Enhancing the Word Reading Skills of Upper Elementary Students

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FOR PREVENTING EDUCATIONAL RISK

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This presentation is represented in the following publications:

✦ Toste, J. R., Capin, P., Vaughn, S., Roberts, G. G., & Kearns, D. K. (under review). Multisyllabic word reading instruction with and without motivational beliefs training for struggling readers in the upper elementary grades: A pilot investigation.

✦ Toste, J. R., Williams, K. J., & Capin, P. (in press). Reading big words: Instructional practices to promote students' multisyllabic word reading fluency. *Intervention School and Clinic.*

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Today's Goals...

1. Present findings from two studies that investigated a multisyllabic word reading intervention for struggling upper elementary readers

2. Describe the key components of effective multisyllabic word reading instruction and how to implement them in the classroom setting

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Overview

✓ Reading and school success

✓ Why are big words so difficult?

✓ Findings from two multisyllabic word reading (MWR) interventions

✓ 5 key components of MWR instruction

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Reading and School Success

- The **ability to read** is a critical skill for students' academic success

- **What is proficient reading?**
  - The ability to decode letters and sounds automatically, in order to construct and comprehend the meaning of text (Lubliner, 2004; Rayner et al., 2003)

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Reading and School Success

- Students who do not read proficiently in elementary grades, are more likely to...
  - Continue to struggle through high school (Brasseur-Hock et al., 2011; Francis et al., 1996; Moats, 1999; Vaughn et al., 2008)
  - Drop out of school (Dynarski et al, 2008)
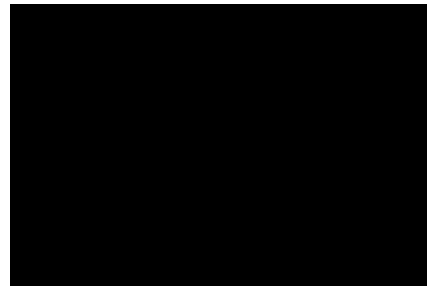 - Have more negative beliefs about themselves and their abilities as learners

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Reading Matters

www.childrenofthecode.org

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www.childrenofthecode.org

Reading Disabilities

- Although prevalence estimates vary, approximately 5-6% of students have an identified learning disability (LD) in the area of reading (Fletcher, Lyon, Fuchs, & Barnes, 2007)

- **Many more** students are struggling with reading…

Literacy Rates

- How many of our students are reading at or above proficient level (NAEP, 2015)?
  - 36% of fourth graders
  - 34% of eighth graders

- For students with disabilities, these numbers are even lower.
  - 12% of fourth graders
  - 8% of eight graders

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Percentile Rank (5th graders)	Minutes/Day (Books, Magazines, Newspapers)	Words/Year
98th	67.3	4,733,000
90th	33.4	2,357,000
70th	16.9	1,168,000
50th	9.2	601,000
30th	4.3	251,000
10th	1.0	51,000
2nd	0.0	--

Effective Reading Instruction

Identifying words accurately and fluently

Constructing meaning once words are identified

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Effective Reading Instruction

Phonological Awareness

Phonics

Fluency

Vocabulary

Comprehension

Identifying words accurately and fluently

Constructing meaning once words are identified

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What Do We Already Know?

- Poorly developed word recognition skills are the most pervasive and debilitating source of reading challenges (Adams, 1990; Perfetti, 1985; Share & Stanovich, 1995)

- Both decoding and fluency are necessary prerequisites for reading comprehension

- Ability to decode long words increases the **qualitative difference** between good and poor readers (Perfetti, 1986)

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Reading "Big Words"

cat
dog
bench
church
football

competitiveness
advertisement
pyramid
transportation
measurement

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Why Are Big Words Difficult for Struggling Readers?

- Struggling readers:
  - Pronounce fewer affixes and vowel sounds correctly
  - 2-4 times more likely to omit syllables

- Struggling readers, even those who can decode single syllable words, have a difficult time with multisyllabic words (Just & Caprpenter, 1987; Perfetti, 1986).

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Why Are Big Words Difficult for Struggling Readers?

- Decoding instruction often ends after second grade:
  - Number of multisyllabic words begins to dramatically increase in third grade
  - From fifth grade on, the average student encounters approximately 10,000 new words that they have never previously encountered in print
  - These longer words are often content words that carry the meaning of the passage

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"The f_____s of the c_____n f_____d a d_____t c_____t. They saw the need for a strong n_____l g_____t. At the same time, they did not want to take away all p_____r from the states. Like most A_____s, they b_____d that state g_____t would better u_____d the special needs and c_____s of their c_____s."

"The framers of the constitution faced a difficult conflict. They saw the need for a strong national government. At the same time, they did not want to take away all power from the states. Like most Americans, they believed that state government would better understand the special needs and concerns of their citizens."

From the American Nation (1994) published by Prentice Hall

Findings from Two Randomized Controlled Trials of a Multisyllabic Word Reading Intervention

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Research Aims

① Test the efficacy of an intervention aimed at increasing the multisyllabic word reading skills of upper elementary students

② Explore the potential of integrating motivational beliefs training within a reading intervention

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Research Aims

① Test the efficacy of an intervention aimed at increasing the multisyllabic word reading skills of upper elementary students

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Year 1: Pilot Study

- **Participants**
  - 59 students in third (n = 39) and fourth graders (n = 20) from two charter schools
- **School 1:**
  - 86.5% free and reduced lunch
  - 95% Hispanic, 2.5% White, 1.5% Black, 1% Asian
- **School 2:**
  - 51% free and reduced lunch
  - 68.5% Hispanic, 15% White, 11.5% Black, 5% Other

Pilot Study Inclusion Criteria

- **Teacher Nominations**
  - Lowest performing readers based on school data

- **Screening Battery**
  - TOWRE-2 Subtests of Sight Word Efficiency and Phonemic Decoding Efficiency
    - below the 37th percentile on one TOWRE-2 subtest

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Pilot Study Design

- Randomized controlled trial with 3 conditions
  - Multisyllabic word reading (MWR-only; n = 18)
  - Multisyllabic word reading + motivational beliefs (MWR+MB; n = 19)
  - Control (n = 22)

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Measures

1. Woodcock Johnson-III (WJ-III)
   - Letter-Word Identification
   - Word Attack
2. TOWRE-2
   - Sight Word Efficiency
   - Phonemic Decoding Efficiency
3. Wide Range Achievement Test-4 (WRAT-4)
   - Sentence Comprehension
4. Extract the Base

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Reading Intervention

Intervention Details
- 24 instructional lessons
  - 3 times weekly for 8 weeks (40 minutes each)
  - 2-3 students per group
- Taught by MCPER tutors
- >90% Implementation Fidelity

Lesson Components
- Review
- Affix Bank
- Word Play
- Write Word
- Speedy Read
- Text Reading

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Pilot Study Results

- Treatment effects were estimated using a series of regression models.
- MWR+MB and MWR treatments significantly outperformed the control group on the following measure:
  - TOWRE-2 Sight Word Efficiency B = 5.04, p = .00, ES = .73

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Pilot Study Results Continued

- The remaining effects were not statistically significant, but they did have moderate effects.
  - TOWRE-2 Phonemic Decoding (ES = .31)
  - WJ-III Letter-Word Identification (ES = .29)
  - WJ-III Word Attack (ES = .30)

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Year 2: Efficacy Study

- **Participants**
  - 109 students in 4th (n = 59) and 5th grades (n = 50) from 3 public schools
  - 92% economically disadvantaged (free and reduced lunch)
  - 24% English Language Learners

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Study Selection Criteria

- **Teacher Nominations**
  - lowest performing readers based on district data

- **Screening Battery**
  - TOWRE-2 Subtests of Sight Word Efficiency and Phonemic Decoding Efficiency
    - below the 25th percentile on one TOWRE-2 subtest

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Study Design

- **Randomized Control Trial**
  - MWR-only (n = 34)
  - MWR+MB (n = 39)
  - Control (n = 36)

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Reading Intervention

Intervention Details
- 40 instructional lessons
  - 4 times weekly for 10 weeks (40 minutes each)
  - 3-4 students per group
- Taught by MCPER tutors
- >97% Implementation Fidelity

Lesson Components
- Warm up
- Affix Bank
- Word Play
- Beat the Clock
- Write Word
- Speedy Read
- Text Reading

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Measures

Researcher-designed measures:
- Affix Reading
- "Big Words" Test

Standardized measures:
- Morphology (Extract the Base and Derivational Suffixes)
- WJ III Letter-Word Identification
- WJ III Word Attack
- WJ III Spelling
- TOWRE-2 Sight Word Efficiency
- TOWRE-2 Phonemic Decoding Efficiency
- WJ III Passage Comprehension
- Gates-MacGinitie Reading Test (GMRT)

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Results

- To estimate treatment effects, we fit a series of regression models.

- Students who received the reading intervention significantly outperformed the control group on the following measures:
  - Word Attack (β = 3.09, p = **.00**, ES = **.43**)
  - Spelling (β = 2.65, p = **.03**, ES = **.25**)
  - Gates-MacGinitie (β = 2.04, p = **.02**, ES = **.26**)
  - Big Word Reading (β = 10.50, p = **.00**, ES = **.90**)
  - Affix Reading (14% vs. 100% mastery)

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Results Continued

- Treatment students outperformed students in control on the following measures, although they were not statistically significant:
  - Sight Word Fluency *(β = 3.21, p = .07, ES = .39)*
  - Word Identification *(β = 2.45, p = .05, ES = .29)*

- No treatment effects on outcomes of:
  - Morphology (Extract the Base & Derivational Suffixes)
  - TOWRE-2 Phonemic Decoding Efficiency
  - WJ III Passage Comprehension

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Implications

- Initial evidence suggests multisyllabic word reading instruction improves word reading outcomes for students in Grades 3 to 5

- Students who continue to struggle with word reading in the upper-elementary grades need continued instruction in this area
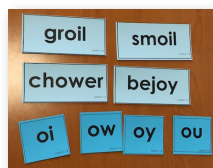
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Multisyllabic Word Reading Instructional Practices

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Multisyllabic Word Reading

- These practices are best used with readers who are proficient decoders of almost all vowel patterns or sounds in monosyllabic words
  - If they are not, focus on teaching the vowel patterns that students do not know first

- The strategies we will discuss focus on developing <u>fluency</u> of word reading

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Prerequisite Skills

- Immediate recognition of vowel sounds
  - ay says /ā/
  - ee says /ē/
  - ea says /ē/, /ā/, or /ĕ/
  - r-controlled vowels
  - diphthongs
- Read words with target vowel patterns

groil   smoil
chower   bejoy
oi ow oy ou

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Multisyllabic Word Reading

- Students need a flexible strategy for reading big words

- **Why not "rule-based" instruction?**
  - Students' knowledge of phonics-based rules do not necessarily predict their multisyllabic word reading skills (Kearns, 2015), yet this is the instruction we use
  - No relationship exists between knowledge of syllabication rules and successful reading

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Multisyllabic Word Reading

- **Why not "rule-based" instruction?**
  - Word representations are acquired through decoding practice and repeated exposure
    (Cunningham & Stanovich, 1991; Perfetti, 1992; Stanovich, 1986)
  - We want students' to exert less attention when decoding words, so we engage them in tasks that will support their automaticity

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Key Components

Multisyllabic Word Reading Instruction
① Affix Learning
② "Peel Off" Reading
③ Word-Building Games
④ Word Reading Fluency
⑤ Connected Text Reading

See handout

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① Affix Learning

Key Components
Affix Learning
"Peel Off" Reading
Word-Building Games
Word Reading Fluency
Connected Text Reading

- Fluent reading of affixes
- Ability to integrate with word meaning

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① Affix Learning

AFFIX
word part that is added to a base word

PREFIX
added to the beginning of a base word
[pre = **before**]

SUFFIX
added to the ending of a base word
[suf = **under**; retains meaning of sub]

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① Affix Learning

- **Explicitly** teach affixes
  1. Name it
  2. Provide sample word
  3. Define it (when possible)
  4. Students generate sample words
  5. Write it

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① Affix Learning

NEW PREFIX: DE-

This prefix is de-. *Write the affix on white board.* **Remind me, do prefixes go at the beginning or end of words? Yes, beginning!**

I can think of some words that begin with de-. One word I can think of is defrost. *Write example on the white board.* **This affix de- means "reverse or remove" What does it mean?** *Student response.* **Yes, "reverse or remove."** *Write definition with taught affix on the white board.* **Since we know the affix means reverse or remove, then we know the word "defrost" means to remove frost from something. Can you think of any other words that begin with the affix de-?** *Students' share their responses.*

Now let's add it to our Affix Bank!

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AFFIX BANK

PREFIX	SUFFIX

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① Affix Learning

New Suffix: -ing

This suffix is -ing. *Write the affix's name on the white board.* **I can think of some words that end with -ing. One word I can think of that ends in -ing is playing.** *Write example on the white board.* **This affix -ing means "to show that an action is taking place" What does it mean? Yes, "to show that an action is taking place."** *Write definition with taught affix on the white board.* **Since we know the affix -ing means "to show that an action is taking place," then we know the word playing means that play is taking place. Can you think of any other words that end with -ing?** *Take a few examples.*

Now, let's add it to our Affix Bank!

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② "Peel Off" Reading

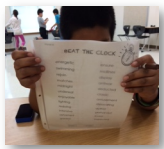| Key Components |
|---------------|
| Affix Learning |
| "Peel Off" Reading |
| Word-Building Games |
| Word Reading Fluency |
| Connected Text Reading |

- Practice segmenting word parts
- Students "peel off" affixes from multisyllabic words
- Focus is reading words *accurately* and *fluently,* **not** for meaning

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② "Peel Off" Reading

- **Beat the Clock** game
  1. Underline affixes
  2. Choral read affixes in isolation
  3. Timed reading of words
  4. Second read—beat the block!

BEAT THE CLOCK

ashamed	planted
swimmer	meter
harvested	losers
voted	friendly
actually	measuring
portion	healthy
calmly	voted
farmer	alarming
challenging	needy
nodded	caution
occasion	needy
branches	mission

See handout

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③ Word-Building Games

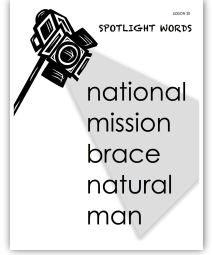| Key Components |
|---------------|
| Affix Learning |
| "Peel Off" Reading |
| Word-Building Games |
| Word Reading Fluency |
| Connected Text Reading |

- Students assemble word parts
- Focus is blending word parts to read *accurately* and *fluently,* **not** for meaning

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③ Word-Building Games

- Select base words
- Choral read the base words with students
- Play Word-Building Games:
  1. Quick Search
  2. Build-A-Word
  3. Word Train
  4. Elevator Words
  5. Spinner Words

SPOTLIGHT WORDS

national
mission
brace
natural
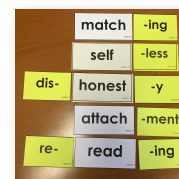man

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③ Word-Building Games

- **Quick Search** game
  1. Review affixes (as necessary)
  2. Attach a prefix and/or suffix to base word
  3. Read all word parts
  4. Say it fluently!
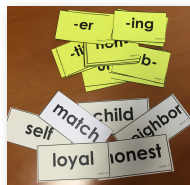
③ Word-Building Games

- **Quick Search** game
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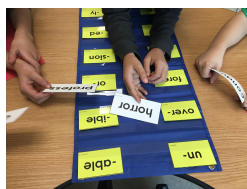 4. Say it fluently!

Variations:
- Use only prefixes <u>or</u> suffixes
- Words with prefixes <u>and</u> suffixes
- Real words vs nonsense words

③ Other Word-Building Games

- Assembling games
  1. Build-A-Word
  2. Word Train
  3. Elevator Words
  4. Spinner Words

See handout

④ Word Reading Fluency

Key Components
Affix Learning
"Peel Off" Reading
Word-Building Games
Word Reading Fluency
Connected Text Reading

- Improving accuracy and rate
- **How do you increase fluency?**
  - Students read with consistent **teacher feedback**
  - Reading words with same patterns (e.g., phonograms)
  - Reading multisyllabic words
  - Speeded reading tasks

④ Word Reading Fluency

- **Speedy Read**
  1. Choral read teacher-led
  2. Timed reading of words (individual)
  3. How many words did you read correctly in 30 sec?

See handout

④ Word Reading Fluency

It's time for "Speedy Read." *Distribute copies of today's word list to students.* **Let's do our choral read first.** *Wait until all students have word list in front of them on the table and have finger on the first word.* **As we read each word, I want you to follow along with your finger. Let's go!** *Read the words chorally as a group.*

Now it's your turn to read the words independently. Let's see how many words you can each read in 30 seconds! *Put timer on the table in the middle of the group.* **_____ will go first. Is everyone pointing? Great. Ready? Go.** *Start the timer. After 30 seconds has elapsed, say:* **OK, good work! On your Speedy Read chart, write how many words you read correctly in 30 seconds.**

⑤ Connected Text Reading

Key Components
Affix Learning
"Peel Off" Reading
Word-Building Games
Word Reading Fluency
Connected Text Reading

- Reading connected text
- Sentences or passages to increase *affix usage* and exposure to *big words*
- Repeated readings
- Teaching key words

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⑤ Connected Text Reading

- Sentence reading
  - Affix substitution as **maze** and cloze tasks

(1) In the United States, we import a report most of our bananas from Central and South America.
(2) Ms. Wilson had falling or fallen over the chair because she did not see it.
(3) The football player loved to win. His great effort showed his competiveness or competitive at each game.
(4) The kitchen in our new house is very big and spaced or spacious.
(5) Dad said to take the chicken out of the oven. He didn't want to cook it too long and make it redone or overdone.
(6) I was looking at pictures of puppies. Their cutely or cuteness made me happy.
(7) That snake is very dangerous. Its venom is poisoned or poisonous.
(8) The thief committed a serious crime. Stealing a car is a felonious or felony.

See handout

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⑤ Connected Text Reading

- Sentence reading
  - Affix substitution as maze and **cloze** tasks

(1) Yesterday, Kevin smell ed fresh bread coming from the bakery.
(2) I had to re construct my Lego building. My little brother knocked it down when he got mad at me.
(3) Kayla was happy____ than her brother when she found out they were going to Disney World.
(4) The student argued loudly with her teacher today. He ____ agreed with her about the correct answer on the test.
(5) Sarah was ____ willing to go swimming. She wanted to stay home because it was too cold outside.
(6) Jenny was going to go shop____ with her mom after school. She needed some new shoes.
(7) The dog probable____ wanted to go find its bone in the backyard.
(8) I read about the movie in the newspaper before I went to the theatre. I like having a ____ view of the movie.

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⑤ Connected Text Reading

- **Repeated Reading** of expository text
  1. Introduce & define key words
  2. First reading of text (oral reading)
  3. Second reading of text (oral reading)
  4. Call attention to "big words" in text
  5. Comprehension questions

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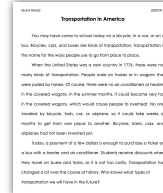
⑤ Connected Text Reading

Let's focus on reading carefully and understanding what we read. Today's passage is called "Transportation in America." There are a few important words we want to pay attention to while we read. One of the words is _____. *Write the word on a white board.* **This means _____.** *Define word, and introduce other key words.*

Students read the passage aloud at least two times.
- Select two read aloud routines based on students' reading ability
- Reading aloud options include: (1) echo read, (2) choral read, (3) popcorn read, or (4) whisper read
- Make sure all students are finger tracking before beginning

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⑤ Connected Text Reading

You all did a great job reading!

I notice some of our spotlight words in this passage. Who can quickly scan the text and tell me a spotlight word from today's lesson that they see? *Ask additional word analysis questions.*

I want to ask you a couple of questions about this passage. *Ask comprehension questions related to content of the passage.*

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Why Multisyllabic Word Reading?

- It's critical to proficiency and impacts text comprehension
- Many upper-elementary students with LD continue to struggle with multisyllabic word reading
- Word reading is rarely taught after 3rd grade

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Putting it All Together

- Focus on these five instructional activities:
  1. Affix Learning
  2. "Peel Off" Reading
  3. Word Building Games
  4. Word Reading Fluency
  5. Connected Text Reading
- Make instruction engaging
- Include repetition and multiple opportunities for practice, with immediate corrective feedback

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Classroom Applications

- small group direct instruction during intervention time
- student-centered activities for partner or independent practice
- 2-3 minutes each day to highlight multisyllabic words or affixes
- co-teaching

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Questions?
Thank you!

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