling one must be able to identify and sequence of phonemes in spoken language.
2. **Print Concepts:** Our children need to know how print works (i.e., left-right; top-bottom, etc.)
3. **Letter-sound knowledge:** To write words, children need to know the letters that correspond to the sounds they have been using since they learned to talk!

FLAPN

V E H ? + B L

HND

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Literacy How's Key Activities for Preliteracy Skills

Phonological/phonemic Awareness

- **Picture/Sound Sort** (Phoneme Identification)

Print Concepts

- **Synchronized Reading** (Alphabetic Principle)

Alphabet and Letter-Sound Knowledge

- **The Alphabet Chant Poster** (Letter Recognition)
- **The Vowel Song** (Letter Sound Awareness)
- **See it Say it Write it** (Letter Sound Awareness)



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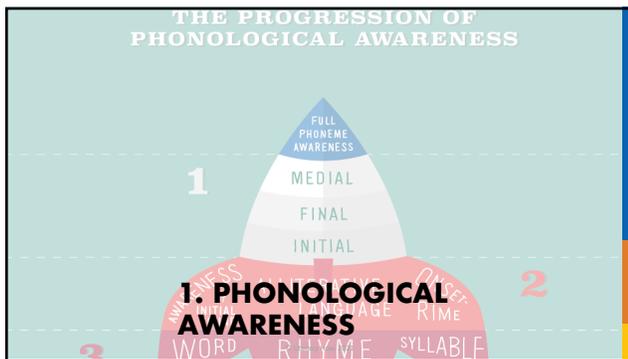
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Five Components of Early Intervention

1. Phonological Awareness
2. Print Awareness
3. Letter-sound Knowledge
4. Writing Development
5. Oral Language and Vocabulary

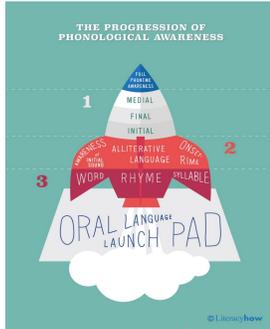
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THE PROGRESSION OF PHONOLOGICAL AWARENESS



Phonological awareness develops sequentially, so instruction targets the appropriate level based on informal assessments.

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Literacy How Flow Charts for Determining Instructional Focus for Small Group Instruction (Preschool)				
If student has scored below or well below benchmark...	Consider these Instructional Foci for Small Group Instruction	Progress Monitoring Plan: Use PELI Quick Check		
Alphabet Knowledge	1. Letter ID - Letters in Name 2. Letter ID - High Frequency Letters (see chart for sequence)	1x/month	2x/month	
Oral Language and Vocabulary	1. Preteach dialogic reading or read aloud lesson 2. Oral language lesson plan and/or direct vocabulary instruction lesson plan	1x/month	2x/month	
Comprehension	1. Preteach dialogic reading/read aloud lesson	n/a	n/a	
Phonological Awareness		n/a	n/a	
		4-5 year olds	n/a	n/a
		4-5 year olds	1x/month	2x/month
		4-5 year olds	2x/month	4x/month
3-4 year olds	1x/month	2x/month		

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There are 3 aspects of syllable awareness:

- 1. Segmentation**
Say *rooster*. Now clap the parts of *rooster*.
- 2. Blending**
Guess my word: el – e – phant (*elephant*)
- 2. Manipulation** - Syllable deletion
Begin with a compound word that has 2 syllables:
Say *playground*. Now say *playground* but don't say play.
(*ground*)

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Going on a Trip

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Words can have sounds at the beginning, in the middle, and at the end.

- 1. Initial sound (beginning)**
Mmmmonkeys mmmmmunch on mmmmarshmallows.
- 2. Final sound (ending)**
bussssss, hisssssss, mouse(ssssss)
- 2. Medial sound (middle)**
bike, dice, five

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Picture/Sound Sort /m/ /s/

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Isolating Final Sounds: Odd One Out

If students can recognize most sounds in the initial position, teach them to hear the sounds in the final position.

The goal for instruction is to direct children's attention to similarities in the sounds in words.

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Say It and Move It

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2. PRINT AWARENESS

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Print Awareness (Book Knowledge)

- Teaching children about how print works is a central goal during the preschool and kindergarten years;
- When children's experiences with print are limited, their lack of exposure puts them at risk for developing difficulty in learning to read and write.



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Print Awareness

Concepts

- Recognizing print in the environment
- Understanding that print carries meaning
- Knowing that print is used for many purposes
- Experiencing print through writing

Skills

- Book awareness
- Identifying print and pictures
- Symbol recognition
- Left to right sweeping
- 1:1 word correspondence



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Synchronized Reading = Concepts of Print



One, two buckle my shoe.

Three, four shut the door.

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One Two Buckle My Shoe

One two buckle my shoe.

Three four shut the door.

Five six pick up sticks.

Seven eight lay them straight.

Nine ten a big fat hen.

1 2 3 4 5 6 7 8 9 10

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A	 apple	A	 apple
B	 bear	B	 bear
C	 car	3. LETTER-SOUND KNOWLEDGE	
D	 dog	D	 dog

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Letter Knowledge

One of the best predictors of first-grade reading success is a kindergarten student's ability to visually recognize the letters of the alphabet and to name them (Adams 1990).



This includes recognizing the letters in both their uppercase and lowercase forms.

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Why Is Letter Name Recognition So Important



When children can identify letters quickly and easily...

- They will have more attention and capacity left for figuring out, processing and remembering words.
- This may be evidence that the child has had lots of exposure to print and experience with books.

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The Alphabet Chant

a b c d e f g
h i j k l m n
o p q
r s t
u v w
x y z

Now I never will forget, how to say the alphabet.

Alphabet Chant



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What is a consonant?

Consonant sounds are blocked or partially blocked speech sounds.

Air flow is obstructed with one of these speech organs: lips, tongue or teeth.



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Sound Scientists

Parts of the Mouth	Where does the air come from?	Voice on or Voice off
  	 	 

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The Vowel Song

(Sing to the tune of 'Twinkle Twinkle')

A makes two sounds, a makes two sounds, /ə/ and /s/, /ə/ and /s/.

/ə/ as in acorn, /s/ as in apple.

E makes two sounds, e makes two sounds, /e/ and /s/, /e/ and /s/.

/e/ as in eagle, /s/ as in echo.

/e/ and /s/, /e/ and /s/.

I makes two sounds, i makes two sounds, /i/ and /l/, /i/ and /l/.

/i/ as in ice cream, /l/ as in litch.

/i/ and /l/, /i/ and /l/.

O makes two sounds, o makes two sounds, /o/ and /s/, /o/ and /s/.

/o/ as in ocean, /s/ as in octopus.

/o/ and /s/, /o/ and /s/.

U makes two sounds, u makes two sounds, /u/ and /s/, /u/ and /s/.

/u/ as in unicorn, /s/ as in up.

/u/ and /s/, /u/ and /s/.

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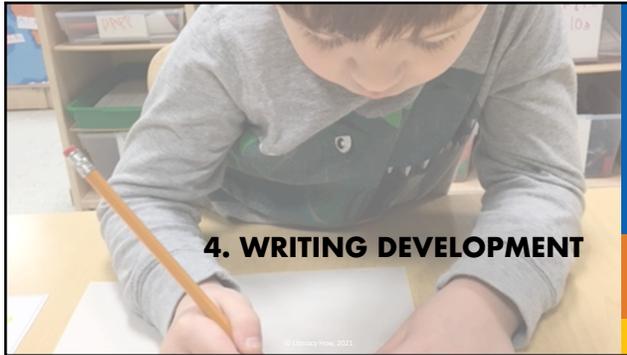
Letter Names: A Window to Letter Sounds

- The names of the letters are quite closely related to letter sounds.
- Children can discover many letter sounds themselves from the names of the letters.



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Teach Sound-Symbol Correspondences with **See It, Say It, Write It**

As sound/symbol correspondences are introduced, letter formation instruction focuses on kinesthetic development and sound/symbol reinforcement by hand:

and by mouth:
/m/ vs /n/, /d/ vs /t/, /ă/ vs /ë/ vs /ï/, etc.

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What Young Children Do

- Children typically like to play with writing and begin to move from imitating patterns to creating them.
- They begin by attending to specific print, such as the letters in their names, and will write messages that they expect adults to read.

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How Children Understand the Alphabetic Principle

Adults intentionally model how print works at a child's level:

- through play
- having children playfully explore how to use print
- letting children construct their own knowledge of written expression
- Discover how to form the letters in their names

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A Word About Handwriting



- Letter formation starts in preschool.
- Encourage students to write letters from top to bottom and from left to right.
- Practice letters vertically as well as horizontally.
- Pay attention to the child's grip so poor habits can be addressed right away.

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International Dyslexia Association Definition

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Reading-related Measures Predict Risk for Dyslexia

Risk can be identified in preschool-K with 50-70% accuracy:

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- Rapid naming
- ***Vocabulary & oral language***

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5. ORAL LANGUAGE AND VOCABULARY

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Ways to Support Language Development



Use	Use language building strategies: • Label, describe, explain, compare, link
Ask	Ask questions that build higher-order thinking skills.
Scaffold	Scaffold language of instruction and children's responses to help them complete a task successfully.
Extend	Have conversations that introduce new vocabulary and extend and rich children's language throughout the day.

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Instruction is designed to help children understand their world



- Teachers plan role play experiences in immersive classroom environments.
- Teachers play **with** the children as the “more knowledgeable other” (Vygotsky).
- Children often help create the environment.
- Teachers play along with children to **co-construct** understandings of concepts as the children actively try to make sense of their experiences... **working collaboratively to solve a problem or clarify a concept.**
- Both parties in the task think and talk together and each learns from it...**sustained shared thinking!**

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Improving Preschool Children's Vocabulary Knowledge

In treatment classrooms, explicit vocabulary instruction was embedded in prerecorded storybooks and opportunities for review and practice of target vocabulary were integrated into classroom and home practice activities.

Conclusion: “...a carefully designed vocabulary intervention can produce substantial gains in children's vocabulary knowledge.”

Kelley et al, 2020

Feasible implementation strategies for improving vocabulary knowledge of high-risk preschoolers: Results from a cluster-randomized trial. *Journal of Speech, Language, and Hearing Research, 63*(12).

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