

Purposeful Practice: Supporting Effective Word Reading for Students with Dyslexia

The present article provides teachers of students with dyslexia with knowledge needed to support students' word reading proficiency. In particular, educators will receive insight regarding how word reading skills develop over time, as well as information about the planning, instruction, and practice opportunities related to improved performance in word reading for students with dyslexia. The practices described can be helpful for any beginning reader, but are particularly important for students with reading difficulties such as dyslexia.

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Acquisition of Word Reading Skills Over Time

Accurate Reading

Text understanding, which is the purpose of reading, is a complex process facilitated by proficiency in foundational skills. Accurate word reading requires understanding that letters represent sounds, as well as some knowledge of commonly occurring letter-sound correspondences.

Specifically, all readers benefit from explicit word reading instruction, which includes direct instruction of the letter-sound correspondence and modeling how to apply the target letter-sound correspondence to decode a word that contains the target letter-sound correspondence. For example, consider the word *seat*. The letters *ea* most often represent the sound /ee/. Therefore, the word *seat* is pronounced /s/ /ee/ /t/ -> /seet/.

Using print-sound relationships, readers can transform a printed word to a spoken word by identifying individual sounds represented by a letter or letters and blending these sounds together to produce the word. The first attempt at reading a word may be incorrect, which requires readers to consider alternate pronunciations of vowel(s) or other likely pronunciations based on words in a reader's oral vocabulary. For example, a student may initially pronounce the word *was* as /w/ /ah/ /s/, but self-correct to /w/ /uh/ /z/ because that pronunciation of the unfamiliar word matches a word in their oral vocabulary. Over time, when provided with multiple opportunities for practice and immediate, specific feedback from a skilled reader, readers become increasingly independent in their ability to accurately decode unfamiliar words.

Hmm /w/ah/s/ isn't a word I know, let me try something else.

word	initial try	self-corrected
was	/w/ /ah/ /s/	/w/ /uh/ /z/



Efficient Reading

Students must demonstrate efficient word reading, or the ability to read words accurately, fluently, and with minimal effort. Accurate reading alone is insufficient for skilled reading. Rather, when word reading is efficient, students’ cognitive resources are free to focus on text meaning—the primary objective for reading. The more encounters readers have with a word, the more likely they are to accurately decode that word. Furthermore, repeated exposures to words support the likelihood that the word will become a sight word, or a word that can be instantly recognized.

Transfer to New Contexts

Beginning and struggling readers won’t always have the support of a skilled reader, nor is it reasonable for teachers to attempt to teach every spelling pattern or rule needed to accurately decode words. More specifically, readers must become increasingly independent in generalizing sounds associated with letters and understanding how positionality within a word can influence the sounds represented by a letter or letters (Compton et al., 2014; Perfetti, 1992). To support independence, readers should be provided with opportunities to develop efficient word reading, which can be facilitated by thoughtfully designed practice opportunities. For example, when learning that *ai* represents the long /a/ sound, readers should be exposed to words that have the target letter-sound correspondence in different positions of words (e.g., initial position *aim*, and medial position *paid*). Readers also should experience variation in the letters surrounding the target letter-sound correspondence (e.g., *ail*, *strain*, and *fair*).

Teaching for Transfer	
Target Letter-Sound Pattern: <i>ai</i>	
Position of Targeted Letters	<i>aim</i>
	<i>paid</i>
Variation in Surrounding Letters	<i>ail</i> <i>strain</i> <i>fair</i>

These variations support readers' successful recognition of the target letter-sound correspondence, regardless of its position in a word or the nuanced difference in pronunciation of the target letter-sound correspondence resulting from co-articulation of certain sound sequences (e.g., the influence of *r* in pronunciation of *ai* in *fair*). High variability in surrounding letters also provides readers with opportunities to discriminate the relevant parts (i.e., target letter-sound correspondence) from the irrelevant parts (i.e., other letters included in the word other than the targeted letter-sound correspondence), which may support readers in retention of the targeted word part or word (e.g., Mayer, 2002).

Purposeful Practice for Word Reading Proficiency

Explicit, systematic phonics instruction is widely supported as an effective instructional approach for teaching foundational skills of reading to students with dyslexia. One component of explicit instruction, purposeful practice, warrants further attention. Let's unpack how educators can design word reading opportunities likely to result in improved performance in word reading.



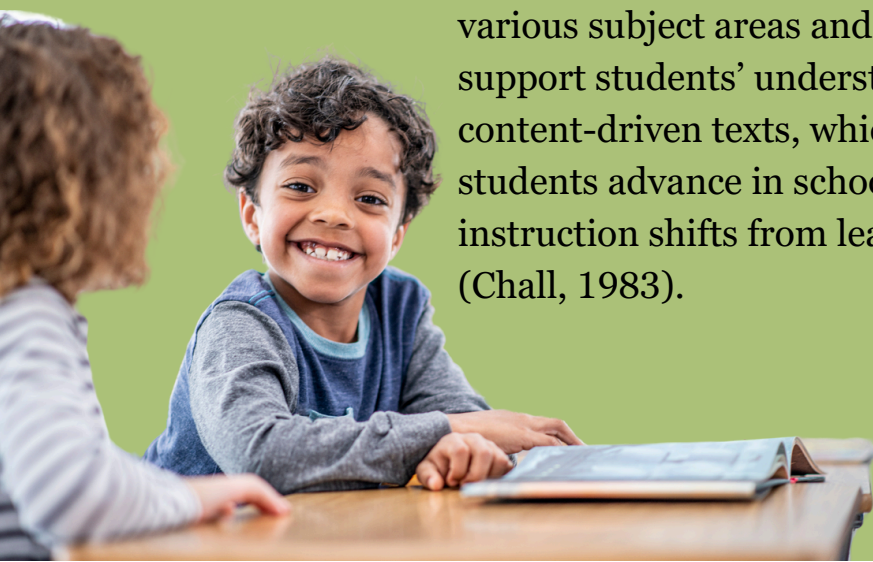
Which words to teach?
Decodable vs. Irregular
Frequency in Print
Relevance to Academic Subjects

Types of Words

Proficient text reading is supported by students' increasing repertoire of sight words, or words that students can instantly recognize. When selecting words for instructional purposes, it is important for teachers to consider the utility of words. For example, sight words can be decodable (i.e., letters contributing to a word represent their most common sound such as *get* /g/ /e/ /t/ --> *get*, in which each letter is represented by its most common sound.) or irregular (i.e., one or more letters contributing to a word represents a sound other than the most common sound such as *have*, in which "a" says its short sound /ah/, when it would be expected to say /ay/ given the consonant-vowel-consonant-silent e rule).

Also, words vary in the frequency with which they appear in texts. Irregular words, more so than decodable words, are critical for educators to teach, given that students might have more difficulty independently decoding words that contain less common letter-sound correspondences. Additionally, words that appear more frequently in texts are of higher instructional value due to the increased likelihood students will encounter these words when engaged in reading.

Finally, certain words contribute to understanding in academic subjects. Considering utility alone, teachers might consider providing decoding instruction that targets words associated with the unique topics addressed in grade-level content areas. Some examples of such academic words include *factor*, *landform*, and *hyperbole*. These kinds of words contribute to the domain-specific knowledge needed for performance in various subject areas and are also of high instructional value to support students' understanding of content-driven texts, which become increasingly common as students advance in schooling and the priority of reading instruction shifts from learning how to read to reading to learn (Chall, 1983).



Sources for Words

Planning effective word reading instruction requires access to words worth teaching. Many schools rely on existing word sets to support their efforts. For example, word sets authored by Dolch (1936) and Fry (2000) represent words that appear frequently in printed text. Additionally, Lexile® lists can be used to identify domain-specific knowledge relevant to grade-level learning.

Sources for words are merely a starting point for educators. That is, it is up to teachers to present the words in a manner that facilitates explicit, systematic phonics instruction to support accurate decoding rather than just memorization of whole words.

Creating Word Sets

You may choose to organize words around similar spelling patterns (e.g., “ea” represents the sound /ee/ like in *bead*, /eh/ like in *thread*, and /ay/ like in *steak*), similar sounds (e.g., the long /a/ sound can be represented by “ay” as in *plain*, “ai” as in *maid*, and “a-e” like in *fame*), or even a similar topic (e.g., when teaching about the solar stem, teachers may teach words like *planet*, *moon*, *gravity*, *star*, etc.). Regardless of your rationale for selecting a set of words, it is critical to identify specific letter-sound correspondences that need to be explicitly taught in order for students to experience success in reading the words selected.

Appropriate Number of Words for Practice

In order for readers to develop efficient word-reading skills, they must engage in multiple practice opportunities with immediate and specific feedback from a skilled reader. For typically-achieving readers, it is appropriate to teach sets of 7-10 words reflecting a given spelling pattern.

However, for students with dyslexia who have word reading difficulties, it is more appropriate to teach 2-3 words at a time (Vaughn & Bos, 2020).



Provide Multiple Opportunities for Practice

Opportunities to practice should be plentiful and can vary in presentation and process. Words can be presented in varied formats to support multiple practice opportunities, including flashcards and word lists. Words also can be presented in varied contexts including word-level, sentence-level, and decodable-text level. For example, to practice the short vowel sound for *a*, readers can be prompted to read words like *bat* or *act*, sentences like *Pat is at bat*, and in the context of a text like *Pat sat and sat. Mat is at bat. Pat will bat next*. When reading words that contain the target letter-sound pattern in the context of a text, it is important to ensure students have been taught to decode the non-targeted letter-sound patterns represented. For example, to read *Pat will bat next*, students must have been explicitly taught sounds corresponding to consonants (b, p, t, w, l, n, x) and vowels (short i, short e, and short a) that appear in the text. Whenever possible, words selected for instruction should be applicable across subject areas so they can be repeatedly used in both oral and written forms of communication, which will ultimately support retention of these words.

Provide Varied Opportunities for Practice: Spelling & Reading

Readers are likely to benefit from practice opportunities in which they are expected to read *and* spell words (e.g., Conrad, 2008). Spelling is more challenging than reading because it requires readers to produce a representation, whereas reading requires recognition of a presented visual. In addition, spelling requires a more complete visual representation of a word, which can support improved retention of the word and increase the likelihood it will become a sight word.

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Students can spell words using a variety of approaches to spelling words, including paper and pencil, keyboard, and manipulatives (e.g., letter tiles or letter-shaped magnets; Oulette & Tims, 2014; Weiser & Mathes, 2011). Teachers can orally present target words and encourage spelling by explicit phoneme-grapheme mapping (i.e., representing sounds with letter(s); Berninger et al., 1998; Ehri, 1998; Moats, 2004).

This involves the following steps:



Teachers may choose to use a **simple grid** in which each box represents one phoneme-grapheme correspondence to aid student success (Moats, 2005).

Swing

1. Teacher presentation of a word

2. Student repetition of the word

Swing

3. Student segmentation of phonemes in the word, representing each sound with a manipulative

T: What sounds do you hear in swing?

S: /s/ /w/ /i/ /ng/

T: Now, use a block to represent each sound.

4. Student representation of each phoneme with its corresponding grapheme

T: Let's represent all the sounds in swing, using letters this time.

T: What letter says /s/?

S: S!

Provide Opportunities for Review

Readers require multiple exposures to letter-sound correspondences and words before they are retained. Accordingly, readers benefit from opportunities to review taught letter-sound correspondences and words to support retention of targeted content. Research supports the use of distributed review, or review of previously taught letter-sound correspondences and words across many lessons (Dunlosky et al., 2013; Gerbier & Toppino, 2015). The increase in number of practice opportunities and variability in the content presented that are afforded by distributed practice—as opposed to massed practice (i.e., extensive review of content consecutively)—is likely to lead to a productive struggle in which readers must make an effort to recall the previously taught content. However, the effort required should fade over time as learning is retained and refined in long-term memory (Carpenter et al., 2012; Cuddy & Jacoby, 1982; Yan et al., 2017).

Evidence also recommends use of interleaved practice, or opportunities for review that are interspersed within application of new concepts/skills (Birnbaum et al., 2013; Lin et al., 2011; Nakata & Suzuki, 2019; Rohrer et al., 2019). For example, readers may have previously been taught that *ow* can represent the sound /oh/ (as in *row*) and now they are learning it can also represent the sound /ow/ (as in *how*). Review incorporating interleaved practice would consist of intentionally alternating which sound is represented by *ow*; for example—*snow, town, own, wow*. Interleaved practice requires students to repeatedly discriminate between the two pronunciations (Carvalho & Goldstone, 2014), which evidence suggests may support retrieval and storage more so than massed practice (i.e., practice with words in which *ow* represents /ow/ sound only—*frown, cow, tower*) or blocked practice (i.e., practicing words in which *ow* represents /ow/ sound followed by a series of words in which *ow* represents /oh/ sound—*brown, owl, flower; grow, low, bowtie*; Birnbaum et al., 2013; Lin et al., 2011; Nakata & Suzuki, 2019; Rohrer et al., 2019).

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Review often prompts readers to recall previously taught letter-sound correspondences or words; however, review also can be used to support transfer or generalization of learning to new contexts. For example, yesterday, a student was taught “y” sometimes represents the long /e/ sound and practiced decoding words that contain “y” pronounced as the long /e/, including *funky*, *silly*, and *chatty*. The next day, the student is presented with unfamiliar words that contain “y” representing the long /e/ sound: *chilly*, *funny*, and *berry*. Notably, the ability to transfer taught letter-sound correspondences to new contexts is precisely what is needed for students to become independent, proficient word readers.

Summary

Skilled word reading is facilitated by informed instruction.

When designing word reading instruction, teachers should consider

1. How word reading skills develop over time
2. Thoughtfully selecting and sequencing the words used for instruction
3. Providing plentiful, purposeful opportunities for practice of targeted letter-sound patterns and words in a variety of contexts

Efficient word reading enables students to prioritize their efforts toward reading for understanding.



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