<presidential presidents>

From the very beginning, literacy instruction must incorporate **orthographic phonology,** including the ways that the distinctive segments of spoken words (**phonemes**) are represented in written words by letters and combinations of letters (**graphemes**). These important **phoneme-grapheme relationships** are the focus of the instructional approach called "phonics."

Words in italics (*cat)* refer to a word, including its meaning.

Angle brackets < > indicate a reference to the written letters inside the brackets. So <cat> refers to a written form—the letters C A T, not the meaning or pronunciation of that word.

Slash brackets / / indicate phonemes or pronunciation. So /k/ refers to the phoneme that is the first segment of the spoken word *cat*, and /kæt / refers to the pronunciation of the whole word *cat*, using **IPA symbols**.

But to help each and every student learn to read and spell, we need to consider two questions: [1]

1. Are we preventing students from fully understanding and being able to use phoneme-grapheme relationships when we teach those relationships in isolation (as phonics does)?

2. Are we misguiding students by directing them to spell a word by starting with its pronunciation, in isolation?

Here's an example of how this plays out. During a word game recently, one of my teammates misspelled <president> as *<presedent>. (The asterisk indicates that the written form inside the angle brackets is not standard—here, it's noting a spelling error.)

My intelligent, professional, dyslexic teammate received years of good Orton-Gillingham-based instruction and he's a skilled reader but often misspells words. In *<presedent> there's only one error, and that error is a logical result of learning phoneme-grapheme relationships in isolation and of being taught to spell words by starting with their pronunciation.

My teammate was taught phoneme-grapheme relationships systematically and explicitly, and he memorized and at one point could write all of the graphemes that can represent the phonemes of English in order of estimated frequency and usage. But even after committing that detailed knowledge to memory (through years of effort), when that knowledge is applied to the pronunciation of *president* in isolation, there's no way to understand why an <i> is representing the neutral, unstressed pronunciation of the medial vowel in *president*. That neutral pronunciation is called a **schwa** and it can be spelled with many different vowel graphemes. Understanding the schwa is a critical aspect of understanding English because the schwa is the most common vowel articulation in spoken English.[2]

In reality, anyone trying to spell <president> by starting with pronunciation must memorize the <i> by rote, even with an in-depth understanding of phoneme-grapheme relationships. You may think that you can discern the presence of an <i> from the pronunciation of *president*, but that's unlikely; in my American dialect, the medial vowel in *president, decadent* and *precedent* is pronounced virtually the same, but those schwas are spelled differently. Anyone who can articulate those words to differentiate the vowels <i, a & e> for spelling can probably do that because they already know the spelling of the words! That's no help to someone trying to spell a word from its actual pronunciation in speech.

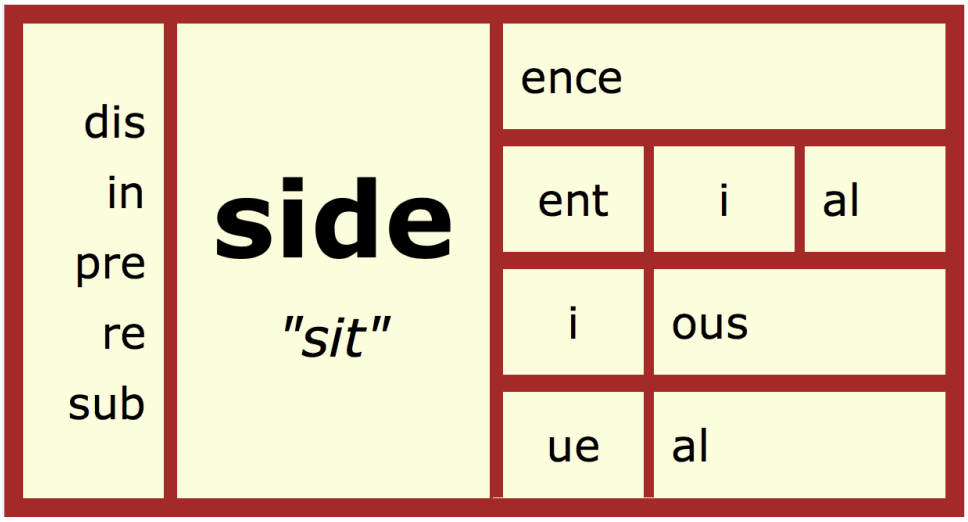
But the grapheme <i> in <president> makes perfect sense if we first look at the word's structures (the **morphemes** that comprise it), and its relationship to other words with the same structural anchor.

Here's one possible **lexical word matrix** for this structural family.

Notice how the word <president> is built using structures (morphemes) shown in this matrix.

pre + side/ + ent → president

(The slash mark / after <side> indicates replacement of the final <e> in that element with the vowel suffix that follows.)



This base element <side> comes from Latin *sedere* and has an **orthographic denotation**—a deep sense & meaning—of "sit" which is listed in the **banner** of this matrix under the name of the base. All words built from this base will have some connection to the idea of "sitting." So *preside* has a sense of "sitting in front of" and a *president* is denotationally the person who "sits in front of" an organization, serving as its presiding officer.[3]

The base <side> in this matrix is "**bound**," meaning that it does not appear as a word by itself in English; it only appears bound to another element. And this base is different than the **free base** <side> as in "the left *side* of the brain" which comes from Old English and has a different sense & meaning.

So what does all of this have to do with phoneme-grapheme relationships?

Structural families like this one provide a context, a framework, and concrete anchors for understanding phoneme-grapheme relationships and for spelling words which contain a schwa. (And remember—the schwa is the most common vowel pronunciation in spoken English.)

When students understand the relationships between *preside*, *president* and their broader morphological (structural) family, they can use their understanding of phoneme-grapheme relationships to reconstruct the <i> in the spelled word <president>. Only an <i> makes sense in the written words <preside, reside & subside> which are pronounced with a "long i." Since the written word <president> is built by combining a **stem** <preside> and a **suffix** <ent>, students can understand why <i> represents the schwa in <president>, even though a schwa can be spelled in many different ways.

And although my teammate had memorized the spelling of suffix <ent> in <president> (or perhaps made a lucky guess), if spelling were based on the pronunciation of a word in isolation, the suffix in *president* could also be spelled <ant>. The unstressed suffixes <ant & ent> are often indistinguishable in spoken words. Compare *abundant, dependent, pleasant, consistent* and *hesitant*.

But again, we can understand why an <ent> makes sense in <president> when we think about the structurally related spoken word *presidential*. Here are the written structures.

presidential → pre + side/ + ent + i + al

In the spoken word *presidential,* the **stress** has shifted and the <e> in the stressed suffix <ent> is pronounced as a "short e." Based on the pronunciation of *presidential*, we can understand that the spelling <ent> makes more sense than <ant> in <president>. To get that understanding, though, we need to start with one of the foundational concepts of the English writing system.

English maintains consistent spelling of written morphemes (elements) in structural families whenever possible. The spelling of elements generally stays the same even when their pronunciation shifts, other than predictable changes due to suffixing conventions.[1]

Knowing this, a student has an anchor for the spelling of suffix <ent> in <president>: the default, expected phoneme-grapheme relationship for <e> (in the <ent> suffix) in <presidential>. We can assume the same spelling for that suffix in all words in this structural family.

The relationships between words in the morphological family of <president> also make it obvious why we spell <presidential> with a <t> and not a <ch>. And when we analyze the pronunciation and spelling of *dissident* and *subside* , we can understand why there is an <s> rather than a <z> for the phoneme /z/ in <president & resident>. Structures also clarify why there are two <s>'s in the spelling of <dissident> even though the phoneme pronounced /s/ can be spelled with one <s>.

dissident ➞ dis + side/ + ent

If this is making sense to you but you're wondering why you've never seen phoneme-grapheme relationships framed in this way, start watching for articles and discussions about the importance of morphology and etymology in literacy instruction. They are popping up more and more frequently.

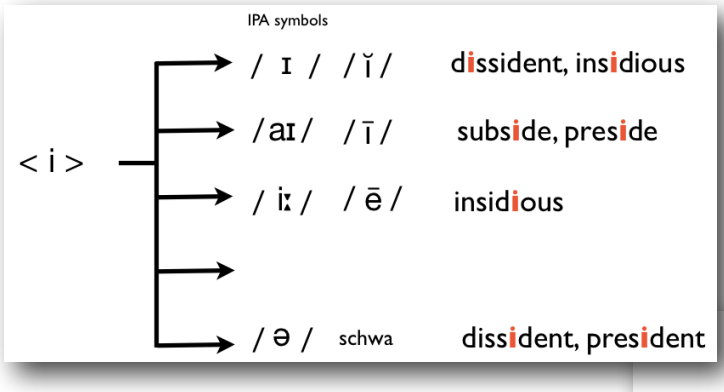
Unfortunately, though, during discussions of these topics, comments about the importance of morphology and etymology are often dismissed, or the discussions become sidetracked, because of misapprehensions that an argument is being made for a "morphology first" approach or for memorizing morphemes as units without attention to phoneme-grapheme relationships. I don't know anyone who is suggesting that we teach morphology by itself, first, or that we should have students memorize morphemes as units without attending to phoneme-grapheme relationships, or that it's helpful to teach the etymology of words as isolated facts. And this is also not a suggestion to simply teach lists of morphemes earlier, alongside traditional phonics instruction.

Instead, a proposition is being put forth that, from the beginning, we should teach the vital phoneme-grapheme relationships of English ***in the context of the organizing principles of the writing system***—morphology, etymology and more—which would allow all students to understand the coherence of the English writing system, and would unlock understanding as to ***why*** a particular phoneme-grapheme relationship is in any given word.

You've already seen some evidence to suggest that studying a morphological family of words might facilitate deep, accurate, and effective understanding of the phoneme-grapheme relationships in that word family. But let me describe how we can use a word family as a framework for systematic, direct and explicit instruction focusing on phoneme-grapheme relationships as they apply to the whole writing system, and in a manner that will be much more concrete than traditional approaches.

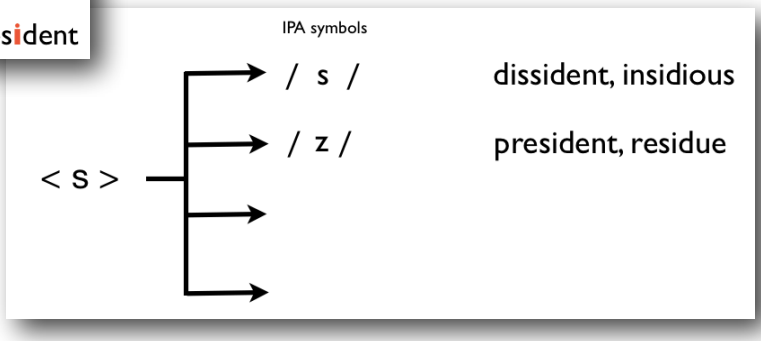
In most systematic instruction, students will learn that in English, graphemes can often be pronounced several different ways. In traditional approaches, students are generally taught those relationships one at a time, in isolation (as my teammate was). But by studying a morphological family and the various pronunciations of a grapheme ***at the same time***, students can use structurally related families of words—and memorable, specific words within them—as concrete anchors for phoneme-grapheme relationships. This allows them to understand and reconstruct those abstract, flexible, integrated relationships as needed, rather than just memorizing them as isolated facts. (And the phoneme-grapheme relationships in English, considered separately, can number over 100 depending on how they are categorized.[4])

For example, in the structural family of the base element <side> there are words with three pronunciations of <i>, as well as words where the <i> is pronounced as a schwa.



When I work with students, I always try to alert them to the possibility that there can be more pronunciations of a grapheme than the ones that we're studying at the moment.

In the case of grapheme <i>, there's at least one more pronunciation that's not listed in this grapheme-phoneme diagram.



This family also provides concrete anchors for two pronunciations of a grapheme <s>.

And there is evidence in the broader writing system for at least two more pronunciations of <s> than those shown here.

When students work with grapheme-phoneme charts like these, they are constantly reminded that there can be more than one way to pronounce a grapheme and are prompted to be on the lookout for those relationships.

This type of study also develops vocabulary and primes students for comprehension in powerful ways. What does the word *dissident* have to do with the sense & meaning of "sit" that we find in all of the words in this morphological (structural) family?

Here's what my Mac dictionary has to say:

dissident | ˈdɪsədənt |

noun

a person who opposes official policy, especially that of an authoritarian state: *a dissident who had been jailed by a military regime*.

adjective

in opposition to official policy: *there is only one explicitly dissident voice to be heard*.

ORIGIN

mid 16th century (in the sense 'differing in opinion or character'): from Latin ***dissident-*** 'sitting apart, disagreeing', from ***dis-*** 'apart' + ***sedere*** 'sit'.

Source: Apple dictionary

So a *dissident* is denotationally someone who "sits apart" from a policy that he or she disagrees with.

What about the rest of the morphological family?

When we *reside* somewhere, it's not just that we live there; there's a sense that we've "sat down" or "settled" there.

reside (v.)

late 15c., "to settle," from Middle French *resider* (15c.) and directly from Latin *residere* "sit down, settle; remain behind, rest, linger; be left," from *re-* "back, again" (see **re-**) + *sedere* "to sit," from PIE root ***sed-*** (1) "to sit." Meaning "to dwell permanently" first attested 1570s. Related: *Resided*; *residing*. Also from the French word are Dutch *residieren*, German *residiren*.

Source: etymonline.com

The word *residue* passed through French on its way to English, acquiring the suffix <ue> and a sense of "what remains behind" after things settle. And when something *subsides,* there's a sense that it's "sitting down" or "settling under."

We could look at each word in this family, and notice its connection—at least a faint one—to the sense of "sit." For the interpretations I've listed above, I've used my understanding of these words and also used etymonline.com as a reference. You can visit etymonline.com to see what this rich resource offers.

Etymology is necessary if we want to understand the denotations of words and their relationships to other words—both historically and in present day English—and etymology reveals morphological families. It doesn't give us the structure of words, but it provides vital evidence needed to confirm or reject a scientific analysis of a word's structure and allows us to find the orthographic denotation and relatives of words. Study that is grounded in morphology and etymology can deepen and rapidly expand vocabulary knowledge for students.

So this points to yet another important aspect of studying phoneme-grapheme relationships in the context of morphology and etymology: learning words within these accurate contexts not only develops spelling and comprehension of words that are the focus of study at the moment, but it prepares students to make sense of words that may be encountered years later. It helps students understand the writing system itself and primes them to think morphologically and etymologically, unlocking comprehension and spelling of the words they will encounter for the rest of their life.

Because, unfortunately, although students may work hard to memorize all the details of words like <president> and may appear to have things sorted out during the isolated, intensive practice of systematic instruction, they will still make spelling errors later on as my teammate did. And traditional instruction, isolated from morphology and etymology, does not provide tools for understanding errors or resolving confusion. Instead, there is far too much reliance on multisensory methods for rote memorization.

So let's return to the possibilities we started with. When we teach phoneme-grapheme relationships in isolation (as in systematic phonics), are we in fact preventing students from fully understanding and being able to use them? And are we misguiding students by directing them to spell individual words by starting with the pronunciation of the word, in isolation?

Virtually everyone in the dyslexia and literacy world will agree that phoneme-grapheme relationships are a critical component of effective literacy instruction and that they must be studied from day one. Phonics is an instructional approach that attempts to do that. But I would encourage you to notice what's working and what's not working for students who have learned about phoneme-grapheme relationships in isolation, outside the context of word families and in the absence of morphology and etymology. You will see evidence that students often cannot understand the reasons for the particular graphemes in words, and thus are not able to use even detailed knowledge of phoneme-grapheme relationships to spell, write (and read) accurately.

Without a context for understanding why an <i> or an <e> or an <a> represents a schwa in a word or why there are two <s>'s in some words (<dissident>) and one in others (<disinfect>), students, teachers and parents are stuck with tedious, rote memorization as a significant component of spelling, even after systematic instruction in phoneme-grapheme relationships. Those of us with good orthographic memories may not even notice as we easily memorize many seemingly random aspects of the spelling of words, but that's not the case for my dyslexic students.

And this leads us to the most important issue of all. When we tell students that they ***should*** be able to

spell words by starting with pronunciation, we set them up to believe that something is wrong with them when they can't spell <president> accurately even after they've worked so hard to learn and practice, over and over, the phoneme-grapheme relationships, the "rules," and the patterns traditionally taught for spelling. Even using techniques to systematically analyze each syllable and segment of a spoken word, and even when they are successful during carefully planned lessons, students are doomed to failure when they are working independently, because they will frequently encounter this neutral schwa.

However, if my extremely intelligent dyslexic teammate had been taught how phoneme-grapheme relationships—including the schwa—make sense ***in the context of morphology, etymology, spelling conventions and other drivers of the English writing system***, then it would be a fairly easy task for him to use his understanding of those relationships to accurately spell words like <president, different, congratulations, medal, metal, accommodations> and so many more, building on his intelligence, logical thinking, ability to see meaningful patterns, and to remember things that make sense.

Morphology is a hot topic in the dyslexia and literacy world, and etymology is just as important. And what you're seeing here is only part of the reason why.

So here's my challenge for you: if you are committed to a scientific foundation for reading and spelling instruction, then consider the proposition that if we want all students to learn to use the writing system effectively—reading independently with good comprehension and writing complex text with accurate spelling—we need to use scientific thinking to evaluate our own assumptions about what drives the writing system. If we can understand the system better ourselves by framing phoneme-grapheme relationships (accurately) within the context of morphology, etymology and more, then why wouldn't we show this to students from the beginning of instruction? It's very likely that this shift in perspective would transform literacy instruction for many of the students we are trying to help.

Because if I'd known all of this 20 years ago, my teammate—who also happens to be my son—would not only be spelling words today more easily, but he'd understand exactly why his mother is so determined to help parents and teachers see two things: 1) how coherent and satisfying the writing system is when we understand the framework that allows phoneme-grapheme relationships to make sense—morphology, etymology, conventions and more, and 2) how we can use the understanding of that framework to help all students, especially those who are dyslexic.

[1] For more on the theoretical and research basis for these questions, and the consistent spelling of morphemes in the English writing system, see Bowers, J. S., & Bowers, P. N. (2017). Beyond phonics: The case for teaching children the logic of the English spelling system. *Educational Psychologist*, *52*, 124-141 http://files.realspellers.org/PetesFolder/Articles/Beyond_Phonics_Bowers_Bowers_2017.pdf

[2] Yule, G (2014). The Study of Language (5th ed.). New York: Cambridge University Press.

[3] An etymological dictionary provides information to identify an orthographic denotation. https://www.etymonline.com/word/preside#etymonline_v_19458

[4] To see one way that the phoneme-grapheme correspondences in English can be categorized and listed: https://www.maine.gov/doe/ela/documents/activity4.rtf

Read more at learningaboutspelling.com. And contact me with questions or comments at learningaboutspelling.com/contact.