

## The Science of Reading & Dyslexia: How LRSD Supports Teachers and Students

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## OVERVIEW

- The Science of Reading
- RISE Academy: Professional development on successful instructional methods for all students, including those with dyslexia/characteristics of dyslexia
- Dyslexia: Interventions and support

## THE SCIENCE OF READING

### Five Essential Elements of Effective Reading Instruction:

- Phonological Awareness (includes phonemic awareness)
- Phonics
- Fluency
- Vocabulary
- Comprehension

To meet the goal of helping our students make the maximum possible academic gains in the 5 essential elements of effective reading instruction, students need instruction that is both systematic and explicit as well as direct, engaging, and success oriented. Systematic means that the teacher has a specific scope and sequence for introducing each skill. Explicit means that the teacher provides clear and precise instruction.

## WHAT IS PHONOLOGICAL AWARENESS? WHAT IS PHONEMIC AWARENESS?

- **Phonological awareness** is a broad skill that includes identifying and manipulating units of oral language – parts such as words, syllables, and onsets and rimes.
- **Phonemic awareness** is a subset of phonological awareness in which listeners are able to hear, identify and manipulate **phonemes**, the smallest units of sound that can differentiate meaning. Separating the spoken word "cat" into three distinct **phonemes**, /k/, /æ/, and /t/, requires **phonemic awareness**

## IMPORTANCE OF PHONEMIC AWARENESS

"The statute of limitations never runs out on phonemic awareness. If 3rd, 8th, or 12th graders struggle in reading and have poor phonemic awareness, they will not likely display much reading improvement until the phonemic awareness difficulty is corrected."

*-Essentials of Planning, Selecting, and Tailoring Interventions for Unique Learners, Kilpatrick*

## DYSLEXIA DEFINED

"...while dyslexia is not the only cause of reading difficulties, it is one of the most common, estimated to affect some **15 percent** of the population. It results from anomalous neural development during pregnancy that **interferes with the ability to read by disrupting the brain's capacity to link letters to the sounds they make, which is essential for word recognition.** People don't get over dyslexia, but with help they can learn to work with and around the problems it poses. The most successful programs emphasize **practice at manipulating phonemes, building vocabulary, increasing comprehension, and improving fluency of reading.** Neurologists and psychologists emphasize the importance of diagnosing dyslexia early and working with children before the third grade while the brain is still quite plastic and potentially more malleable, **enabling the rerouting of neural circuits.** "

Brown, Peter C.. Make It Stick (pp. 141-142). Harvard University Press. Kindle Edition.

## DYSLEXIA PROGRAM

"Dyslexia program" means explicit, direct instruction that is:

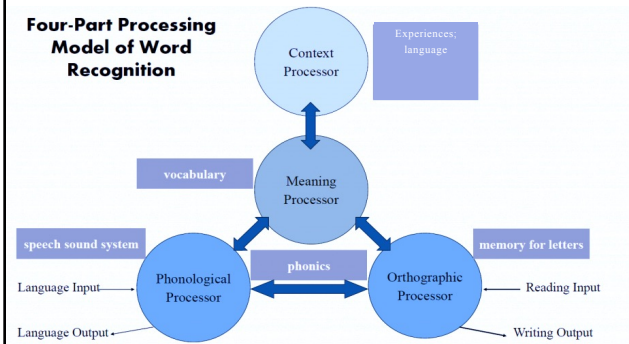
- A. Systematic, sequential, and cumulative and follows a logical plan of presenting the alphabetic principle that targets the specific needs of the student without presuming prior skills of knowledge of the student;
- B. Systematic, multisensory, and research-based;
- C. Offered in a small group setting to teach students the components of reading instruction, including without limitation:
  - i. **Phonemic awareness** to enable a student to detect, segment, blend, and manipulate sounds in spoken language
  - ii. **Graphophonemic** knowledge for teaching the letter-sound plan of English;
  - iii. **The structure of the English language** that includes morphology, semantics, syntax, and pragmatics;
  - iv. **Linguistic instruction** directed toward proficiency and fluency with the patterns of language so that words and sentences are carriers of meaning; and
  - v. **Strategies** that students use for **decoding, encoding, word recognition, fluency, and comprehension**; and
- D. Delivered with fidelity.

## ARKANSAS R.I.S.E. ACADEMY

(RISE: Reading Initiative for Student Excellence)

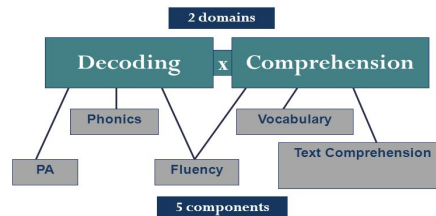
- The RISE Academy is a year-long, blended-learning, professional development opportunity providing educators with in-depth information related to the science of reading and evidence-based instructional strategies. Participants learn how to make data-based decisions for student-focused learning while receive coaching and additional opportunities to collaborate with other educators.
- All K-5 teachers will receive RISE Academy professional development and classroom support from the RISE trainers in LRSD. LRSD RISE trainers are elementary literacy facilitators.
- K-2 teachers in 11 schools are currently participating in the RISE Academy. K-2 teachers from the remaining 17 LRSD schools will begin the RISE Academy at the beginning of the 2018-2019 school year. RISE Academy for 3-5 teachers in the original 11 schools will also be initiated during 2018-2019 pre-school in-service.

### Four-Part Processing Model of Word Recognition

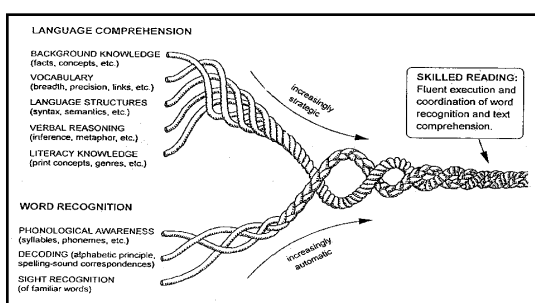


### Good Reading Requires ...

- Accurate Word Reading, Fluency, and Comprehension



## SCARBOROUGH'S ROPE

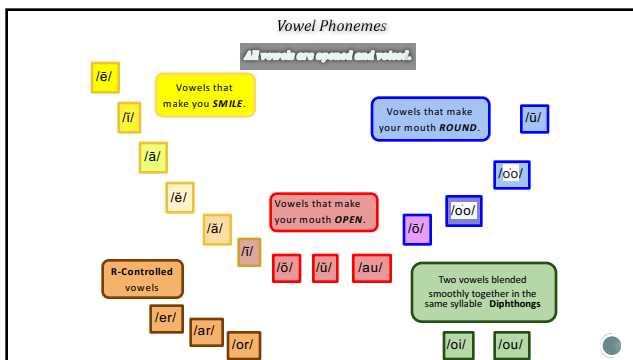
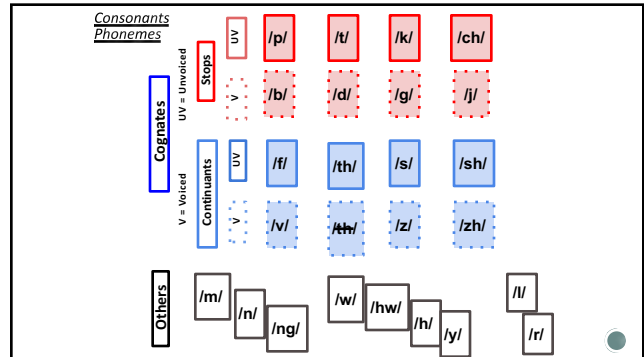


## Exploring the Consonant and Vowel Sounds of English

## Why Use Sound/Spelling Cards?

- Connecting phonemes and graphemes.
- Each card represents a phoneme
  - the different spellings on a card are graphemes
- There are usually several ways to spell a single sound (phoneme) in our language.
- Grapheme – a letter or group of letters representing a phoneme.
- There is no guesswork for students if teachers are constantly making connections to the cards.

-Tools 4 Reading



## Consider Phonemes Not Represented by Alphabet Charts or Word Walls

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

- /ch/
- /ng/
- /wh/
- /ar/
- /oo/
- /sh/
- /th/
- /oi/
- /er/
- /aw/
- /zh/
- /th/
- /ou/
- /or/

-Tools 4 Reading

## SUPPORTING STUDENTS WITH DYSLEXIA: INTERVENTION/ACCELERATION

- At least one teacher in every LRSD school is trained to provide dyslexia intervention; in many schools there are multiple teachers trained
- Reading teachers, interventionists, and sometimes special education teachers provide intervention for students who have dyslexia or characteristics of dyslexia
- Other types of interventions are provided for students who are not yet reading on grade level for other reasons
- Last year we served almost 1200 students in interventions specifically related to dyslexia. That does not include the hundreds of other students who received different types of literacy support to reach grade level proficiency

## IDENTIFYING STUDENT NEEDS: SCREENING AND DIAGNOSTIC ASSESSMENTS

- Initial Screening:** required for all students in K-2 and identified struggling readers in 3-12 (DIBELS or equivalent screener)
- Level 1 Dyslexia Screening:** includes information from Classroom teacher, reading specialist or dyslexia interventionist
- Level 2 Dyslexia Screening:** School-based Identification- Outlined in Arkansas Dyslexia Resource Guide- performed by a Psychological Examiner

## SUCCESSFUL INTERVENTION IS:

- ✓ Systematic
- ✓ Explicit
- ✓ Cumulative
- ✓ Multisensory
- ✓ Intensive
- ✓ Teaches linguistic and cognitive skills and application to reading and writing

Example: Teaching a New Concept

## ORTON-GILLINGHAM METHODOLOGY EXPLAINED

- In the 1930's neurologist Dr. Samuel T. Orton and educator, psychologist Anna Gillingham developed the Orton-Gillingham approach to reading instruction for students with dyslexia. **This theory combines multi-sensory techniques along with the structure of the English language.** Items taught include: **phonemes and morphemes, such as prefixes, suffixes, and roots.** Common **spelling rules** are introduced, as well. Multi-sensory education incorporates the **three learning pathways, which are: auditory, kinesthetic, and visual.** **This approach is beneficial not only for students with dyslexia, but for all learners.** It can be implemented in a large group setting as well as with individuals, small groups and at-risk populations. The approach allows for implementation of Response to Intervention (RTI) at all levels while allowing for differentiation of instruction.
- Often OG is interpreted as an approach only meant for reading remediation; however, the **multi-sensory component impacts all children.** The uniqueness of this type of instruction is that it allows the educator to capitalize on all learning modalities while delivering instruction that will strengthen the remaining learning pathways.

## SUPPORTING LRSD FAMILIES OF STUDENTS IN INTERVENTION

- Parent Events for Students Receiving Intervention
- Activities to Support Children at Home

## RESOURCES

- *Arkansas Dyslexia Resource Guide* (updated December 2017). [http://www.arkansased.gov/public/userfiles/learning\\_Services/Dyslexia/DRG-Final-12-13-17-JSL.pdf](http://www.arkansased.gov/public/userfiles/learning_Services/Dyslexia/DRG-Final-12-13-17-JSL.pdf)
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- Riley-Tillman, T. C., Burns, M. K., VanDerHeyden, A. M. (2012). *RTI Applications, Volume 1: Academic & Behavioral Interventions, RTI Applications, Volume 1: Academic & Behavioral Interventions*. New York, London: The Guilford Press.
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- <http://www.rtinetwork.org/learn/what/whatsrti>