illuminating language

Creating Word Consciousness
Priming the Pump for Vocabulary Development

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Outside-In Strategy for Word Learning
(Ebbers & Denton, 2008)

1. Look **outside** the word at context clues.

2. Look **inside** the word for meaningful word parts.

3. Combine the clues. Use the analogy strategy. Infer word meaning.
   
   This only works about half the time, for average readers in middle school.
Joe and Stan arrived at the party at 7:00 o’clock. By 9:30, the evening seemed to drag for Stan. But Joe really seemed to be having a good time at the party. “I wish I could be as gregarious as he is,” thought Stan.

Adapted from Bringing Words to Life Beck, McKeown, and Kucan, 2002
Joe and Stan arrived at the party at 7:00 o’clock. By 9:30, the evening seemed to drag for Stan. But Joe really seemed to be having a good time at the party. “I wish I could be as sociable as he is,” thought Stan.

Adapted from Bringing Words to Life Beck, McKeown, and Kucan, 2002
Different Goals ➔ Different Strategies ➔ Different Results

“Explicit word instruction is more effective and efficient for teaching specific words and increasing text comprehension but has little generalization power.

Source: Baumann, Edwards, Boland, & Olejnik, 2003, p. 452

And see the book *Teaching Individual Words: One Size Does Not Fit All* (Graves, 2009)
Morphemic analysis in context presents the potential for students to acquire many new word meanings independently and also to enhance comprehension, but it is not nearly as efficient as explicit instruction for learning a given word.”

Source: Baumann, Edwards, Boland, & Olejnik, 2003, p. 452
Standing with God and the crushed and bleeding slave on this occasion, I will, in the name of humanity which is outraged, in the name of liberty which is fettered [held back], in the name of the constitution and the Bible, which are disregarded and trampled upon, dare to call in question and to denounce, with all the emphasis I can command, everything that serves to perpetuate slavery—the great sin and shame of America!

—Frederick Douglass, “What to the Slave Is the Fourth of July?” speech, presented to the Rochester Ladies’ Antislavery Society, July 5, 1852
"Kindling students' interest and engagement with words is a vital part of helping all students, but especially less advantaged students, to develop rich and powerful vocabularies”

(Graves, 2006, p. 120)
Word Play
Blends (aka Portmanteaux)

smog = smoke + fog

dormouse  dorm + mouse

chortle

brunch

skort

chocoholic

walkathon
Word Play

Are these real words? What might they mean?

• ugsome
• malductive
• triskaidekaphobia
“Teaching new words was subordinated to the goal of teaching ABOUT words—various kinds of information about words that could help children figure out meanings on their own”

Carlo, August, McLaughlin, Snow, Dressler, et al., 2004, p. 205
Students skilled in morphemic and contextual analysis have the potential to increase their vocabulary breadth and depth substantially.

(Edwards, Font, Baumann, & Boland (2004) in Baumann & Kame’enui, p. 161)

Note: Efficacy inconclusive for severe reading disability
A Comprehensive Vocabulary Framework
Four Components

Hypothesized as essential by Graves (2000, 2006)
1. Providing rich and varied language experiences
2. Teaching individual words
3. Teaching word-learning strategies
4. Fostering word consciousness
Baumann, Ware, and Edwards (2007)

Method: Apply the four-ply framework proposed by Graves (2000, 2006) (prior slide)

The fifth-grade study conducted from September through April with a low-income, diverse population (N = 20) resulted in quantitative and qualitative indicators of increased word knowledge, interest, and self-efficacy.
Richard’s Year-End Reflection

“Before I came to fifth grade, if I read a word that I didn’t know, I wouldn’t take the time to stop. I would just go straight through it. I’d read it and I’d just try to sound it out.... But now I don’t have to do that. I use context clues and everything ... so if I find a word I don’t know, I stop and think about it for a while and then I go on if I figure out what the word means”

(Baumann, Ware, & Edwards, 2007, p. 120)

--a formative study conducted from September through April
What Say You?
Context Explains Word Meaning:

- 90% of the time, or more
- about 75% of the time
- about 50% of the time
- about 25% of the time
- about 15% of the time
According to Research Context Explains Word Meaning:

- 90% of the time, or more
- about 75% of the time
- about 50% of the time
- about 25% of the time
- about 15% of the time

The Context Continuum

Source: *Bringing Words to Life* (Beck, McKeown, & Kucan, 2002)

- a. Misdirective
- b. Nondirective
- c. General
- d. Directive

Obfuscating  ▶ Context ▶ Clarifying
B grade six, about 60% of the word meanings in printed school English in grades 3-9 might be inferred through knowledge of their morphemes, applied to context clues (Nagy & Anderson, 1984)
For every word known by a child who utilizes morphemic and contextual information, an additional one to three should be understandable (Nagy & Anderson, 1984).

But Nation (1990) describes the limits of morphology and Beck, McKeown, and Kucan (2002) describe context that varies from direct to obfuscating.
Morphological Awareness

• The ability and aptitude to use knowledge of morphemes (prefixes, suffixes, roots, and base words) to gain word knowledge

• Also called structural analysis
Morphology Terminology

Morpheme: The smallest unit of meaning in a word

unlocking has 3 morphemes: un-lock-ing

biographers has 4 morphemes: bio-graph-er-s

Common Morphemes:

word root: in-spector, phon-ics

base word: un-likely  light  house

prefix: re-, un-, dis-

suffix: -able, -ive, -ly

} affixes
Latin Word Structure

• Structured!
  • Prefix + root + suffix as in invisible
  • Root + root as in manuscript
• Latin roots are unlikely to stand as free English words
• Mostly bound morphemes (some free morphemes)
• Latin roots convey meaning
  
  rupt in erupt: to break; dict in dictate: to speak
• There is often a schwa: ə dăpt ə ble, ă dăpt ā tēn
## Linguistic Types

<table>
<thead>
<tr>
<th>base words</th>
</tr>
</thead>
<tbody>
<tr>
<td>boy, farm, cold, steer, act</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>inflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>boys, farmed, farming, colder, coldest, steers, steered, steering, acting</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>compound words</th>
</tr>
</thead>
<tbody>
<tr>
<td>boyfriend, farmhouse, coldhearted, steering wheel, three-act play</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>derivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>boyish, boyishly, boyhood, farmer, Farmington, farmstead, steerage, activation</td>
</tr>
</tbody>
</table>

Those Dratted Derivations!

Which Transformations Are More Complex?

• no shift in orthography or phonology
  – grow-growth; child-childish; broke-broken
• orthographic shift but no phonological shift
  – fame-famous; create-creative
• phonological shift but no orthographic shift
  – courage-courageous; adapt-adaptation; heal-health
• both a phonological and an orthographic shift
  – wide-width; wise-wisdom; divide-division
The story of the *Titanic* began before anyone had even thought about building the great ship. In 1898, fourteen years before the *Titanic* sank, an American writer named Morgan Robertson wrote a book called *The Wreck of the Titan*.\(^1\) In his story, the *Titan*, a passenger ship almost identical to the *Titanic*, and labeled “unsinkable,” sails from England headed for New York. With many rich and famous passengers on board, the *Titan* hits an iceberg in the North Atlantic and sinks. Because there are not enough lifeboats, many lives are lost.
Do All Words Have a Big Morph Family?

• No
  – not pumpkin
  – not squirrel
  – not mistletoe
  – not sabotage
  – not shun
  – not stringent
  – etc.
  • So, it’s worthwhile to focus on large-family words
Ask the Class:
Do the Words Share a Morpheme?

- car cars  yes
- charm charming
- hot hotel
- merit demerit
- unity union
- act tractor
- sun sunshine
- sun sunken
Teach Morphological Families of Words
SPECT, ‘to look, see’

• spectacles
• spectators
• inspect
• inspector
• introspection
• respect
• perspective
• retrospect
• etc. (this is a large morphological family)
“Nearly half of incoming freshmen cannot read their textbooks fluently” (Carnegie Corporation, 2002)

This may be true, but...

“Morphological knowledge is a wonderful dimension of the child’s uncovering of “what’s in a word,” and one of the least exploited aids to fluent comprehension” (Wolf, 2007, p. 130)
MA Explains Vocabulary Variance

• **When controlling for all other tasks…**
  – age, basic reading ability, phonological processing, etc.
  – …**MA accounts for unique vocabulary variance:**
  – Kindergarten: 8% *** (most K words are monomorphemic)
  – 2nd grade: 15% ***
    • McBride-Chang et al., 2005
    • Many compounds in 2nd grade science and basal rdg (Ebbers, 2008)

• **MA continues to grow over time**
  – 5th grade: ~50% of unique vocab variance
    • Carlisle, 2000
Ask: Does Every Word Belong in the Family?

- sing, singer, singers, sting, singing, sings
- mother, motherless, mothering, moth, motherhood
- reptile, reptilian, tile, stile, reptiles
- port, porter, portable, export, poor, import, transport
- thermos, thermal, thermometer, thermostat
- healer, heal, health, healthy, healthier, healthiest
- worry, worrisome, worrywart, worried, world
White, Sowell, and Yanagihara (1989) found that third-graders who were given training on the nine most common prefixes and a strategy for decomposing words into roots and suffixes outperformed a control group on several measures of word meaning.

See Graves, 2004, *Teaching Prefixes: As Good as it Gets?*
## 20 Most Frequent Prefixes in School Texts

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>unable</td>
<td></td>
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<tr>
<td>review</td>
<td></td>
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<tr>
<td>inedible</td>
<td>(immobile, illegal, irresponsible)</td>
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<tr>
<td>distrust</td>
<td></td>
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<tr>
<td>enlighten</td>
<td>(empower)</td>
</tr>
<tr>
<td>nonsense</td>
<td></td>
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<tr>
<td>inside</td>
<td>(implant)</td>
</tr>
<tr>
<td>overload</td>
<td></td>
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<tr>
<td>misguide</td>
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<tr>
<td>submarine</td>
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<td>preheat</td>
<td></td>
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<tr>
<td>interview</td>
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<td>forewarn</td>
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<tr>
<td>derail</td>
<td></td>
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<tr>
<td>transfer</td>
<td></td>
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<tr>
<td>supersonic</td>
<td></td>
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<tr>
<td>semicircle</td>
<td></td>
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<tr>
<td>antifreeze</td>
<td></td>
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<tr>
<td>midterm</td>
<td></td>
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<tr>
<td>underfed</td>
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</table>

*American Heritage Dictionary*  
*Susan Ebbers 2011*
Peel Away the Affixes

The diamond was \textit{multifaceted}; it had many faces or sides.
The Powerful Prefix!

interior
exterior
posterior
anterior
ulterior
deteriorate
### The Peripatetic Prefix

*gress*: Latin root “to step”

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>pro</td>
<td>progress</td>
<td>step forward</td>
</tr>
<tr>
<td>re</td>
<td>regress</td>
<td>step back</td>
</tr>
<tr>
<td>con</td>
<td>congress</td>
<td>step together</td>
</tr>
<tr>
<td>di</td>
<td>digress</td>
<td>step away</td>
</tr>
<tr>
<td>trans</td>
<td>transgress</td>
<td>step across</td>
</tr>
<tr>
<td>e</td>
<td>egress</td>
<td>step out</td>
</tr>
</tbody>
</table>
Outside-In Strategy for Inferring Word Meaning
(Ebbers & Denton, 2008)

1. Look **outside** the word at context clues.

2. Look **inside** the word for meaningful word parts.

3. Combine the clues. Use the analogy strategy.
Outside-In Strategy

pneumonoultramicroscopicsilicovolcanoconiosis

1. Look **outside** the word at context clues, visuals

   In the coal mine, the air felt stifled and dusty. The miners coughed, suffering from pneumonoultramicroscopicsilicovolcanoconiosis. Many of them died.

2. Look **inside** the word for known word parts:

   pneumono ultra microscopic silico volcano coni osis

3. Use the analogy strategy: "I don’t know this sickness, but I know pneumonia and I know volcano, so by analogy, this sickness might have something to do with lungs and heat—maybe they are inflamed."
The wolf was very angry, but he still pretended not to be.

He went to the little pig’s house and knocked on the door. “Little pig,” he said, “if you will be ready at four o’clock this afternoon, I will take you to the fair. We will have some fun on the swings and roundabouts.”

“Very well,” said the little pig.
Some middle school students did not make use of context clues or morpheme clues.

Those who did access context clues tended to look only in the proximal sentence, and only for synonyms.

Those who could utilize both types of clues did not necessarily use them both in tandem.
Teach Context Clues (Baumann et al., 2007)

• A definition, usually offset by commas or dashes (an appositive)
  – A balloonist, the pilot of a hot air balloon, avoids sultry days.
• A synonym or a rephrasing
  – It was sultry, very hot and humid indeed.
• An antonym
  – The weather was sultry, not cool and crisp.
• An example
  – The day was sultry; it felt like a bathroom after a hot shower.
• Generally helpful context
  – It was a sultry day. The day was very hot and humid. If you moved at all, you would break out in a sweat. It was one of those days to drink water and stay in the shade. (from Baumann et al., 2007, p. 117)
• Common signal words
  – which is, in other words, also known as, also called, that is, or, for example, such as, but, in contrast, however, etc.
Teach Punctuation as Context Clues

Commas
We must find the terminus, or the end, of this circuit.

Dashes
Can photons—particles of light—travel faster than sound?

Parentheses
His lorikeets (parrots) wakened the household.
a. Misdirective Context

Sandra had won the dance contest, and the audience’s cheers brought her to the stage for an encore. “Every step she takes is so perfect and graceful,” Ginny said grudgingly as she watched Sandra dance.
For days and days Alexander searched the garden for a purple pebble. In vain. He found yellow pebbles and blue pebbles and green pebbles—but not one tiny purple pebble.

At last, tired and hungry, he returned to the house. In a corner of the pantry he saw a box full of old toys, and there, between blocks and broken dolls, was Willy. “What happened?” said Alexander, surprised.
b. Nondirective Context

Dan heard the door open and wondered who had arrived. He couldn’t make out the voices. Then he recognized the **lumbering** footsteps on the stairs and knew it was Aunt Grace.
c. General Context

Joe and Stan arrived at the party at 7:00 o’clock. By 9:30, the evening seemed to drag for Stan. But Joe really seemed to be having a good time at the party. “I wish I could be as gregarious as he is,” thought Stan.
d. Directive Context
(Seek out context clues and internal word clues)

When the cat pounced on the dog, he leapt up, yelping, and knocked down a shelf of books. The animals ran past Wendy, tripping her. She cried out and fell to the floor. As the noise and confusion mounted, Mother hollered upstairs, “What’s all that commotion?”
d. Directive Context

When the cat pounced on the dog, he leapt up, yelping, and knocked down a shelf of books. The animals ran past Wendy, tripping her. She cried out and fell to the floor. As the noise and confusion mounted, Mother hollered upstairs, “What’s all that commotion?”

\[
\text{com + motion} \rightarrow \text{with motion}
\]

Adapted from *Bringing Words to Life* (Beck, McKeown, & Kucan, 2002)
When a hot-air or gas balloon surged aloft, it could only float where the wind blew it. By rising or sinking the balloon, the pilot looked for a certain kind of wind. When the pilot found that wind, it was smooth sailing ahead!

Source: Virginia Arnold  Another Way to Fly
Paul Revere's Ride by Henry Wadsworth Longfellow

Listen my children and you shall hear
Of the midnight ride of Paul Revere…

He said to his friend, "If the British march
By land or sea from the town to-night,
Hang a lantern aloft in the belfry arch
Of the North Church tower as a signal light--
One if by land, and two if by sea,
And I on the opposite shore will be,
Ready to ride and spread the alarm
Through every Middlesex village and farm,
For the country folk to be up and to arm."

(His friend) climbed the tower of the Old North Church,
By the wooden stairs, with stealthy tread,
To the belfry chamber overhead.
And startled the pigeons from their perch…
I don't know what biosphere means but I do know that atmosphere and hemisphere have to do with earth which is a sphere and I do know that a biography is the story of someone's life, so….along with the context clues, I think maybe biosphere might be a specific place on earth where specific life exists.

(Anita Archer on Content Reading)
Reader Friendly Research on MA + Text

• See Baumann, Edwards, Boland, & Olejnik, 2003
  – *Vocabulary Tricks*…

• See Edwards, Font, Baumann, & Boland, 2004
  – *Unlocking Word Meanings*

• See Baumann, Ware, & Edwards, 2007
  – *Bumping into Spicy, Tasty Words*…

• See Ebbers & Denton, 2008
  – *A Root Awakening*…

• See briefs and weblinks on my blog *Vocabulologic*
Thesis: Persistence
Vocabulary is a Growth Construct

Slowly the bucket fills, through many encounters with the word or morpheme in varying context over time.
“There is a mountain of evidence suggesting that spacing study time leads to better memory of the material”

Daniel Willingham, 2002
Caveat: Use Varied Strategies

No single method is effective for teaching every word, in part because words and phrases vary greatly in characteristics and complexities. (Nagy & Scott, 2000)
Closing Thoughts

– Model a habit of enquiry; kindle interest in words
– Build networks of related words, seek associations
– Teach most common morphemes
– Teach how to use context clues
– Model the strategy again and again…
– Teach how and when to use other strategies (dictionary, thesaurus, analogy)
– Provide distributed review


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sebbers@berkeley.edu or susan@readingway.com

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