New York State Education Department
Office of Special Education

Educational Partnership

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Foundations of Effective Reading Instruction

Understanding the Science of Reading

Produced by the Technical Assistance Partnership for Academics at University of Albany.

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Disclaimer

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Agenda

- Welcome
- Purpose and Outcomes
- Sections
  - Overview of the Science of Reading
  - Foundations for Reading Success
  - Teaching Students to Read
- Wrap-up and Survey

Our Staff

Staff Information

Today’s Facilitators

Introductions

- Name
- Role
- District
- School
- Population Served

Meeting Norms

- Take care of your needs (water, food, restroom, etc.)
- Speak your truth – Use “I” statements
- Ask what you need to understand and contribute
- Listen with respect
- Push your growing edge
- Participate and struggle together
- Expect a lack of closure
- Respect each others’ needs and learning styles
- Strive to start and end on time
- Presume positive intentions
- Be prepared with materials
- Action plan to implement what you are learning

Training Objectives

Participants will be able to:

- describe the current status of reading achievement of students in the United States and New York State;
- describe the gap between what is known about effective reading instruction and the implementation of effective reading instruction;
- identify theories of reading that are supported by research; and
- list the skills that are essential for proficient reading and how to best teach those skills.

Blueprint for Improved Results for Students with Disabilities

Self-Advocacy

Students engage in self-advocacy and are involved in determining their own educational goals and plan.

Family Partnership

Parents, and other family members, are engaged as meaningful partners in the special education process and the education of their child.

Specially-Designed Instruction

Teachers design, provide, and assess the effectiveness of specially-designed instruction to provide students with disabilities with access to participate and progress in the general education curriculum.

Research-Based Instruction

Teachers provide research-based instructional teaching and learning strategies and supports for students with disabilities.

Multi-tiered Support

Schools provide multi-tiered systems of behavioral and academic support.

Inclusive Activities

Schools provide high-quality inclusive programs and activities.

Transition Support

Schools provide appropriate instruction for students with disabilities in career development and opportunities to participate in work-based learning.

Which Quote Resonates With You?

LET US REMEMBER:
ONE BOOK, ONE PEN,
ONE CHILD, AND
ONE TEACHER CAN
CHANGE THE WORLD.

MALALA YOUSAFZAI

"Oh magic hour,
when a child
first knows
she can read
printed words!"

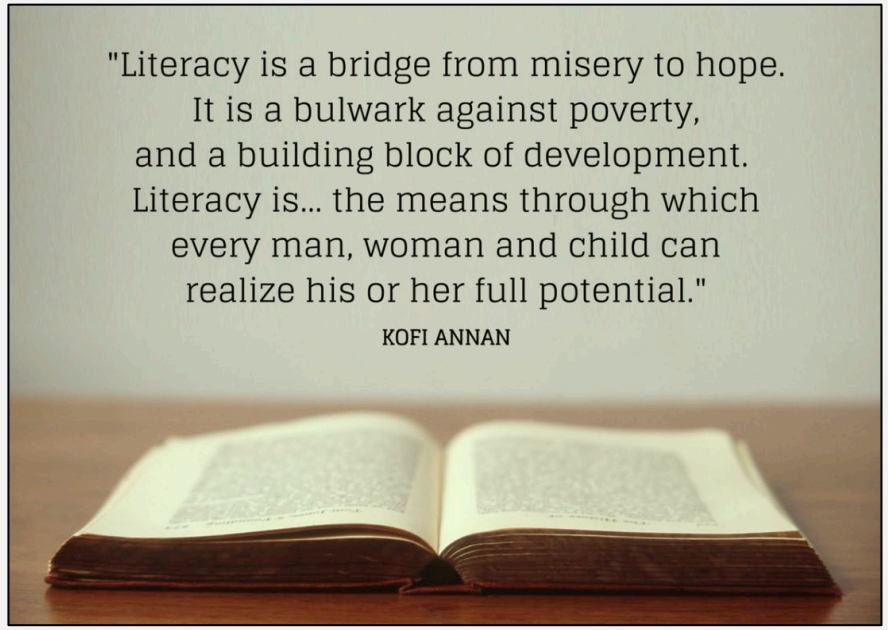
-Betty Smith, A Tree Grows in Brooklyn

So it is with children who learn to read fluently and well: They begin to take flight into whole new worlds as effortlessly as young birds take to the sky.

William James

"TO LEARN TO READ
IS TO LIGHT A FIRE;
EVERY SYLLABLE
THAT IS SPELLED OUT
IS A SPARK."

— Victor Hugo,
"Les Miserables"



Current Status

Student Literacy in New York and the United States

Approximately one third of students demonstrate reading proficiency

(NCES, 2019)

Black and Hispanic students and students from low-income backgrounds demonstrate disproportionate underachievement

(NCES, 2019)

Students who struggle to initially learn to read are increasingly less likely to catch up to their peers

(Stanovich, 1986)

Equity in Education

Getting what works best into the hands of teachers is of the utmost importance for:

- students with disabilities
- Black, Indigenous, and students of color
- students from culturally and linguistically diverse backgrounds

Stop and Think

Equity Through Reading

What individual and collective responsibilities do we have to address inequities in reading?

The Promise of Highly Effective Instruction

Although students nationwide are struggling with reading proficiency, we have access to information and instructional practices that can change these outcomes.

Highly effective general classroom instruction can drastically reduce the rate of struggling readers.

(e.g., Foorman et al., 1998)

A great majority of reading difficulties can be prevented or eliminated with highly effective instruction and intervention.

(e.g., Foorman & Torgesen, 2001; Mathes & Denton, 2002; Torgesen, 1998, 2000, Torgesen et al., 2001)

Obstacles to Effective Implementation

If we know what works, why isn't it happening in our schools?

- Conflicting Information
  - in teacher preparation courses
  - in professional development sessions
  - from other professionals
  - in popular media
- Inadequate Teacher Preparation
- Numerous Demands & Initiatives
- Lack of Access to High-Quality Information & Research

Stop & Think

How were you taught to read?

How did you learn to teach reading?

What are some things you have heard about literacy instruction that you have questions about?

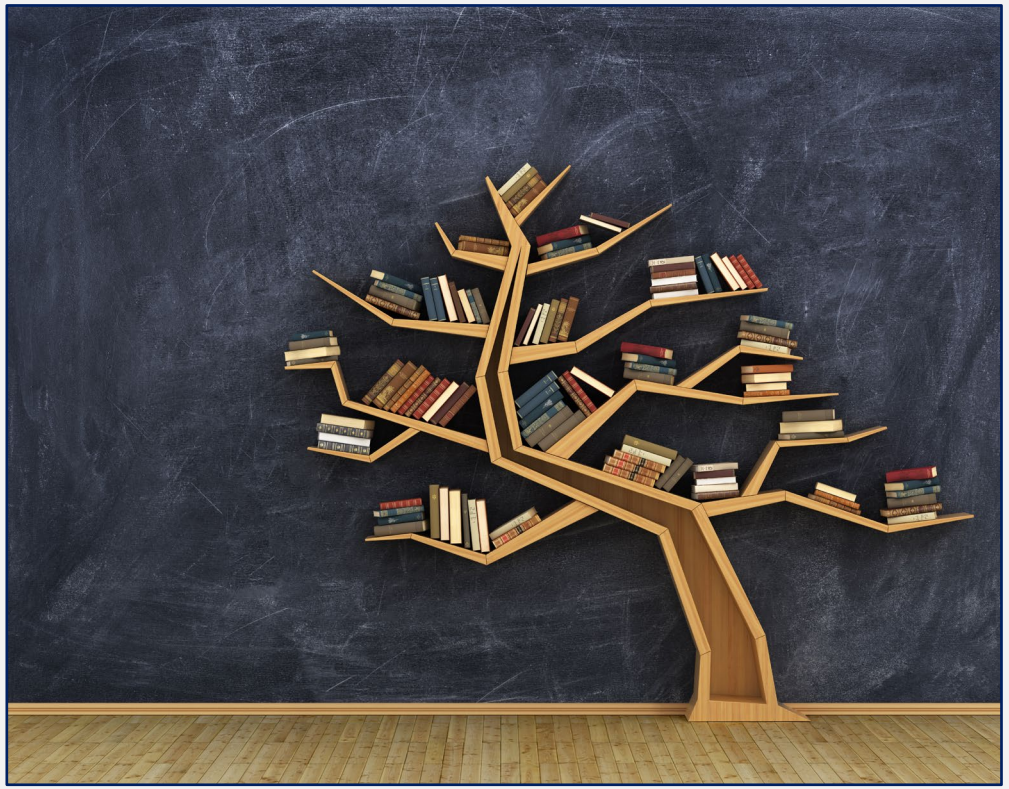
Defining the Science of Reading

"'The science of reading' is a phrase representing the accumulated knowledge about reading, reading development, and best practices for reading instruction obtained by the use of the scientific method."

Petscher et al., 2020

"The Science of Reading is a vast, interdisciplinary body of *scientifically-based research* about reading and issues related to reading and writing."

The Reading League (2021)



Can We Afford to Ignore the Science of Reading?

https://www.youtube.com/watch?v=9WJcgxyuATU

The Science of Reading

What Does Skilled Reading Require?

The Science of Reading Simple View of Reading

Gough and Tunmer, 1986

The Science of Reading Word Recognition

1. ในการอ่านคุณต้องถอดรหัสรหัส
2. Le léamh, ní mór duit an cód a dhéanamh amach.
3. წასაკითხად, კოდი უნდა გაშიფროთ.
4. Ut legitur, non possint esse in codice.

The Science of Reading Word Recognition 2

American English: *To read, you must decipher the code.*

1. ในการอ่านคุณต้องถอดรหัสรหัส
2. Le léamh, ní mór duit an cód a dhéanamh amach.
3. წასაკითხად, კოდი უნდა გაშიფროთ.
4. Ut legitur, non possint esse in codice.

1. Thai
2. Irish
3. Georgian
4. Latin

The Science of Reading Language Comprehension

1. I’ve nah nickle and dime to eat!
   I’ll just ‘ave Everton Toffee.

2. I can't find the Peckham Rye
   that goes with me whistle and
   flute.

3. Sugar and spice ter meet ya! I'm
   Leeds United ter Kettle and Hob
   the match tonight.

The Science of Reading Language Comprehension 2

1. I’ve nah nickle and dime to eat! I’ll just ‘ave Everton Toffee.

2. I can't find the Peckham Rye that goes with me whistle and flute.

3. Sugar and spice ter meet ya! I'm Leeds United ter Kettle and Hob the match tonight.

1. I’ve no time to eat! I’ll just have coffee.

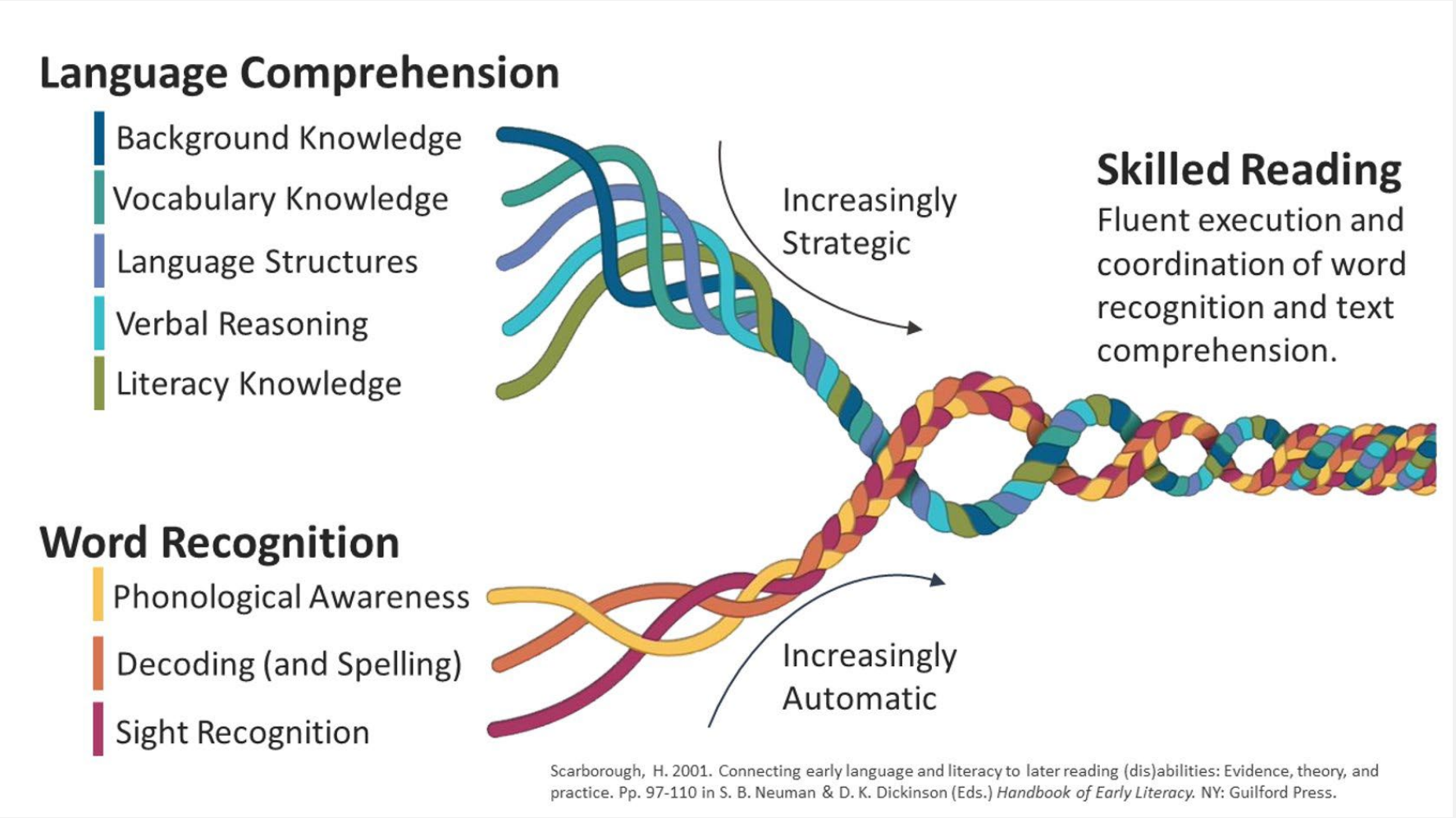
2. I can’t find the tie that goes with my suit.

3. Nice to meet you! I’m excited to watch the match tonight.

The Science of Reading Simple View of Reading 2

Skill Proficiency	Word Recognition (WR)		Language Comprehension (LC)		Reading Comprehension (RC)
Skilled Reader	**100%**	X	**100%**	=	**100%**
Poor WR	**0%**	X	**100%**	=	**0%**
Poor LC	**100%**	X	**0%**	=	**0%**
Weak WR & LC	**50%**	X	**50%**	=	**25%**
Weak WR & Strong LC	**50%**	X	**100%**	=	**50%**
Strong WR & Weak LC	**100%**	X	**50%**	=	**50%**

The Science of Reading Scarborough's Reading Rope



Scarborough, H. 2001. Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. Pp. 97-110 in S. B. Neuman & D. K. Dickinson (Eds.) *Handbook of Early Literacy.* NY: Guilford Press.

Foundations of Reading Success

What and How to Teach Children to Read

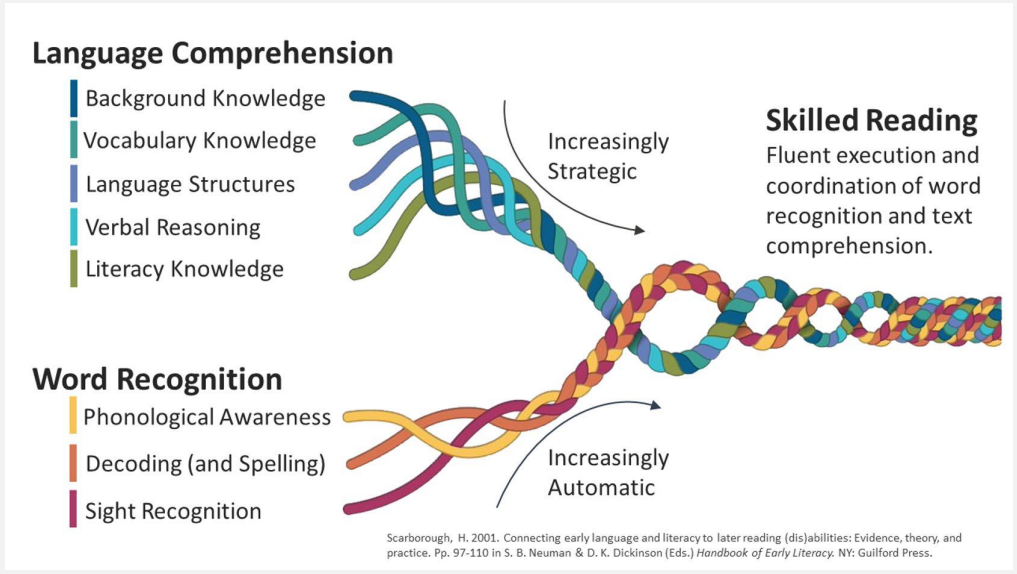
Key Instructional Areas

Word Recognition

- Phonological Awareness
- Phonics
- Fluency
- Language Comprehension

Language Structure

- Vocabulary
- Background Knowledge
- Verbal Reasoning
- Literacy Knowledge



Foundations of Reading Success Explicit & Systematic Instructional Practices

*The most effective approach to teaching reading is through a structured approach that relies on the use of **explicit** and **systematic** instruction.*

(e.g., Petscher et al., 2020, Gersten et al., 2009)

Explicit

An instructional approach that includes clear explanations, modeling, practice with specific feedback, and a gradual release towards independence until skills are mastered.

(e.g., Hughes et al., 2017)

Systematic

Skills are taught in an ordered manner, such as from less complex to more complex

(e.g., Castles et al., 2018)

Foundations of Reading Success Aligned Assessment

An important part of the explicit and systematic instruction model, and Science of Reading, is frequent and brief direct assessment of skills being taught.

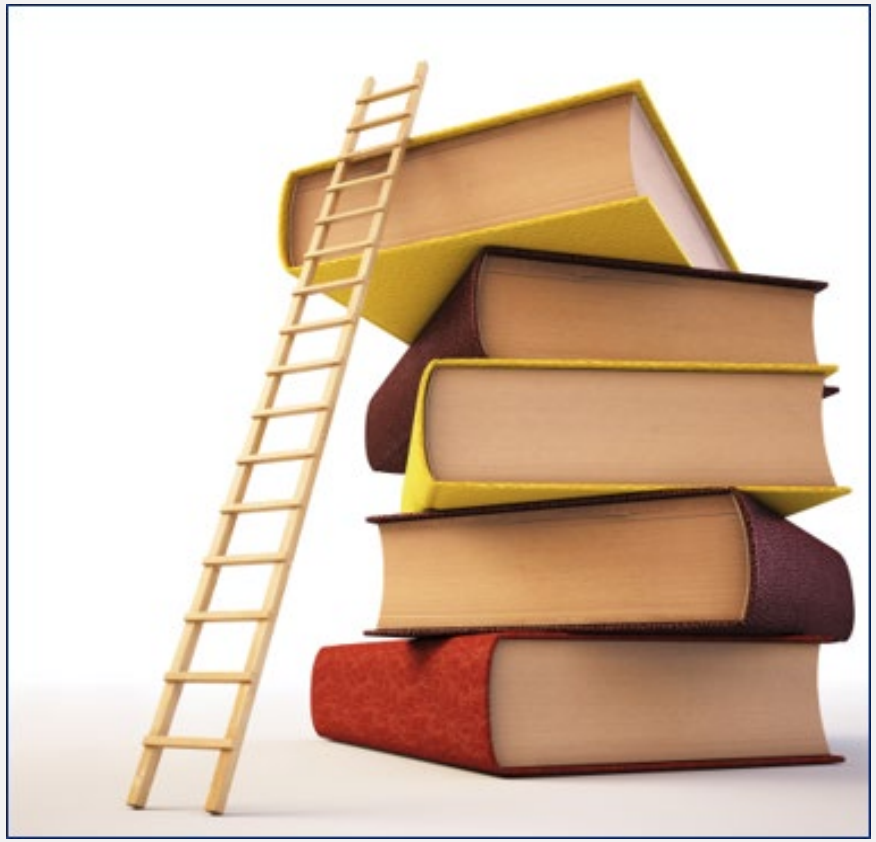
The Science of Reading requires screening and progress monitoring using reliable and validated measures.

Example: Curriculum-Based Measurement

The purpose of such assessment is to assess the instructional environment and ensure it's the best environment for each learner.

Castles et al., 2018; Gersten et al., 2009; Hughes et al. 2017; Petscher et al., 2020

The Ladder of Reading



5%	• Learning to read seems effortless
35%	• Learning to read is relatively easy with broad instruction
40 to 50%	• Learning to read proficiently requires code-based explicit, systematic, and sequential instruction
10 to 15%	• Learning to read requires code-based explicit/systematic/sequential/diagnostic instruction with many repetitions

Adapted from Young (2020)

Foundations of Reading Success

Dispelling Myths

Practices with Insufficient Evidence

- Whole language approaches
- Balanced literacy approaches
- Three-cuing system
- Sustained silent reading
- Multi-sensory approaches

e.g., Castles et al., 2018; National Reading Panel, 2000; Petscher et al., 2020

Foundations of Reading Success

Dispelling Myths Continued

Ineffective Practices

- Programs targeting auditory, visual, or working memory systems
- Colored overlays

e.g., Castles et al., 2018; Petscher et al., 2020

Stop & Think 2

What are your thoughts and reactions to the information presented so far?

What is similar or different to what you have previously learned about teaching students to read?

Given this information and the limited time we have with students, has this shifted your thinking in how you might work with students?

Teaching Students to Read

Leveraging Key Instructional Areas to Develop Literacy Proficiency

Teaching Students to Read Word Recognition

- Word recognition involves quickly and accurately translating alphabetic text into oral language sounds and identifiable words.
- Developing the skill to recognize written words with automaticity permits readers to focus on understanding the meaning of text.

Castles et al., 2018; Stanovich, 1986; Vandervelden & Siegel, 1997

Word Recognition Instructional Areas

- Phonological Awareness
- Phonics
- Fluency

Teaching Students to Read Phonological Awareness

"…awareness of all levels of the speech sound system, including word boundaries, stress patterns, syllables, onset-rime units, and phonemes"

Moats, 2020, p. 302

Teaching Students to Read Progression

Phonological Awareness Skills Progression

Sentence, Phrase, & Word Identification

- Repeating, counting, or identifying sentences and words in speech.

Rhyming & Alliteration

- Identifying or producing words that begin (alliteration) or end (rhyming) with the same sounds.

Syllable Manipulation

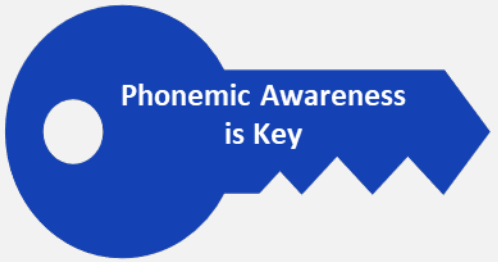
- Counting, blending, or segmenting syllables (unit of speech including at least one vowel sound) in words.

Onset-Rime Manipulation

- The natural division of a syllable into two parts; the onset comes before the vowel, and the rime includes the vowel and what follows after it.

Phonemic Awareness

- Identifying, segmenting, deleting, blending, and substituting the smallest units of spoken words (phonemes).



Sentences → Words → Phonemes

Carroll et al., 2003; Castles et al., 2018; Foorman et al., 2016; Kilpartrick, 2015; Moats, 2020

Teaching Students to Read Phonics

An approach to teaching "letter-sound correspondences and spelling patterns, and learning how to apply this knowledge to…reading"

National Reading Panel & National Institute of Child Health and Human Development, 2000, p. 2-89

Teaching Students to Read Phonics 2

Vowel	Middle of Syllable	End of Word	Examples
long *e*	*ee, ea*	*y*	creep, eat, baby
long *a*	*a_e, ai*	*ay*	race, rain, ray
long *i*	*i_e, igh*	*y*	ice, sight, spy

Teaching Students to Read Phonics

Instructional Practices

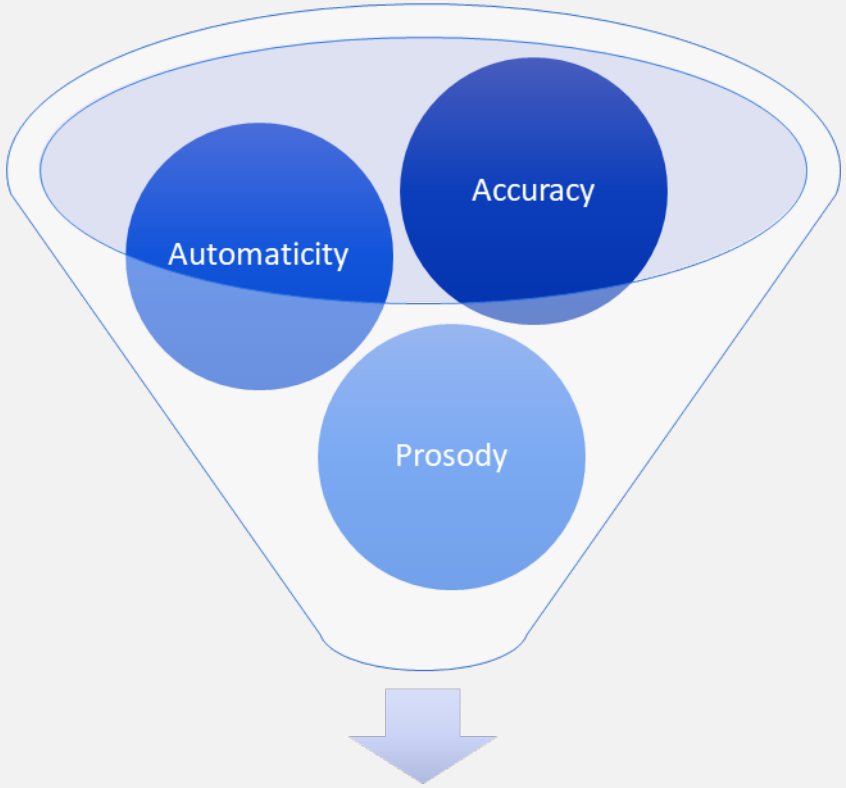
- explicit, systematic, and sequential instruction of letter-sound correspondences
- initial instruction should include a mixture of short vowels and consonants
- explicit instruction of segmenting and blending
- teach syllable types, word families, word analysis skills, and morphemes
- provide opportunities to practice decoding words in isolation
- practice applying phonics skills using decodable texts

Kilpatrick, 2014; Moats, 2020; The Reading League, 2021

Teaching Students to Read Fluency

"The ability to read a text quickly, accurately, and with proper expression."

- *National Reading Panel & National Institute of Child Health and Human Development , 2000, p. 3-5*



Kuhn & Stahl, 2003

Teaching Students to Read Fluency 2

Reading fluency is the bridge between decoding print and comprehending print.

Oral reading fluency is the strongest predictor of comprehension and overall reading proficiency.

Fluent reading leads to greater enjoyment of reading and increased motivation.

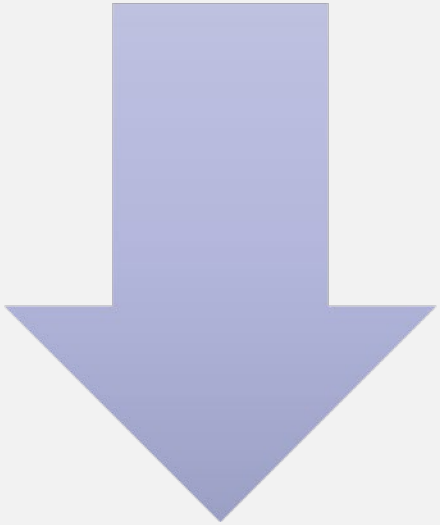
Hasbrouck & Glaser, 2012; International Literacy Association, 2018; Paige et al., 2019; Petscher & Kim, 2011; Ruddy et al., 2018; Skinner, 1998

Fluent vs Disfluent Reading

Fluency

Fluent Reading

- text read in meaningful units
- pauses at appropriate places aligned with syntax and punctuation
- reading sounds like natural speech



Disfluent Reading

- text read word-by-word or two-word phrases
- inappropriate pauses not aligned with syntax and punctuation
- reading sounds “choppy” or robotic

Fluency Instructional Practices

- practicing connected/continuous texts
- independent reading level (> 95% word accuracy)
- provide modeling, scaffolding and feedback
- teach self-monitoring and self-correction
- provide ample structured practice

Exposure to and practice with print leads to improved word recognition, knowledge, and text comprehension.

Castles et al., 2018

Teaching Students to Read Language Comprehension

- Understanding language and word recognition are of equal importance in proficient reading.
- Lack of language comprehension limits reading comprehension even if word recognition skills are learned to mastery.
- Language comprehension's role in predicting reading comprehension increases as children grow older (Verhoeven & van Leeuwe, 2012).

Fletcher et al., 2007; Verhoevan & van Leeuwe, 2012

Language Comprehension

Many young children enter school proficient with foundational oral language skills.

Foundational oral language skills alone are not sufficient for proficient reading comprehension.

Differences between oral and written language make understanding text more difficult than spoken words.

Teaching Students to Read Language

Comprehension 2

Written vs. Oral Language

- Written language lacks visual cues (e.g., body language) and is unresponsive to the reader's body language (e.g., puzzled expression).
- Text cannot be questioned like a conversational partner.
- Written language does not easily convey prosodic information used to express meaning in spoken language.
- Text is more complex and formal than day-to-day conversations.
- Written language is de-contextualized and less grounded in the reader's current situation.
- Oral language is typically spontaneous and fluid while text is static.

Language Comprehension
Key Instructional Areas

- Language Structures
- Vocabulary
- Background Knowledge
- Verbal Reasoning
- Literacy Knowledge

Teaching Students to Read Language Structures

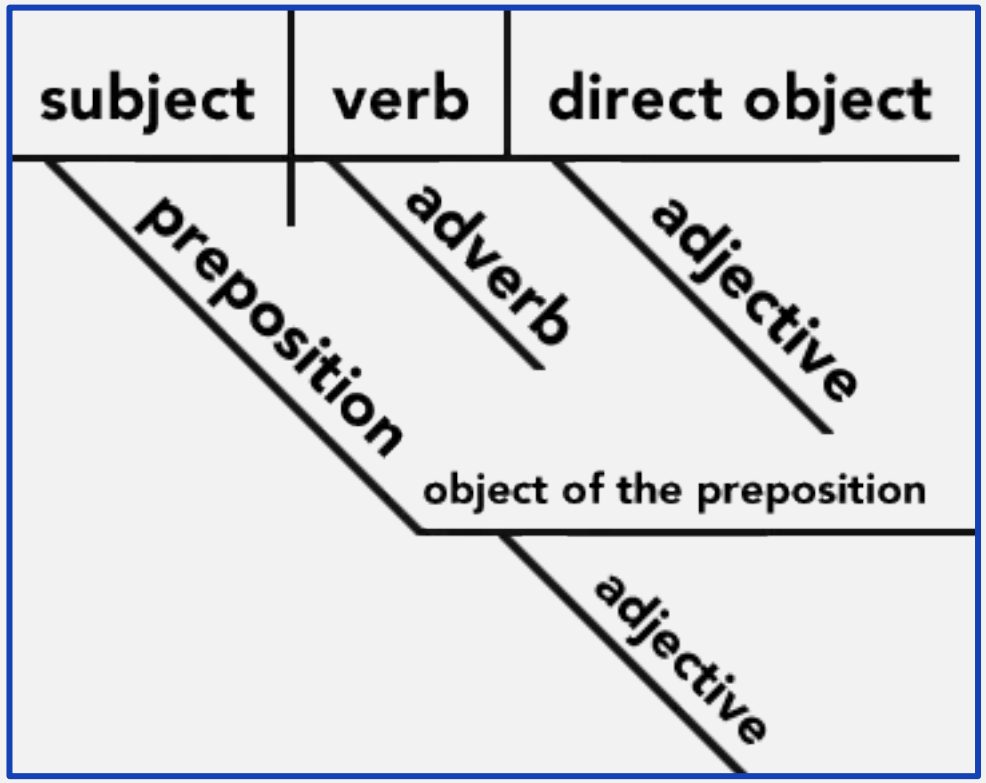
- Skilled readers understand that languages combine words, clauses, and sentences in predictable patterns essential to communicating meaning.
- Language structures include:
  - syntax
  - grammar
  - tone
  - rules for using language for different purposes and context
- Understanding the structures of language and the development of syntactic awareness helps skilled readers comprehend text.

Lervåg et al., 2017; Zipoli, 2017

Teaching Students to Read Language Structures 2

Teaching Students to Read Language Structures

Instructional Practices



- sequential explicit instruction on print, syntax, and grammar
- grammar-based deconstruction activities:
  - parts of speech
  - phrases and clauses
  - sentences
- writing exercises
- cohesive ties and connectives activities
- sentence combining and expansion
- sentence diagramming
- sentence anagrams
- conversations with teacher modeling

Teaching Students to Read Vocabulary

Understanding the meaning of words within a text is essential for comprehending the text.

Vocabulary includes:

- semantics
- morphology
- number of known words
- multiword phrases, idioms, and figurative language

Vocabulary is necessary for understanding language and correlates with reading comprehension.

Castles et al., 2018; Spencer et al., 2014

Teaching Students to Read Vocabulary 2

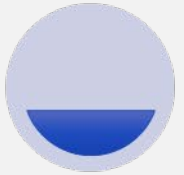
Tier 1

Words that the majority of students already know the meaning

Tier 2

Words that students are typically unacquainted with but convey familiar concepts

Tier 3



Low frequency words that students are unlikely to know and are domain specific

“Words are most likely to be “owned” if they are learned within a network of related ideas pertinent to a topic, theme, or text whose meanings are the primary focus of instruction.”

Moats, 2020, p. 234

Vocabulary Instructional Practices

- explicit instruction in vocabulary for Tier 2 and 3 words in context of texts
- teach general and subject area academic vocabulary
- make connections between new words and known words
- teacher-student talks
- relate word meanings to students’ own experiences
- explicit instruction in morphology
- teach word learning strategies
- dictionary use
- explicit instruction on when and how to use context clues
- activities and text to develop word consciousness
- semantic maps
- visual representations
- word hunts
- word walls

Teaching Students to Read Background Knowledge

Proficient readers use background knowledge in the process of formulating a coherent understanding, or mental representation, of ideas expressed in text.

Background Knowledge includes:

- cultural learning
- concepts
- facts
- personal experiences

Strongly predicts a reader's ability to understand a text.

Writers assume readers have the background knowledge required to comprehend their text.

Adams, 2011; Hennessy, 2021

Teaching Students to Read Background Knowledge Instructional Practices

- explicit teaching of background knowledge
- opportunities to read complex, information rich text
- reading text pertaining to a variety of subjects
- making explicit connections between new vocabulary and/or ideas to familiar vocabulary and/or ideas
- students should regularly review and revisit reading content
- relate ideas to experiences
- activities to help students remember, or “activate”, background knowledge
- anticipation guides
- What do I know? What do I want to know? What have I learned? (KWL) charts

Teaching Students to Read Verbal Reasoning

Fully understanding text requires logically joining together explicit and implicit ideas to form a rich mental model.

Verbal Reasoning includes:

- inferences
- integrating ideas
- drawing conclusions
- complex figures of speech

The ability of younger children to make inferences from oral language predicts reading comprehension.

Kintsch, 1998; Lervåg et al., 2017

Verbal Reasoning Instructional Practices

- explicitly teach inferencing using strategies to self-check understanding
- explicitly teach inferencing using appropriate and accurate background knowledge
- use graphic organizers to prompt and support inferencing
- model verbal reasoning through think-aloud activities (e.g., identification of inference clues, integration of background knowledge)
- teach how to use cohesive ties and connectives in meaning-making
- anticipation guides
- concept maps
- provide guiding questions

"Children with poor reading comprehension do not engage in the same level of integrative and inferential processing as good comprehenders to combine the meaning of successive sentences that is needed to ensure coherent and full understanding of a text's meaning."

Oak et al., 2015, p. 46

Teaching Students to Read Literacy Knowledge

Understanding that print has meaning, how print is organized, and awareness of the function of print in different contexts, are foundational skills for reading.

Literacy Knowledge:

- concepts of print
- literary forms
- genres

Developing literacy knowledge requires explicit and systematic instruction.

Teaching Students to Read Literacy Knowledge

Instructional Practices

- explicitly teach print concepts to emergent and early readers
- draw attention to all forms and functions of print (e.g., calendars, signs, websites)
- describe characters, settings, significant details, and central ideas in texts
- use story map/story sequence activities
- demonstrate how illustrations and graphics provide information that support reading comprehension
- compare and contrast literary forms (e.g., fiction, nonfiction, poetry, essays, etc.)
- teach the structure, style, and purpose of literary genres
- practice identifying genres from short reading passages

Exit Ticket

Why is teaching the practices supported by the science of reading vital for our society?

What is the most effective approach to teaching reading? Why?

What are the Key Instructional Areas that need to be taught for reading success? Which ones might you be able to infuse into your teaching?

Questions and Answers

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Foundations of Effective Reading Instruction – Training Evaluation Survey

Put your own evaluation link here

Meeting Evaluation Survey

Enter survey link here.