

Decoding at the Secondary Level

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Decoding, or word identification, is the ability to decipher a particular word out of a string of letters. According to the National Institute for Literacy, approximately 10% of all adolescents struggle with word identification skills, an estimate likely higher if you look at only struggling adolescent readers (National Institute for Literacy, 2007). Imagine that you have 100 students in your classroom every day, at least 10 of them could be struggling with a word level deficit. If they're struggling with the words, there could also be deficits in comprehension, vocabulary and fluency. Sometimes even if they know the word in conversation and were paying attention in class (their listening vocabulary), they are unable to decode it in print. Photosynthesis starts with a 'p'? (Just tell them, "Yep, just like phone.")

I started my career teaching middle school English and literature. I earned my master's degree in reading in order to be a better English teacher, not to be a reading specialist. Eventually (a long story that involves kids, daycare and a surprise twist) I transitioned into a K-12 district reading specialist, which evolved into teaching 6-12 literacy intervention in West De Pere, Wisconsin, a rapidly growing district in suburban Green Bay. We have approximately 3400 students, are bursting at the seams, and are about to break ground to build an intermediate school. Our administration is supportive of literacy and we are constantly striving to do what is best for our students.

When I started the transition from English teacher to reading specialist, the learning curve was high. I had been using my master's knowledge for comprehension only. I probably passed tests about fluency and decoding, but I confess it never occurred to me to integrate that into my classes. I joke about how I want to call my former students to see if they'll come to my house on Saturday mornings because "I know what to do now!" Decoding is a critical part of comprehension and many of our students struggle with it.

The Two Parts of Decoding

<u>Letter Sound Relationship</u>	<u>Word Analysis</u>
<ul style="list-style-type: none">• Alphabetic principle• Phonemic awareness	<ul style="list-style-type: none">• Sight/high frequency words• Word families• Prefixes/suffixes• Root words• Six syllable types

Letter-Sound Relationship. The letter-sound relationship is knowledge of the letters or groups of letters which represent the individual speech sounds in language.

1. *Alphabetic principle* is the understanding that letters represent sounds which form words and the knowledge of predictable relationships between written letters and spoken sounds.
2. *Phonemic awareness* is the understanding that spoken words are made up of individual units of sound, called “phonemes.”

The majority of adolescent students will not need remediation at this level, but for those who do, this section will provide strategies that will support them in decoding new words and syllables in a text.

Readers who are phonemically aware understand that three phonemes, /b/, /a/, /t/, form the word ‘bat’ and that the word ‘bath’ also has three phonemes because /th/ is one sound. Readers who are phonemically aware are also able to identify and manipulate sounds. They can replace the initial sound /b/ in “bat” with a /p/ to make a new word, “pat.” They can replace the medial sound /a/ in “pat” with an /i/ to make “pit”. They can make the word “pin” by replacing the final sound /t/ in “pit” with an /n/.

These skills are typically acquired in kindergarten and first grade. If older students did not fully develop their phonemic awareness as young children, they can experience

difficulty with decoding when they encounter unfamiliar words. This weakness becomes especially apparent as they encounter new, multisyllabic words. Shaywitz (2003) asserted that students unsuccessful in reading words unfamiliar to them might also struggle with poor phonemic awareness skills. This is especially complicated for older readers with dyslexia. Students with significant gaps may require a systematic intervention taught with fidelity by a trained reading specialist using the following strategies and activities to break the letter-sound code:

1. *Tapping sounds.* I learned about tapping sounds when I was trained in the Wilson Language System. Students use their fingers to tap out the sounds in a word or syllable. For example, for the word “bat,” tap a different finger for each sound in the word: three taps for three sounds. The kinesthetic aspect of tapping provides an additional sensory input to simply hearing the sounds. An example of a script for tapping sounds is as follows:

Teacher: Say “blast.”

Student: “Blast.”

Teacher: Tap the sounds in “blast.”

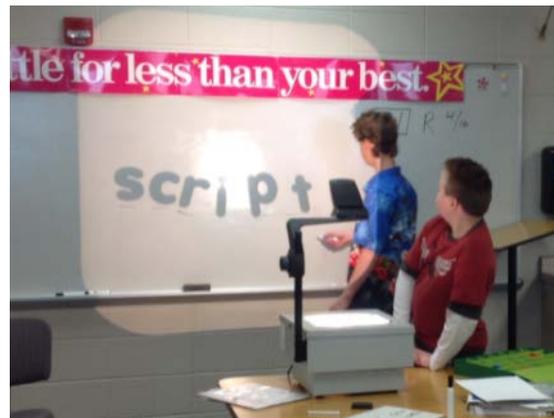
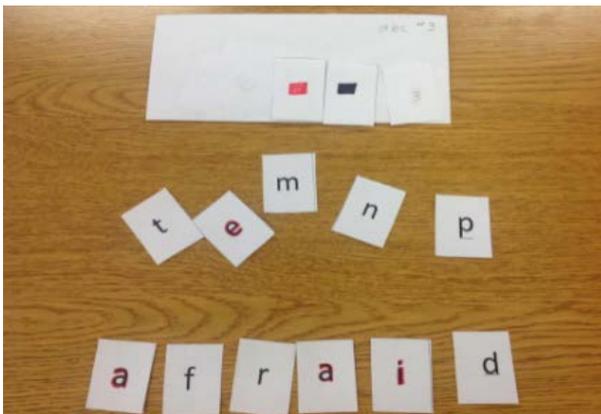
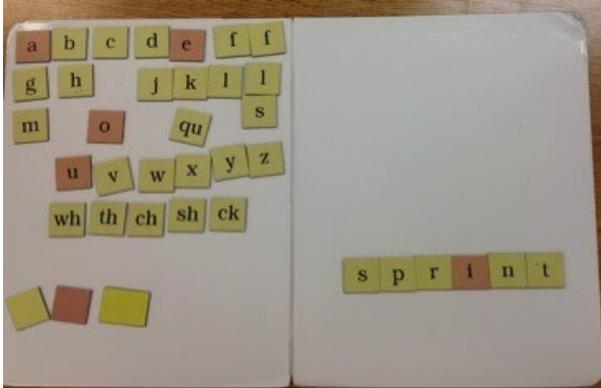
Student: (touching pointer finger to thumb) /b/, (middle finger to thumb) /l/, (ring finger to thumb) /a/, (pinkie finger to thumb) /s/, (pointer finger to thumb, again) /t/.

Teacher: Now put it all together.

Student: (running thumb along tips of fingers) “Blast.”

When I started teaching Wilson at the high school level, I wasn’t sure how open the students would be to doing this. Would they think it was babyish? Maybe they did (they probably did), but they also knew they needed help and that I rarely saw a reluctant attitude (although I could tell you stories about “reluctant attitudes”). Teachers in the building would even tell me that they noticed my students putting their hands under the desk and tapping a word or a syllable when they needed to.

2. *Manipulatives: Letter tiles and magnetic letters.* Make or buy letter tiles or magnetic letters, using one color for consonants and another (preferably red) for vowels. Identifying consonants and vowels by color helps students with the concept that we read by syllables and that every syllable has a vowel sound.



Students make words using Wilson Language System tiles, magnetic letters, cut out letters and an overhead projector.

3. *Word ladders (aka laddergrams, word-links, word golf, doubles).* This game requires players to get from the predetermined first word to the predetermined final word by guessing hints and changing one letter. For example:

Turn CAT into DOG:

CAT

___ (hint: a small bed)

___ (hint: a round mark)

DOG

Besides being (English teacher) fun, word ladders facilitate students' understanding of common letter patterns that make up words. They can be played individually or in teams.

Cunningham's (2000) book *Systematic Sequential Phonics They Use* introduces another type of word ladder she calls "Making Words". In this version, students read or listen to clues and use the provided letters to form the answer word. This book includes activities appealing to kindergarten students as well as older struggling readers and second-language learners.

In the following example inspired by Cunningham's model (McKnight and Allen, 2018), students use six letters to build ten words. Notice that each hint is followed by an example of the target word used in a sentence. Through following the series of instructions, the word making progresses from *at* to *paint*:

Letters: a i t s p n

- a. Take 2 letters and make the word **at**. (Practice is **at** 4:00.)
- b. Change one letter and make the word **it**. (**It** is important to be on time.)
- c. Add one letter and make the word **pit**. (Get there early to help with the high jump **pit**.)

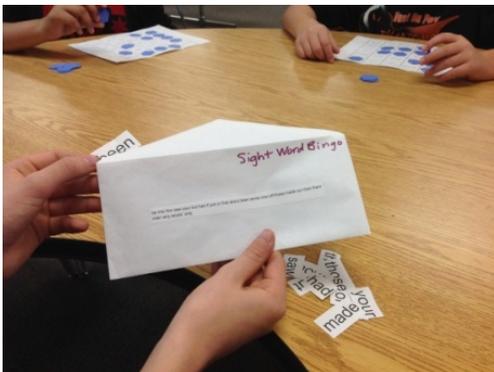
- d. Change one letter and make the word **pat**. (The recipe in F.A.C.E. called for one **pat** of butter.)
- e. Add one letter and make the word **spat**. (Usually they're best friends, but they're having a little **spat** right now.)
- f. Change one letter and make the word **span**. (The Olympic swimmer Michael Phelps has an arm **span** of 6' 7".)
- g. Take out one letter and make the word **pan**. (If you all pass the test, I will bring a **pan** of chocolate brownies.)
- h. Change one letter and make the word **pin**. (Bring in a baby picture and we will **pin** them all on the wall.)
- i. Add one letter and make the word **pain**. (Her injury is causing a lot of **pain**.)
- j. Add one letter and make the word **paint**. (We get to **paint** in art class today.)

Word Analysis. Adolescents who struggle with reading typically do not struggle at the phonetic level but with the more complex task of word analysis. If they cannot read 70 percent of the words on standardized lists, some weakness in word recognition or identification is suggested. Caldwell and Leslie (2009) use this approach to identify older students who need reading intervention.

Allington (2012) claims in his most recent edition of *What Really Matters for Struggling Readers* that students need to accurately read 98 percent of the words on each page in order to be considered independent readers of that text. His earlier studies indicated a slightly lower threshold of 95 percent. It is critical for readers to develop word recognition competency:

1. *Sight/high frequency words.* These are words students need to be able to recognize “by sight.” This is especially important as many sight words do not follow the phonics rules. For example, why isn’t *would* spelled *wud* and why isn’t *of* spelled *uv*? The ability to decode these words automatically helps build fluency and increases the level of engagement in a text to deepen comprehension. They shouldn’t have to slow down and use cognitive energy to decide if the word is *where* or *were*.

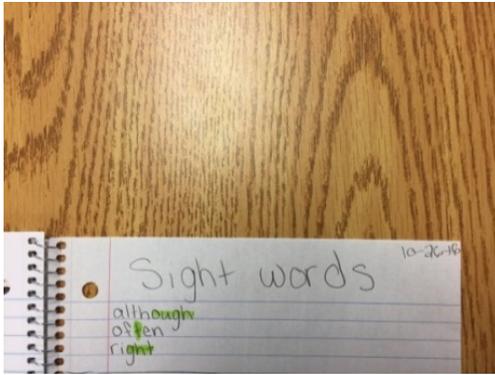
In the 1950s (updated in the 1980s), Edward Fry developed a list of the most common words to appear in reading materials in grades 3-9. He advocated that learning all 1,000 words would equip these students to read about 90% of the words in a typical book or newspaper. This link to the [Fry List](#) will take you to a website with the lists, lessons, flashcards and games.



Students play Sight Word Bingo



Students time each other with their personalized sight word deck.



A student highlights “the tricky part” of a sight word.

2. *Word families.* Word families/phonograms/rimes/chunks share a pattern of letters. The “chunk” begins from the vowel and goes to the end of the word or syllable. A simple word family is *-at*. Words like *bat*, *cat*, and *mat* belong in the *-at* word family. These are simple words, but once a student is familiar with the 30 or so most common word families, they can use them to help decode many words. Word families work in syllables, too. The word family *-at* can help students decode words like *batten*, *battery*, *category*, *patronize* and *attentively*. If they recognize the /at/ together as one unit instead of /a/ and then /t/, it will be easier to decode higher level words with greater fluency.

Word Family Examples (McKnight and Allen, 2018):

-ack: pack, attack

-all: hall, install

-ain: rain, complain

-ake: cake, awake

-ate: gate, debate

The 37 most common word families in English (Wylie & Durrell, 1970):

ack, ain, ake, ale, all, ame,

an, ank, ap, ash, at, ate,

aw, ay, eat, ell, est, ice,

ick, ide, ight, ill, in, ine,

ing, ink, ip, it, ock, oke,
op, ore, ot, uck, ug, ump, unk

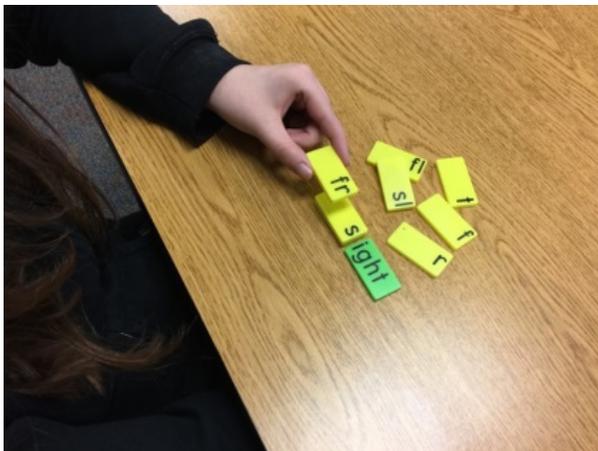
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Word Families			
en	at	er	is
enter adventure entire beaten	Satisfy Satisfaction matter attitude	other Service matter Wonderful	whisper blister mistake Satisfactory

A student sorts for and highlights the word family.



Students play Scrabble Slam! with word families.



A student makes words using word family tiles.

3. *Prefixes and suffixes.* Another word analysis tool is to look for affixes, letter(s) added to a word that changes the meaning. Prefixes are found at the beginning of a word and suffixes are found at the end of a word. The most common prefix is *un-* which means *not* or *opposite of*. When you add the prefix *un-* to the word *constitutional*, you have a new word, *unconstitutional*—not or the opposite of constitutional.

If we teach our students the meaning of common prefixes, we can help them understand the meaning of words:

Top Ten Prefixes	
<ul style="list-style-type: none"> • un - not, opposite of • re -again • in, im, ir, il - not • dis - not, opposite of • en, em - cause to 	<ul style="list-style-type: none"> • non -not • in, im - in or into • over - too much • mis - wrongly • sub - under

Suffixes are added at the end of words. There are noun suffixes (runner), adjective suffixes (wonderful), adverb suffixes (happily) and verb suffixes (writing). Adding a suffix sometimes changes spelling: consonant doubling--run, runner; change y to i--carry, carried and deleting the silent e--write, writing.

Like prefixes, a suffix can help students understand the meaning of words:

Top Ten Suffixes

- | | |
|---|--|
| <ul style="list-style-type: none"> • s, es - plurals • ed - , past-tense verbs • ing - verb form/present participle • ly - characteristic of • er, or - person connected with | <ul style="list-style-type: none"> • ion, tion, ation, ition - act, process • ible, able - can be done • al, ial - having characteristics of • y - characterized by • ness - state of, condition |
|---|--|



Students play games and manipulate tiles to form words with prefixes & suffixes.

4. *Root words.* Noticing root words can help students decode. A root is the basis of a word that holds meaning, but isn't usually a word by itself. The root word *sist* means to make firm, to stay, but there is no such word as *sist*—you have to add prefixes and suffixes as in *insist*, *persisted*, *desist*. When we teach our students to recognize root words (which are short) and to recognize prefixes and suffixes (which are short and relatively easy), they will be able to decode a long word like *inconsistently* as *sist* with prefixes and suffixes.

The meaning of the root can help students solve words.

struct- build—construct, deconstruct, deconstruction

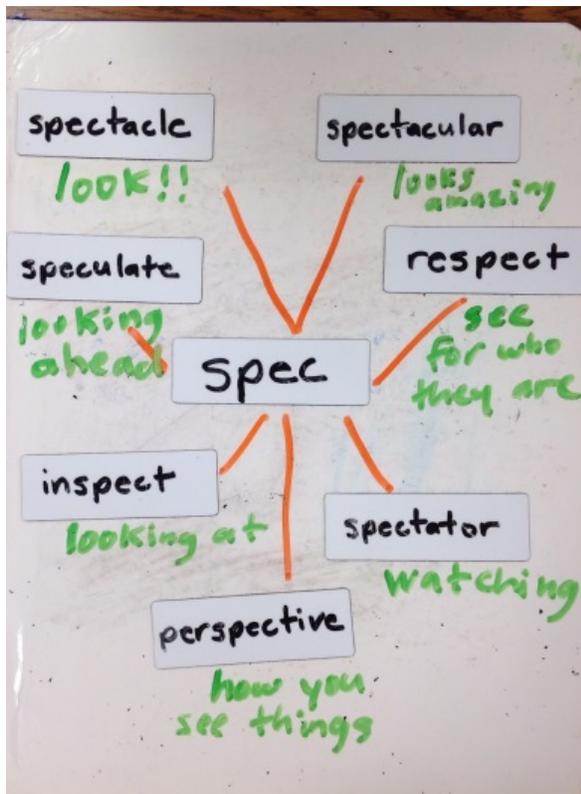
rupt- break—erupt, disrupt, disruption, interrupt

flex—bend—flexible, inflexible, flexibility

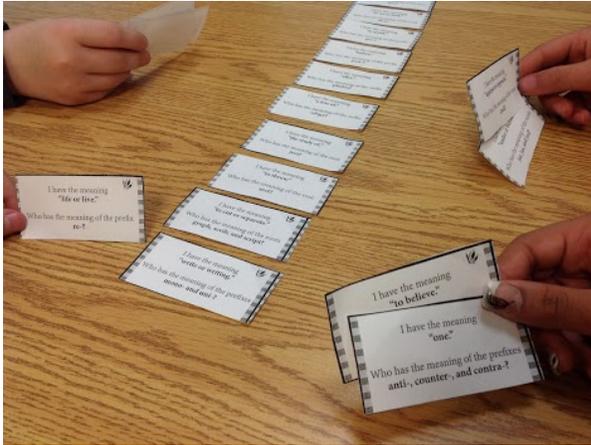
sect- cut—section, dissect, bisect, sector, intersection

scrib-write—scribble, script, inscription

pend-hang—pendulum, pending, suspenders



Word map with root “spec”



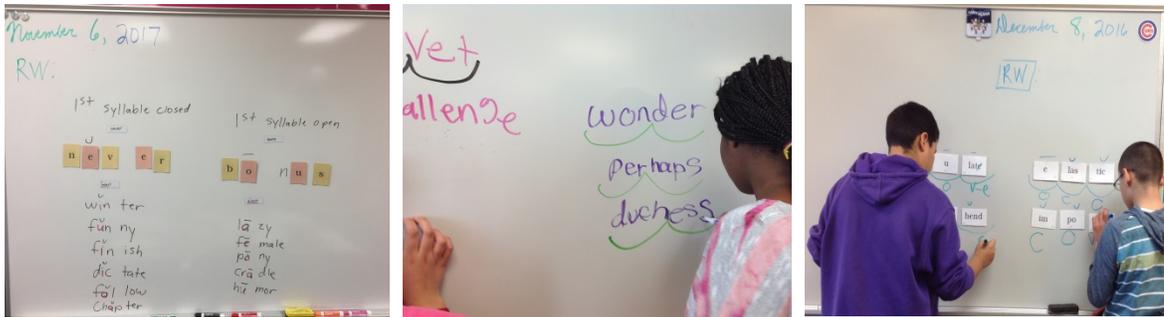
I Have, Who Has with root words

5. *Six syllable types.* “Secondary students encounter 10,000 or more new words per year in their content area texts”—most are multisyllable (Hougen, 2015). If they have not internalized the information that every syllable has a vowel sound and that we read words by syllable, they need explicit instruction regarding the six syllable types and the vowel sounds. When they see the word “accomplishment,” they might just see a long string of letters and either take a guess or go ahead and skip it. I had a sophomore who could shoot out four or five long words that started with the same letter as the word he was trying to decode. His first word analysis strategy was rapid-fire guessing—and he knew a lot of big words; he just couldn’t read them. If we can prompt students by saying, “All the syllables are closed,” they can start at the beginning of the word and read across it, knowing all the vowels will be short.

Syllable Types: The Clover Model

Closed got
-Le goo-**gle**
Open go
double Vowel goat
v-E globe
R-controlled glory

My colleague, Missy Hagel, made a ThingLink [Clover Six Syllable Types](#) that explains the six syllable types.



Students divide by and scoop syllables.

Conclusion

“Secondary students with reading difficulties commonly have difficulties with decoding and fluency, which results in poor comprehension” (Hougen, 2015). Reading involves a complex combination of word analysis and comprehension strategies. Core teachers can use explicit instruction in word recognition and vocabulary (decoding). We can assist our students with word analysis by breaking down content words and drawing attention to suffixes, prefixes, root words and syllables. We can’t pretend we don’t know that many struggle at this level. Reading instruction needs to continue into middle and high school in order for them to meet the rigorous challenges they face in school and eventually allows them to meet the increasing demands for literacy in the workforce. It is our responsibility.

References

- Allington, R. L. (2012). *What really matters for struggling readers: Designing research-based programs* (3rd edition). Allyn and Bacon.
- Caldwell, J., & Leslie, L. (2009). *Intervention strategies to follow informal reading inventory assessment: So what do I do now?* Pearson.

Cunningham, P. M. (2000). *Systematic sequential phonics they use: For beginning readers of any age*. Carson-Dellosa.

Hougen, M. (2015). *Evidence-based reading instruction for adolescents grades 6-12*. CEEDAR Center. https://cedar.education.ufl.edu/wp-content/uploads/2015/05/IC-13_FINAL_05-26-15.pdf

McKnight, K. S. and Allen, L. H. (2018). *Strategies to support struggling adolescent readers, grades 6-12*. Rowman & Littlefield.

National Institute for Literacy. (2007). Key literacy component: Decoding. Retrieved January 30, 2020, from <http://www.adlit.org/article/27875/>.

Shaywitz, S. E. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. A.A. Knopf.

Wylie, R. E., and Durrell, D. D. (1970), Teaching vowels through phonograms. *Elementary English*, 47, 787-91. Retrieved from the Education Source database. (Accession No. 519615081)