



# Spelling & Fluency for students with Dyslexia



Session V Intermediate and Secondary  
Mountain West  
Associates



## Social and Emotional Problems Related to Dyslexia

Dyslexia can have significant effects on emotional well-being. Samuel T. Orton, M.D. was one of the first researchers to describe the emotional aspects of dyslexia. His research on preschoolers with dyslexia revealed that most were happy and well adjusted, yet emotional problems began to develop when early reading instruction was not effective.

Over the years, students with dyslexia may develop increasing frustration if the reading skills of their classmates begin to surpass their own. Access to effective Structured Literacy teaching will help these students, but they may still experience social and emotional problems. Understanding these issues will assist parents and teachers in supporting students to develop a healthy sense of emotional well-being that will serve these students well as they continue their work to become skilled readers and spellers.

### Why is dyslexia discouraging and frustrating?

The frustration that individuals with dyslexia experience often stems from their inability to succeed, no matter how hard they try. Parents and teachers see a bright, enthusiastic child who is not learning to read and write. Since dyslexia, almost by definition, is unexpected, students with dyslexia will make many mistakes that may be interpreted as careless. Time and again, these students and their parents hear, "They're such a bright child; if only they would try harder." Ironically, no one knows exactly how hard the individual with dyslexia is trying.

It can be painful and frustrating to struggle with basic reading and writing skills and to be unable to achieve in the eyes of their teachers, classmates, and parents. These experiences may result in students feeling chronically inadequate. A sense of failure and inferiority may generalize beyond the classroom and may last into adulthood. At times, it can even lead successful adults to mistrust their own capabilities.

### What might the person with dyslexia feel or experience?

#### Anxiety

Anxiety is the most frequent emotional symptom reported by both children and adults with dyslexia. Anxiety is a normal, adaptive human response intended to protect us from danger. It often results in the typical reactions of fight, flight, or freeze when encountering an adverse situation. When a person develops anxiety, these responses increase to the point of interfering with day-to-day functioning. Children who are anxious become fearful because of their constant frustration and confusion in school. The anticipation of possible failure when asked to read or spell, which may apply to many new situations, can provoke anxiety and fear.

# Objectives for Session V

Review the six types of Syllables


Discuss students with dyslexia difficulties with spelling (orthography) and fluency



Let's talk about the article



# Let's see what we remember about the six types of syllables

|                   |                    |                  |   |
|-------------------|--------------------|------------------|---|
| 111.integrate     | 141. modify        | 171. plausible   |  |
| 112. intent       | 142. monitor       | 172. plot        |   |
| 113. intention    | 143. motivation    | 173. previous    |   |
| 114. interact     | 144. narrative     | 174. primary     |   |
| 115. intermittent | 145. narrator      | 175. prior       |   |
| 116. interpret    | 146. never         | 176. probably    |   |
| 117. introduce    | 147. notation      | 177. procedure   |   |
| 118. introduction | 148. note          | 178. process     |   |
| 119. invariably   | 149. notice        | 179. produce     |   |
| 120. investigate  | 150. objective     | 180. profile     |   |
| 121. involve      | 151. observe       | 181. project     |   |
| 122. irony        | 152. occur         | 182. prompt      |   |
| 123. irrelevant   | 153. opinion       | 183. proofread   |   |
| 124. isolate      | 154. oppose        | 184. property    |   |
| 125. italics      | 155. optional      | 185. propose     |   |
| 126. judge        | 156. order         | 186. prose       |   |
| 127. key          | 157. organize      | 187. prove       |   |
| 128. label        | 158. origins       | 188. purpose     |   |
| 129. likely       | 159. outline       | 189. quotation   |   |
| 130. list         | 160. pace          | 190. quote       |   |
| 131. literal      | 161. paraphrase    | 191. rank        |   |
| 132. locate       | 162. participation | 192. rare        |   |
| 133. logical      | 163. passage       | 193. rarely      |   |
| 134. logic        | 164. path          | 194. reach       |   |
| 135. logician     | 165. pattern       | 195. reason      |   |
| 136. logical      | 166. pattern       | 196. reason      |   |
| 137. logical      | 167. pattern       | 197. reason      |   |
| 138. logical      | 168. pattern       | 198. reason      |   |
| 139. logical      | 169. pattern       | 199. reason      |   |
| 140. logical      | 170. pattern       | 200. reason      |   |
| 141. logical      | 171. pattern       | 201. request     |   |
| 142. logical      | 172. pattern       | 202. require     |   |
| 143. logical      | 173. pattern       | 203. requisite   |   |
| 144. logical      | 174. pattern       | 204. respond     |   |
| 145. logical      | 175. pattern       | 205. responsible |   |
| 146. logical      | 176. pattern       | 206. restate     |   |
| 147. logical      | 177. pattern       | 207. results     |   |
| 148. logical      | 178. pattern       | 208. reveal      |   |
| 149. logical      | 179. pattern       | 209. review      |   |
| 150. logical      | 180. pattern       | 210. revise      |   |
| 151. logical      | 181. pattern       | 211. root        |   |
| 152. logical      | 182. pattern       | 212. setting     |   |
| 153. logical      | 183. pattern       | 213. show        |   |
| 154. logical      | 184. pattern       | 214. signal      |   |

# Types of Syllables

| SYLLABLE TYPE         | Examples  |
|-----------------------|---|
| Open                  | hi, me, no, she, he                               |
| Closed                | hat, met, sit, pot, nut                           |
| Vowel-Consonant-e     | make, hide, pole, mute                            |
| Vowel-R               | star, fern, pork                                  |
| Vowel Pair            | seek, look, toil, fail, head, route               |
| Final Stable Syllable | puzzle, icicle, spindle, mature, nation, precious |

# Syllable Division Patterns

| Syllable Division Patterns | VCCV | VCCCV | VCV | VV |
|----------------------------|------|-------|-----|----|
| fancy                      |      |       |     |    |
| costume                    |      |       |     |    |
| cactus                     |      |       |     |    |
| hundred                    |      |       |     |    |
| construct                  |      |       |     |    |
| athlete                    |      |       |     |    |
| even                       |      |       |     |    |
| over                       |      |       |     |    |
| super                      |      |       |     |    |
| poet                       |      |       |     |    |
| lion                       |      |       |     |    |
| duet                       |      |       |     |    |

# Spelling

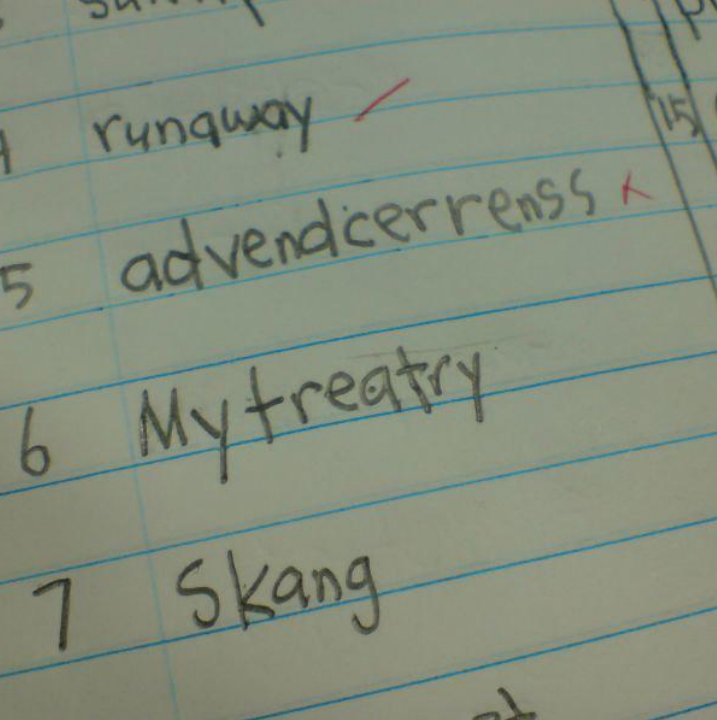


# Spelling and dyslexia

Spelling is difficult for many people, but there is much less research on spelling than there is on reading to tell us just how many people spell poorly or believe they spell poorly. Less is known about spelling competence in the general population than is known about reading achievement because there is no national test for spelling and many states do not test students' spelling skills.

Almost all people with dyslexia, however, struggle with spelling and face serious obstacles in learning to cope with this aspect of their learning disability. The definition of dyslexia notes that individuals with dyslexia have "conspicuous problems" with spelling and writing, in spite of being capable in other areas and having a normal amount of classroom instruction. Many individuals with dyslexia learn to read fairly well, but difficulties with spelling (and handwriting) tend to persist throughout life, requiring instruction, accommodations, task modifications, and understanding from those who teach or work with the individual.



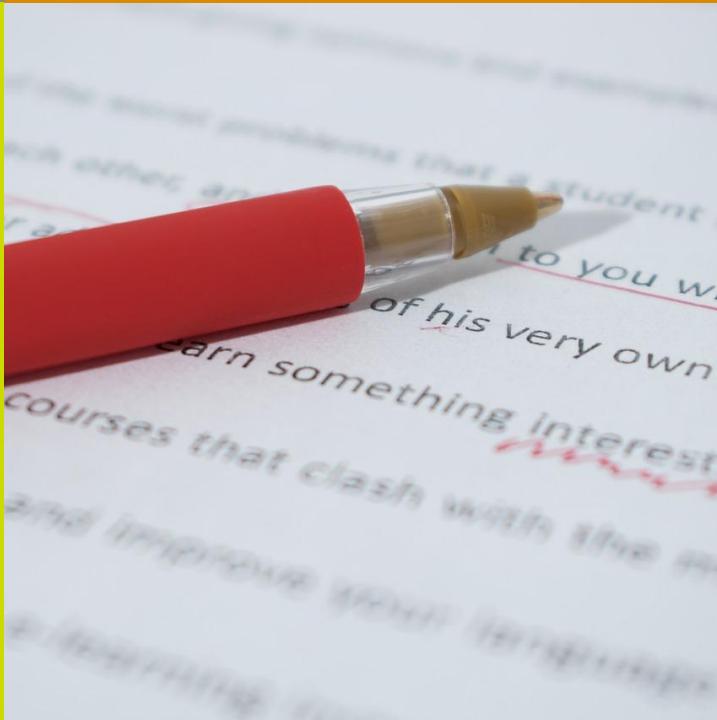


# Spelling is not a visual skill!

Mistaken belief that dyslexic students have a poor visual memory for the sequence of letters

Visual memory plays a minor role

The issue is language



Let's practice

flnnod

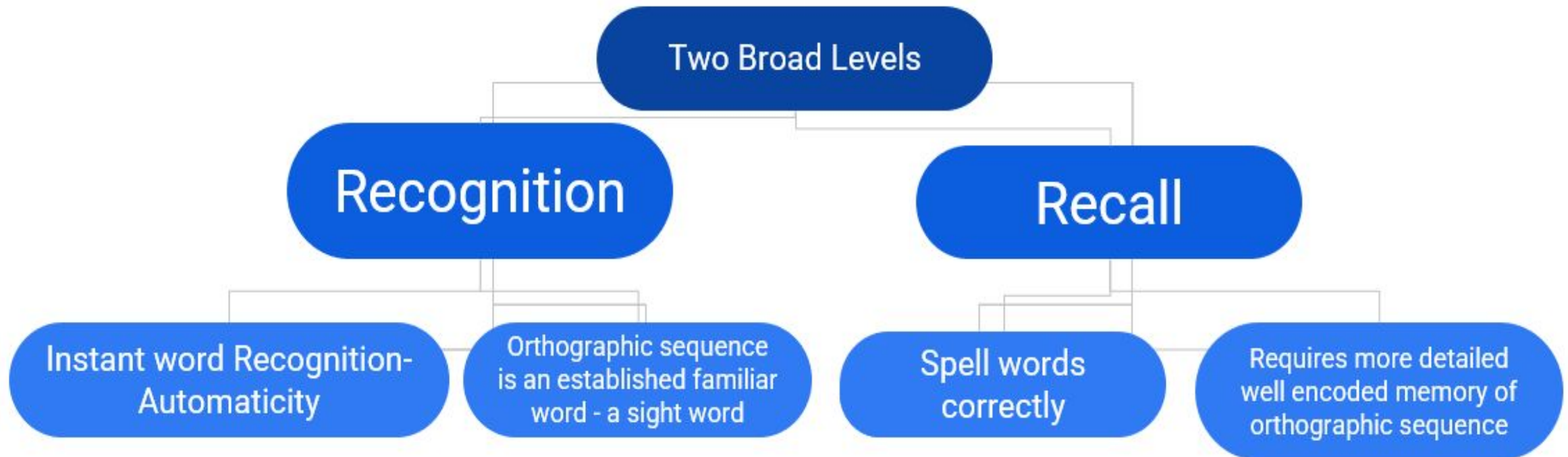


# What is orthographic mapping?

Is the process that readers use to store written words for instant and effortless retrieval. It is the means by which readers turn unfamiliar written words into familiar recognizable sight words.

# Decoding - Encoding

Orthographic mapping - Orthographic memory

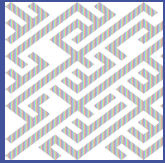




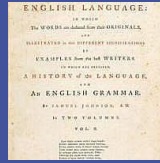
# The Role of Orthography in Establishing a Stable Memory of Spelling Patterns



# Much more effective



Word Structure



Word origin



Meaning

<https://www.readingrockets.org/article/spelling-and-dyslexia>

## What are the implications for teaching?

Spelling instruction that explores word structure, word origin, and word meaning is the most effective, even though students with dyslexia may still struggle with word recall. Emphasizing memorization by asking students to close their eyes and imagine the words, or asking them to write words multiple times until they "stick" are only useful after students are helped to understand why a word is spelled the way it is. Students who have learned the connections between speech sounds and written symbols, who perceive the recurring letter patterns in English syllables, and who know about meaningful word parts are better at remembering whole words. Classroom spelling programs should be organized to teach a progression of regular spelling patterns. After first grade, spelling instruction should follow and complement decoding instruction for reading. Children should be able to read the words in their spelling lesson; most learners can read many more words than they can spell.


# English Orthography

- Language of Origin
- Phoneme- grapheme mapping
- The position of a phoneme in a word
- Orthographic patterns or conventions
- Morphology



## What do you notice about these words?

sun, sky, and, pen  
house, moon, play  
cape, think, finger, shirt, pack  
dog, horse, arm, farm,  
would, high, cough, does, shoe,  
love






|                              |   |  |
|------------------------------|---|--|
| <b>Anglo<br/>-<br/>Saxon</b> | <ul style="list-style-type: none"> <li>• Short, one syllable words</li> <li>• Use of vowel teams, silent letters, diphthongs, diagraphs</li> <li>• Words for common everyday things</li> <li>• Irregular spellings</li> </ul> | <p>sun, sky, and, pen<br/>house, moon, play<br/>cape, think, finger,<br/>shirt, pack<br/>dog, horse, arm,<br/>farm,<br/>would, high,<br/>cough, does, shoe,<br/>love</p> |
|------------------------------|---|--|



**What do you notice  
about these words?**




**marvelous, tremendous, aquarium,  
mandible, clarification, visualization,  
explosion, erupt, erosion,  
deception, special, conduct graduate, legal,  
hour, herb**

|              |   |  |
|--------------|---|--|
| <b>Latin</b> | <ul style="list-style-type: none"><li>• Usually long, multisyllabic words</li><li>• Content words found in text of sciences (social, physical)</li><li>• Words that are legal terms</li><li>• Words with silent h</li></ul> | marvelous,<br>tremendous,<br>aquarium, mandible,<br>clarification,<br>visualization,<br>explosion, erupt,<br>erosion,<br>deception, special,<br>conduct graduate,<br>legal, hour, herb |
|--------------|---|--|



**What do you notice  
about these words?**



**chlorophyll, phone, school, ache, philosophy,  
phobia, phrase, graph, kilometer, theater,  
theme, athlete, cycle, orchestra, theology,  
astrology**



|              |   |   |
|--------------|---|---|
| <b>Greek</b> | <ul style="list-style-type: none"><li>• <b>Ph for /f/, ch for /k/, y for /i/(long i)</b></li><li>• <b>Contrasted from combining forms</b></li><li>• <b>Philosophical, mathematical, and scientific technology</b></li><li>• <b>Words related to theater</b></li></ul> | <b>Chlorophyll, phone, school, ache, philosophy, phobia, phrase, graph, kilometer, theater, theme, athlete, cycle, orchestra, theology, astrology</b> |
|--------------|---|---|

# Position of the Phoneme

English often uses several letters or letter combinations in predictable ways, depending on where the phoneme is placed (initial, medial, or final positions) or what other sounds come before or after it.

/v/

love      valentine

have      velvet

gave      vent

/ch/

chin, chat, merchant

witch, fetch, watch, stretch, clutch

peach, parch, trench, ouch, bunch, torch,  
leech, belch, munch

## Examples of Spelling by the Position of the Phoneme

English often uses several letters or letter combinations in predictable ways, depending on where the phoneme is placed (initial, medial, or final positions) or what other sounds come before or after it.

The /f/ sound can be spelled with the letter(s) **f, ff, gh, and ph**

- We use single letter **f** for /f/ when the sound is in the initial position of the word. (fan)
- We never use the letters **ff** or **gh** when the /f/ sound is in the initial position of the word.
- We use a double **f** when the /f/ sound is positioned after a short vowel sound in a one-syllable base word. (off)
- We can use **ph** in any position as long as the word is of Greek origin. (phone, photo)

The /k/ sound can be spelled with the letter(s) **c, k, or ck**

- We use the letter **c** when the /k/ sound is before **a, o, u,** or a consonant. (cup, cat, clung)
- We use the letter **k** when the /k/ sound is before **e, i, or y.** (kite, kiss, sky keep)
- We use **ck** when the /k/ sound is in the final position after a consonant or a vowel pair. (look, pink, lack, ask, ink, book, week, creek)

The /tʃ/ sound can be spelled with the letters **ch and tch**

- We use **ch** when the /tʃ/ sound is in the initial or medial position. (chin, chat, merchant)
- We use **tch** when the /tʃ/ sound is in the final position after a short vowel in a one-syllable base word. (witch, fetch, watch, stretch, clutch)
- We use **ch** when the /tʃ/ is the final position after everything else such as a consonant or vowel pair. (peach, parch, trench, ouch, bunch, torch, leech, belch, munch)

The /ə/ long vowel sound can be spelled with the letter(s) **o, ow, oCe** (a-consonant-e)

- We use **ow** when the long vowel /ə/ sound is in the final position of a base word. (now, blow, snow, window, pillow, sparrow, follow, yellow, elbow, grow)
- We use **o** when the long o vowel sound is at the end of a syllable in base word with two or more syllables. (open, pony, locust, bonus, noble, donate, protest, robot)
- We use **oCe** when the sound is in the initial or medial position of a one-syllable base word. (dog, nose, broke, throne, zone, smokes)

# Orthographic patterns

English orthography has patterns, regulations, or rules on how letters can be used. These rules are independent of the position of the sounds they represent.

- Some letters cannot be doubled
- Some letters cannot end words
- Some consonant letters need to be doubled
- The letter e serves many purposes
- Some letter families violate the “long i” pattern

## Orthographic Patterns of the English Language Some Letter Patterns

English orthography has patterns, regulations, or rules on how letters can be used. These rules are independent of the position of the sounds they represent. Here are some.

Some letters cannot be doubled

- The letters h, k, y, j, v, w and x do not double in English words

Some letters cannot end words

- The letters j and v are not allowed to end words. Thus, the marker e at the end of the word so that it does not violate the v rule, regardless of pronunciation. (live, have)

Some consonant letters need to be doubled

- A double consonant is found between a stressed short vowel syllable and an inflection beginning with a vowel. (grabbing, drugged, plotting, runner, hopped)
- In a two-syllable based word with one medial consonant sound immediately after a short vowel, the consonant is doubled. (rabbit, ladder, muffin, mitten, sudden, puppet, traffic)

The letter e works hard in English. It serves many purposes

- It represents long and short vowel sounds
- It marks the value of other letters as is soft c and g pattern (peace, page)
- It marks the long vowels in the vCe (vowel-consonant-e) pattern. (drape, robe)
- It is placed at the ends of words to keep them from looking like plurals. (please, not pleas; horse, not hors; mouse not mous.

# Spelling may always be an issue for your dyslexic students

Accept less than perfect spelling!

Consider using assistive technology such as:

Grammarly

Co:Writer





# Switching Gear





Switching Gears - Another area of difficulty for students with  
dyslexia

Fluency

# What is fluency?

Fluency is the ability to read accurately, with sufficient speed, and expression.



## Models of Skilled Reading: The Simple View of Reading & Scarborough's Rope Model

### Language Comprehension

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

Increasingly  
Strategic

### Skilled Reading

Fluent execution and  
coordination of word  
recognition and text  
comprehension.

Fluency



### Word Recognition

- Phonological Awareness
- Decoding (and Spelling)
- Sight Recognition

Increasingly  
Automatic

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.



# What we can learn from fluency measures

When we measure the correct words per minute we are also measuring complex processes such as orthographic segmentation and phonological coding

(LaBerge and Samuels, 1974)

Relationship between oral fluency and comprehension is .91

(Fuchs, Fuchs, Maxwell, 1988)



# IES Practice Guide Providing Reading Intervention in grades 4-9

for Students in Grades 4-9

Educator's Practice Guide

WWC 2022007  
U.S. DEPARTMENT OF EDUCATION

*A publication of the National Center for Education Evaluation (NCEE) at IES*



Recommendation 2: Provide purposeful fluency-building activities to help students read effortlessly

Fluency is the ability to read text accurately, with ease, expression, and appropriate pacing. This recommendation focuses on improving students' ability to read text with increased ease, while **Recommendation 1** focuses on reading multisyllabic words accurately and fluently. When students read fluently, they can turn their attention from sounding out the individual words to making sense of what they are reading.

How to carry out the recommendation

1.

Provide a purpose for each repeated reading. Reading the same passage several times can build fluency, but if not structured well, it can be perceived as a dull and discouraging task, especially for students in upper-elementary and middle school grades. The panel recommends having students reread the same passage a total of 3–4 times, each time with a different purpose. Purposes for rereading can include focusing students' attention on reading at an appropriate pace and with expression, answering questions, identifying words they do not know, or reflecting on what students learned from the text or why they think the group is reading the passage. For these purposeful repeated reading activities, choose short, content-rich passages at the students' instructional level that include multisyllabic words, vowel and
2.

Focus some instructional time on reading with prosody. Prosody refers to reading with expression, appropriate pitch and tempo, and pauses at the right places. Pauses, tempo, and emphasis placed on different words can help readers understand what they are reading. Draw students' attention to what prosody entails by dramatizing why prosody is important. Teach students to pause at commas, stop at periods, raise or lower their voice when encountering a question mark, and show emotion when encountering an exclamation point.
3.

Regularly provide opportunities for students to read a wide range of texts. Reading a wide range of texts counterbalances the limitations of repeatedly reading the same brief passage by exposing students to a variety of sentence structures and text topics. As students are exposed to unfamiliar words and syntax, their reading becomes more fluent. Devote some time each week to reading a wide variety of texts on a range of topics and with varying writing styles.

consonant sounds and combinations, or vocabulary the students have previously been taught. Using this approach, fluency-building activities provide a cumulative review of the multisyllabic words, word-reading skills, and vocabulary that were previously taught.



# IES Practice Guides Recommendations



| Recommendations | Details  | Panel           | Related Resources         | Full Guide (2.8 MB) |  |
|-----------------|--|-----------------|---------------------------|---------------------|--|
| 1               | Build students' decoding skills so they can read complex multisyllabic words   | TIER 1 STRONG   | <a href="#">Show More</a> |                     |  |
| 2               | Provide purposeful fluency-building activities to help students read effortlessly  | TIER 1 STRONG   | <a href="#">Show More</a> |                     |  |
| 3               | Routinely use a set of comprehension-building practices to help students make sense of the text<br>Part 3A. Build students' world and word knowledge so they can make sense of the text<br>Part 3B. Consistently provide students with opportunities to ask and answer questions to better understand the text they read<br>Part 3C. Teach students a routine for determining the gist of a short section of text<br>Part 3D. Teach students to monitor their comprehension as they read | TIER 1 STRONG   | <a href="#">Show More</a> |                     |  |
| 4               | Provide students with opportunities to practice making sense of stretch text (i.e., challenging text) that will expose them to complex ideas and information   | TIER 2 MODERATE | <a href="#">Show More</a> |                     |  |

# Fluency Intervention

**1**

Reread - Provide a purpose for each rereading of the text

**2**

Focus some instructional time on reading with prosody.

**3**

Regularly provide opportunities for students to read a wide range of texts.

- Reads with little or no expression.
- Unable to read an unpracticed grade-level passage at the 50th percentile rate of peers according to the Oral Reading Fluency Norms table.

### Oral Reading Fluency Norms (Hasbrouck/Tindal Table)

The table below shows the oral reading fluency rates of students in grades 1 through 8 as determined by data collected by Jan Hasbrouck and Gerald Tindal. You can use this table to draw conclusions and make decisions about the oral reading fluency of your students. **Students scoring 10 or more words below the 50th percentile, using the average score of two unpracticed readings from grade-level materials, need a fluency building program such as Read Naturally.** In addition, teachers can use the table to set the long-term fluency goals for their struggling readers.

| Grade | Percentile | Fall WCPM* | Winter WCPM* | Spring WCPM* | Avg. Weekly Improvement** |
|-------|------------|------------|--------------|--------------|---------------------------|
| 1     | 90         | ~          | 81           | 111          | 1.9                       |
|       | 75         | ~          | 47           | 82           | 2.2                       |
|       | 50         | ~          | 23           | 53           | 1.9                       |
|       | 25         | ~          | 12           | 28           | 1.0                       |
|       | 10         | ~          | 6            | 15           | 0.6                       |
| 2     | 90         | 106        | 125          | 142          | 1.1                       |
|       | 75         | 79         | 100          | 117          | 1.2                       |
|       | 50         | 51         | 72           | 89           | 1.2                       |
|       | 25         | 25         | 42           | 61           | 1.1                       |
|       | 10         | 11         | 18           | 31           | 0.6                       |
| 3     | 90         | 128        | 146          | 162          | 1.1                       |
|       | 75         | 99         | 120          | 137          | 1.2                       |
|       | 50         | 71         | 92           | 107          | 1.1                       |
|       | 25         | 44         | 62           | 78           | 1.1                       |
|       | 10         | 21         | 36           | 48           | 0.8                       |
| 4     | 90         | 145        | 166          | 180          | 1.1                       |
|       | 75         | 119        | 139          | 152          | 1.0                       |
|       | 50         | 94         | 112          | 123          | 0.9                       |
|       | 25         | 68         | 87           | 98           | 0.9                       |
|       | 10         | 45         | 61           | 72           | 0.8                       |
| 5     | 90         | 166        | 182          | 194          | 0.9                       |
|       | 75         | 139        | 156          | 168          | 0.9                       |
|       | 50         | 110        | 127          | 139          | 0.9                       |
|       | 25         | 85         | 99           | 109          | 0.8                       |
|       | 10         | 61         | 74           | 83           | 0.7                       |
| 6     | 90         | 177        | 195          | 204          | 0.8                       |
|       | 75         | 153        | 167          | 177          | 0.8                       |
|       | 50         | 127        | 140          | 150          | 0.7                       |
|       | 25         | 98         | 111          | 122          | 0.8                       |
|       | 10         | 68         | 82           | 93           | 0.8                       |
| 7     | 90         | 180        | 192          | 202          | 0.7                       |
|       | 75         | 156        | 165          | 177          | 0.7                       |
|       | 50         | 128        | 136          | 150          | 0.7                       |
|       | 25         | 102        | 109          | 123          | 0.7                       |
|       | 10         | 79         | 88           | 98           | 0.6                       |
| 8     | 90         | 185        | 199          | 199          | 0.4                       |
|       | 75         | 161        | 173          | 177          | 0.5                       |
|       | 50         | 133        | 146          | 151          | 0.6                       |
|       | 25         | 106        | 115          | 124          | 0.6                       |
|       | 10         | 77         | 84           | 97           | 0.6                       |

\*WCPM = Words Correct Per Minute

\*\*Average weekly improvement is the average words per week growth you can expect from a student. It was calculated by dividing the difference between the fall and spring scores by 32, the typical number of weeks between the fall and spring assessments. For grade 1, since there is no fall assessment, the average weekly improvement was calculated by dividing the difference between the

## Let's take a minute and read Recommendation 2

How could you apply this recommendation in your classroom?



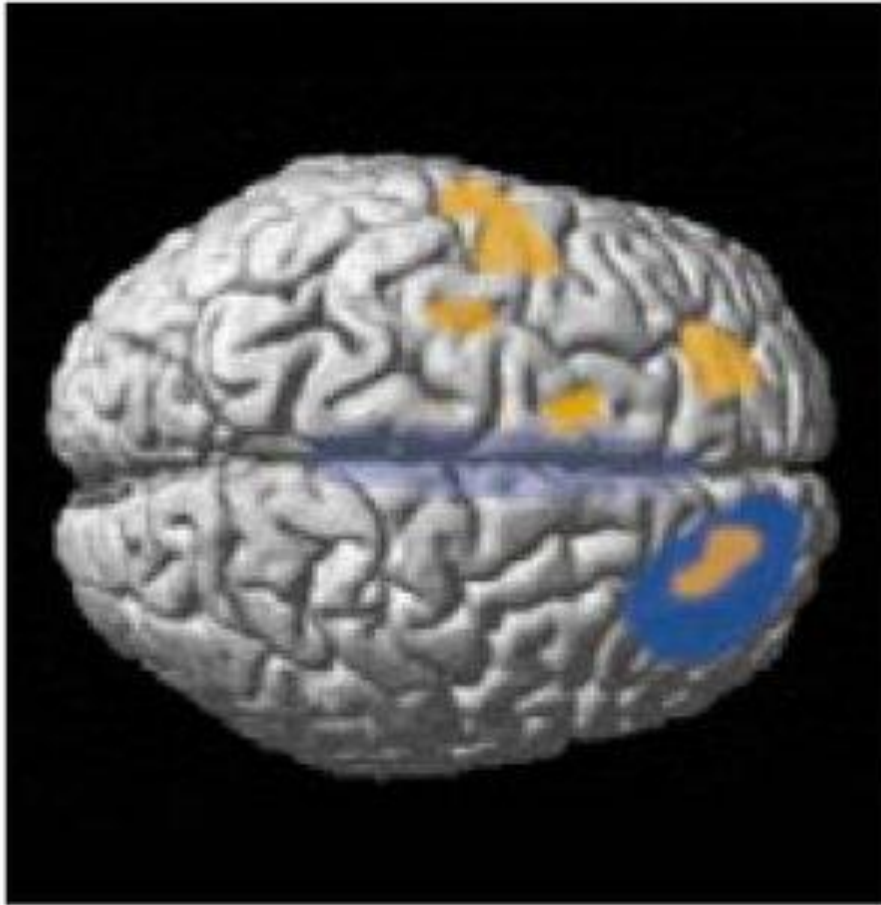


# Students with dyslexia and fluency

Reading rate may always be an issue for students with dyslexia. Consistent accommodation is extended time



ced Craving



B. Top view (front brain to the right)

**Students with dyslexia are going to struggle with both spelling and fluency. How can you accommodate?**

# Break

