UNLOCKING COMPLEX TEXT AND GENERATIVE VOCABULARY

Elfrieda H. Hiebert TextProject & University of California, Santa Cruz















1986 2007

2016

Knowledge is "stored" in texts and...

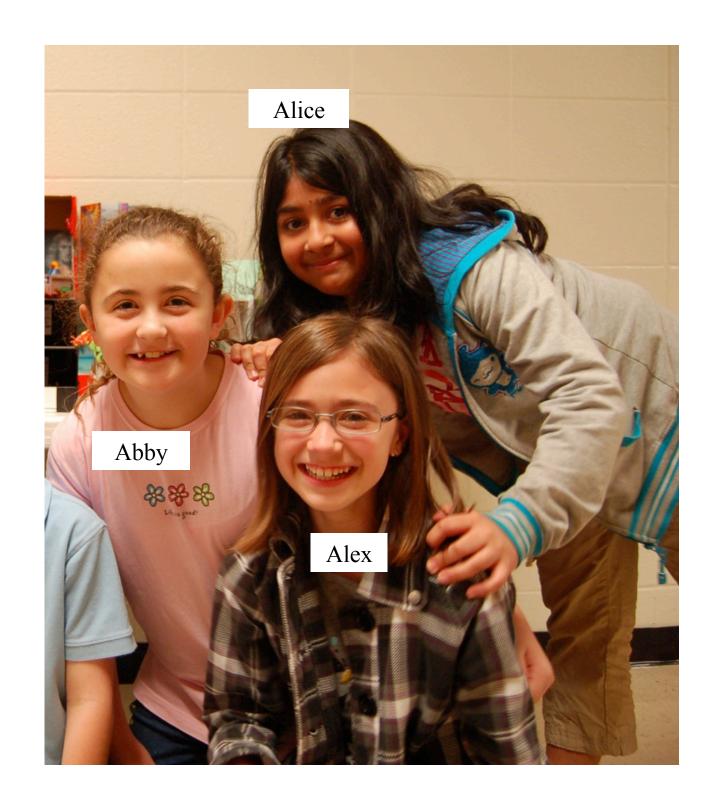


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texts typically have more rare words than conversations.





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After one day of school (one penny= **500** words of reading



After one week of school



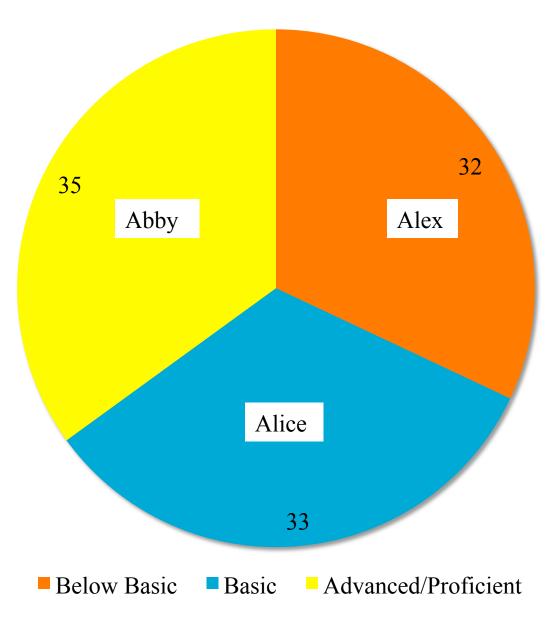
After one month of school



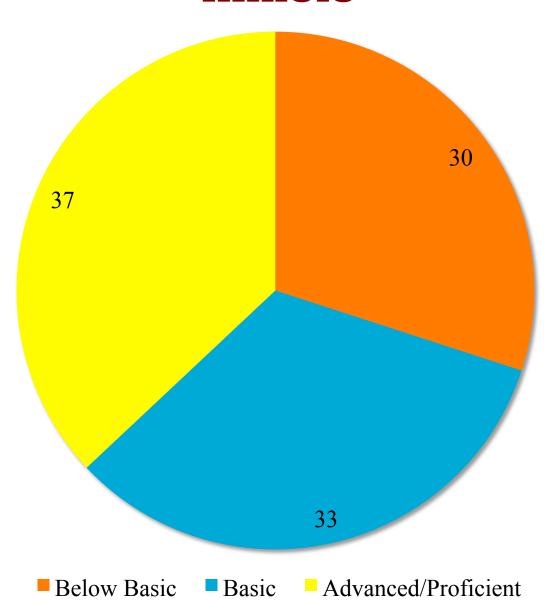
After one year of school



NAEP 2015 Grade 4 (Reading)



NAEP 2015 Grade 4 (Reading): Illinois



Quarters
= 500
new
words
gained
through
reading



After 5 years





Idea 1: The number of words in English far outnumbers opportunities to teach each individually.





ACTION 1: Have explicit conversations about

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rare vocabulary in ALL texts



Talking Points for Teachers™: New Words in New Texts

Why?

• Develop the understanding that every complex text has new, challenging vocabulary. Vocabulary instruction gives students the means for figuring out new words in text, not instruction in every single word that might appear in new texts.

When?

• Talks about the vocabulary of new texts need to occur across a school year (with extra doses prior to assessment periods).

How?

- Take a portion of the text (25 or 50 words is enough). Use a highlighter to mark the words in the 1,000-2,000 most-frequent words (list on textproject.org)
- Mark the words that are potentially challenging with a different colored highlighter. (List of 4,000 simple word families at: http://textproject.org/classroom-materials/lists-and-forms/lists/word-zones-for-5-586-most-frequent-words/

--An example of a snippet of text for a board/projection is the following, which comes from a sample assessment for Grade 7 http://www.parcconline.org/samples/english-language-artsliteracy/grade-7-reading-informational-text-(Amelia-Earhart-2)

When 10-year old Amelia Mary Earhart saw her first plane at a state fair, she was not impressed. "It was a thing of rusty wire and wood and looked not at all interesting," she said. It wasn't until Earhart attended a stunt flying exhibition, almost a decade later, that she became seriously interested in aviation.

What?

- Here are some of the talking points for a conversation between teachers and middle-school students about new vocabulary in complex texts:
 - "One of your goals as middle schoolers is to understand that any new text likely has words that you haven't seen before."
 - "This is a text from one of the sample assessments for the new state test. This text might look like it is hard and it may even be on the first read. But I've studied the text and I know that all of you know most of the words. Even most of the words that you don't know (point to rusty and stunt) can be figured out with the word skills you have."
 - "Also remember that words that are capitalized inside sentences are usually names. The strategy with names is to do the best you can, knowing that names are often pronounced in unusual ways because they may come from different languages. In this case, the person's last name is one that you can figure out with your knowledge of words (demonstrate with Ear hart)."
 - "That leaves two words that are multisyllabic in the text and that you might not be able to read (point to exhibition and aviation). I want you to read this paragraph and see if you can figure out these words."

Idea	Action	Open-Access Resource
1. English has more words than can be taught.	1. Teach students to expect new words in texts.	1. Talking Points for Teachers: New Words in New Texts
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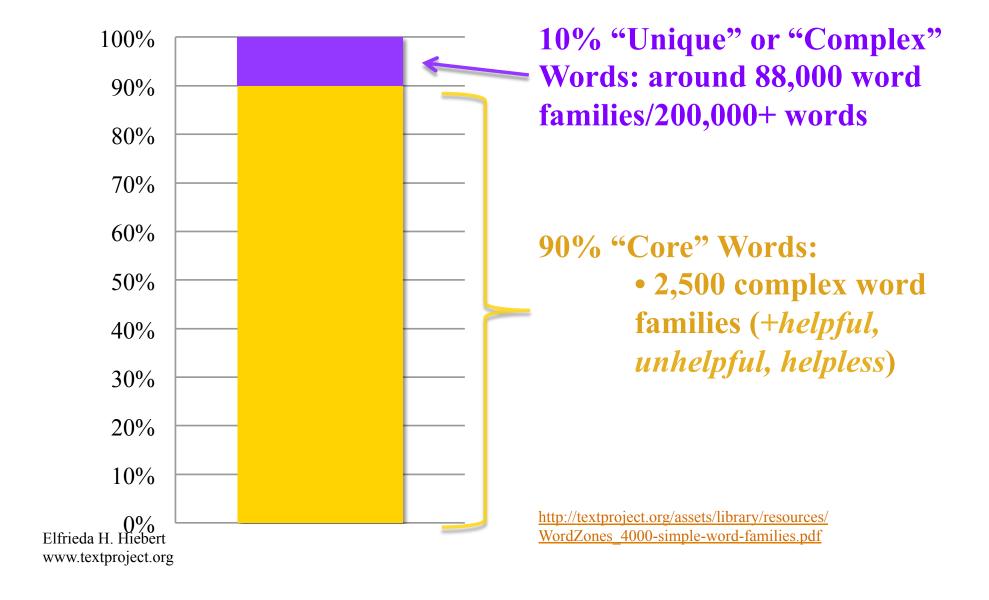


Idea 2: A small group of words does the heavy

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Iifting in English.

The distribution of words in written English



Examples of the Words in the Core Vocabulary

	words	
1st 100	the, by, no, through, must	
101-300	long, great, put, last, family	
301-1,000	power, north, story, strong, answer	
1,001-1,500	valley, imagine, motion, nearby, importance	
1,501-2,000	character, responsible, design, presence, trail	
2001-2,500	mixture, discovery, civilization, attitude, assume	

Nearly every day last summer my nephew Keith and I went crabbing in a creek on the New Jersey coast. We used a wire trap baited with scraps of fish and meat. Each time a crab entered the trap to eat, we pulled the doors closed. We cooked and ate the crabs we caught.

Blue crabs are very strong. Their big claws can make a painful pinch. When cornered, the crabs boldly defend themselves. They wave their outstretched claws and are fast and ready to fight. Keith and I had to be very careful to avoid having our fingers pinched.

Spider was a hungry one, he always wanted to eat. Everybody in Ashanti knew about his appetite. He was greedy, too, and always wanted more than his share of things. So people steered clear of Spider.

But one day a stranger came to Spider's habitation out in the back country. His name was Turtle. Turtle was a long way from his home. He had been walking all day in the hot sun and he was tired and hungry. So Spider had to invite Turtle into his house and offer him something to eat. He hated to do it.



Action 2: INCREASE VOLUME OF Consider organization of the second of the

Putting Two Words Together



A lot of sports that people play use balls. In basketball, players try to get a ball through a hoop. In baseball, players use a bat to hit a ball. In football, players throw a ball to get it close to the goal.

There are other words with "ball" that describe things that are round. But they are not balls with which you play a game. Meatballs are not used in any sport. But

they are great with spaghetti.

Eyeballs help in playing sports. But there isn't a sport called eyeball where teams throw and catch eyeballs. You wouldn't want to be in a game that uses fireballs. If you would ever see a fireball, you should get as far away as fast as you can. Then call 911 right away. You should also watch out if a cannonball is going to be fired. It is round but you don't want to play with a cannonball. You especially do not want to catch a cannonball!

There are some words, though, that have ball in them but it has nothing to do with round. Ballpoint pens make



writing a lot easier. It's easy to see how the "point" got into ballpoint pen. But why the ball? That part is in the name because of the tip of a pen is round. There are also rooms that are called ballrooms. People hold balls in ballrooms but they aren't the round kind.

Other words with ball have nothing to do with round. In these words, the "ball" part of the word is not even said the same as ball in baseball or meatball. Ballerina is not ball with "erina." Ballerinas are dancers and the word has nothing to do with ball. A ballot is used by people to vote but it is not round. You don't even say "ball" when you say the word ballot.

Whenever you see ball as part of a word, look carefully. Usually, the word has something to do with games and sports. But remember eyeballs, fireballs, and cannonballs. These balls may be round but they aren't

used in sports!
Ballerina and
ballot show that
some words
with "ball"
have nothing to
do with being
round.



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Putting Two Words Together





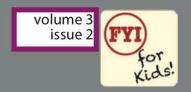
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they are great with spaghetti.

Eyeballs help in playing sports. But there isn't a sport called eyeball where teams throw and catch eyeballs. You wouldn't want to be in a game that uses fireballs. If you would ever see a fireball, you should get as far away as fast as you can. Then call 911 right away. You should also watch out if a cannonball is going to be fired. It is round but you don't want to play with a cannonball. You especially do not want to catch a cannonball!

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Whenever you see ball as part of a word, look carefully. Usually, the word has something to do with games and sports. But remember eyeballs, fireballs, and cannonballs. These balls may be round but they aren't

used in sports! Ballerina and ballot show that some words with "ball" have nothing to do with being





A Birthday Wish: **Rachel Beckwith**



In the summer of 2011, Rachel Beckwith had just finished third grade. She was looking forward to riding her bike and playing games like jump rope with her friends. Rachel also liked dancing.

Then she heard someone say that there were children in Africa who did not have clean water to drink. The person was from an organization called

charitywater.org, a charity that builds wells for towns in Africa. The wells provide people with clean water. Without wells, people often have to walk many miles to find water, then carry it home in buckets. Often, the water is not clean.

Instead of presents for her ninth birthday, Rachel asked her family and friends to donate \$9 for clean water in Africa to charitywater.org. If she could raise \$300, 15 people could get clean drinking water.

By the time her birthday came, Rachel had raised \$220. That meant that 11 people could get clean water.



She told her mom that she would try harder the next year to raise more money for the charity.

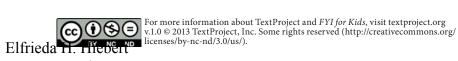
A month later, Rachel was critically injured in a car accident. On July 23, 2011, she was taken off life support. She died soon after.

When the news about Rachel's story and her birthday wish spread, people all around the world began to donate money in her name. Some gave \$9, some \$19, some more. A month later, 30,000 people had given more than \$1.2 million. Because of Rachel Beckwith, 60,000 people in more than 100 villages now have clean water to drink.

In her honor, one village put up a sign that reads, "Rachel's great dream, kindness, and vision of a better world will live with and among us forever." Clearly, one person, even a child, can make a difference.



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Young Heroes: Rachel Beckwith





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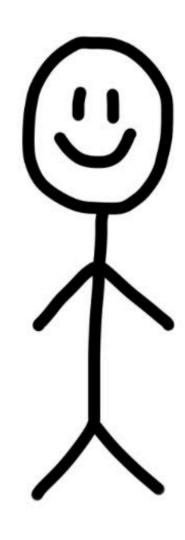
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Readworks.org has approximately 2,500 free passages for Grades 1-early high school

AND... Stay away from easy solutions



Koala forest homes are being cleared to make room for cattle pasture

By Joshua Robertson, The Guardian, adapted by Newsela staff 08.23.16

Grade Level 5 Word Count 619

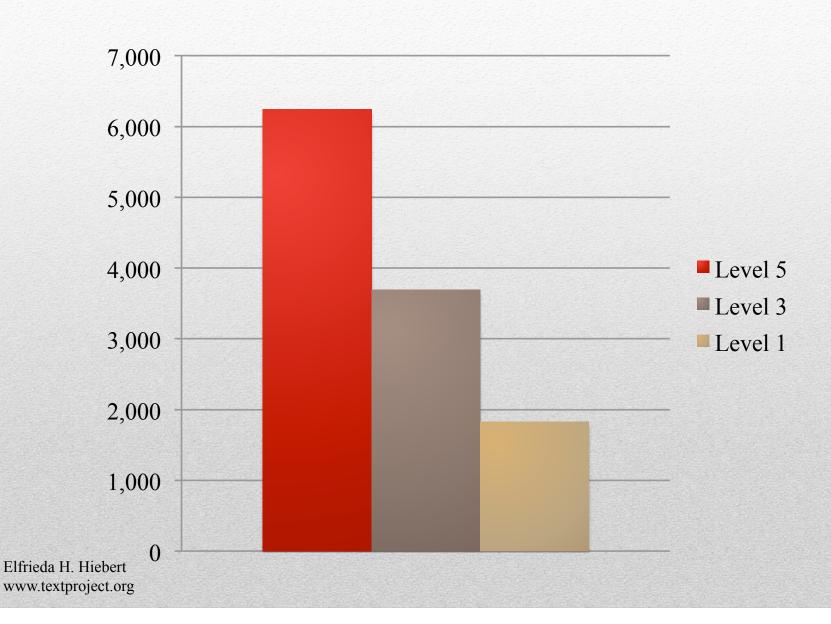


A koala feeds on eucalyptus leaves in its new enclosure at the Singapore Zoo, May 20, 2015, in Singapore. Photo: AP/Wong Maye-E

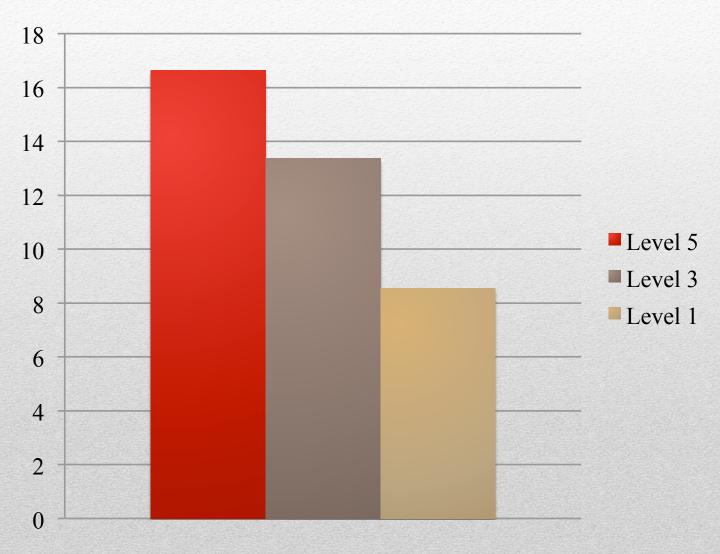


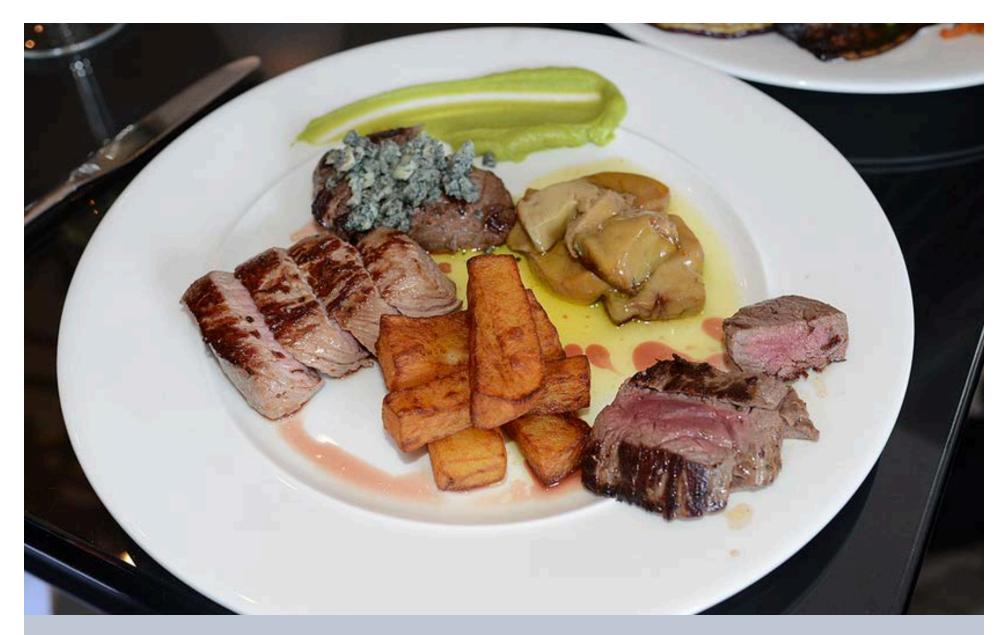
EXCEEDS	AT	FALLS BELOW
On May 17, 1985, Oleg Gordievsky was at the pinnacle of his career. A skilled intelligence officer, he had been promoted a few months before to rezident, or chief, of the KGB station in the British capital. Moscow seemed to have no clue he'd been secretly working for MI6, the British secret intelligence service, for 11 years. That Friday, Gordievsky received a cable ordering him to report to Moscow "urgently" to confirm his promotion and meet with the KGB's two highest officials. "Cold fear started to run down my back because I knew it was a death sentence," he told me decades later. He'd been back at headquarters in Moscow only four months earlier, and all seemed well. Now, he feared, the KGB's counterspies had become suspicious and were recalling him to confront him. If he refused the summons, he would destroy his career but, if he returned home, he could be shot. His MI6 handlers assured him they'd picked up no sign anything was wrong. They urged him to go to Moscow, but they also provided him with an escape plan in case he signaled that he was in danger. Gordievsky decided to risk his life and go. As soon as Gordievsky landed in Moscow, he picked up signs that he had gambled wrong. On approaching the front door of his apartment, he immediately knew that the KGB had searched his flat because someone had locked a third lock he never used because he had lost the key he had to break in	On May 17, 1985, Oleg Gordievsky had just become chief of the KGB station in London. Moscow did not seem to know he had been working for the British secret intelligence service for 11 years. That Friday, Gordievsky was ordered to return to Moscow "urgently." He had been in Moscow four months earlier. Everything had seemed fine then. Now he feared that the KGB had become suspicious. His British handlers did not think anything was wrong. But they gave him an escape plan. Gordievsky decided to go. Gordievsky knew something was wrong when he got to Moscow. Someone had searched his flat.	Oleg Gordievsky was the head of the KGB in London. He also worked as a British spy. One day, Gordievsky was told to return to Moscow. Had the KGB found out his secret? The British did not think so. But they gave him an escape plan. In Moscow, Gordievsky knew something was wrong. Someone had searched his flat.

Number of Words (Five Topics)



Sentence Length (Five Topics)





Why most multi-level text sets don't work:

H. Hiebert tyroject.org

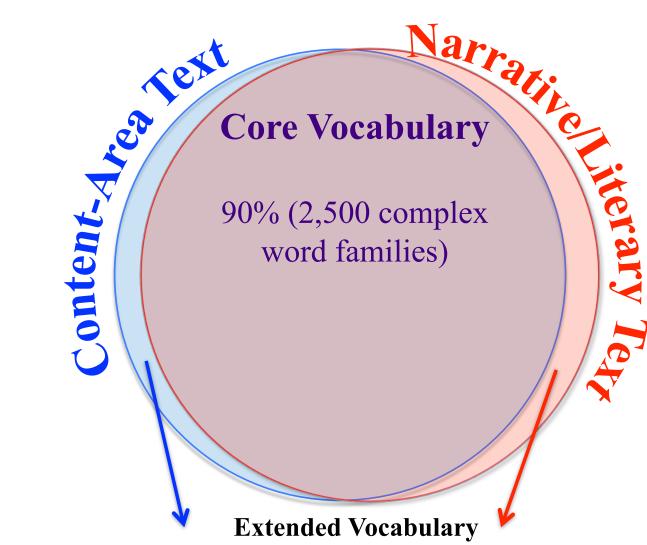
Already proficient kids get this diet.



Idea	Action	Open-Access Resource
1. English has more words than can be taught.	1. Teach students to expect new words in texts.	1. Talking Points for Teachers: New Words in New Texts
2. A small group of words does the heavy lifting in English.	2. Increase volume of reading	2. •FYI for Kids •ReadWorks.org



Idea 3: Rare words are part of networks



10%/approximately 88,000 complex word families

The month of picking heartberries went by. Little Pinch jumped off a low branch and made a huge gash just over his eye. Blood came pouring down and he seemed both proud of himself and sorry for himself, and he selfishly hogged attention for his injury to the point where Omakayas could hardly bear it. Mama was constantly preoccupied with him. Of course, that left Neewo more and more to Omakayas's hands, and she didn't mind that.

Embryological studies show that each batch of four is the result of a single fertilized egg, which divides twice. Each of the four resulting cells develops into a miniature armadillo which is born in early spring some six months after the adults have mated. All members of a young brood are of the same sex. Young armadillos have their shell covering complete, but it remains soft until they become adults, thus allowing for growth.

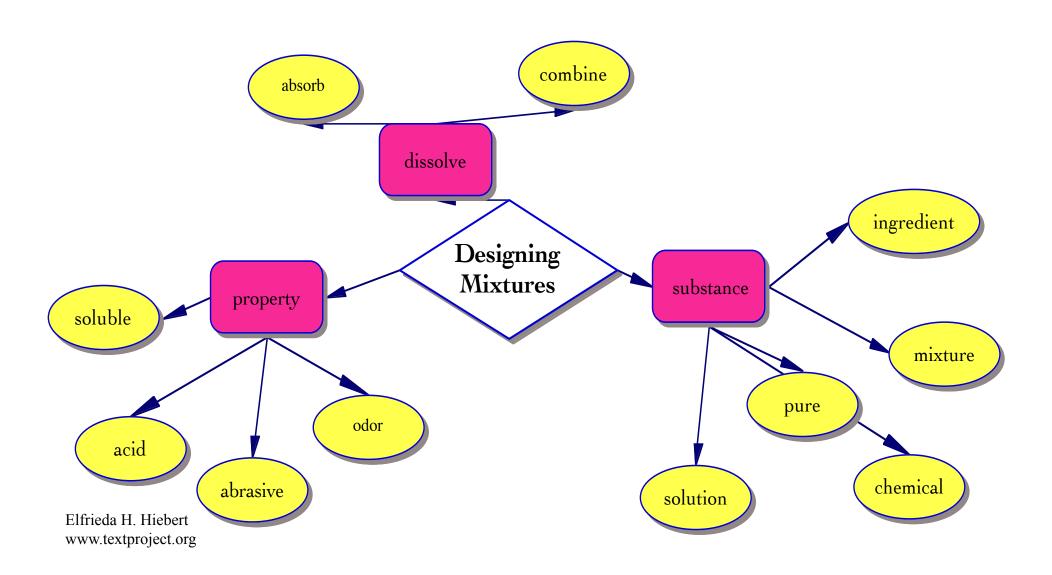
spectacles, Dorothy and her friends were at first dazzled by the brilliancy of the wonderful houses all built of green marble and studded everywhere with sparkling emeralds. They walked over a pavement of the same green marble, and where the blocks were joined and glittering in the brightness of the sun. The window panes were of green glass; even the sky above the City had a green tint, and the

(a) Networks in narratives are **Synonyms** related to **story** elements.

Story Word	Other Possibilities
dazzled	hypnotized awed
brilliancy	effulgence luminosity
glittering	shimmering radiance

(b) The rare words in informational texts belong to topical networks.

An Example of a Topical Network







Synonym Networks in Narrative Texts

Prolific Groups of Synonyms

Communication /Internal Processes (verbs)	Emotions (adjectives)	Movement (verbs)	Traits (adjectives)
think	glad	go	funny
argue	sad	send	smart
observe	mad	start	brave
guess	selfish	stop	selfish
say	fear	stay	shy



Guess as in to give an unsure reply (verb):

- suppose
- reckon
- judge
- gauge
- approximate

Guess as in to give an unsure reply (verb):

- · theorize
- estimate
- surmise
- speculate

Guess as in a response that is based on opinion, not fact (noun):

- assumption
- · opinion
- conjecture
- speculation
- supposition
 - surmise

??

Guess

COMMON PHRASES

- Keep them guessing
- · Guess what
- Anyone's guess
- Take a guess
- · Educated Guess

IDIOMS

- · Take a stab in the dark
- Wild guess
- Take a gander

SPANISH CONNECTIONS

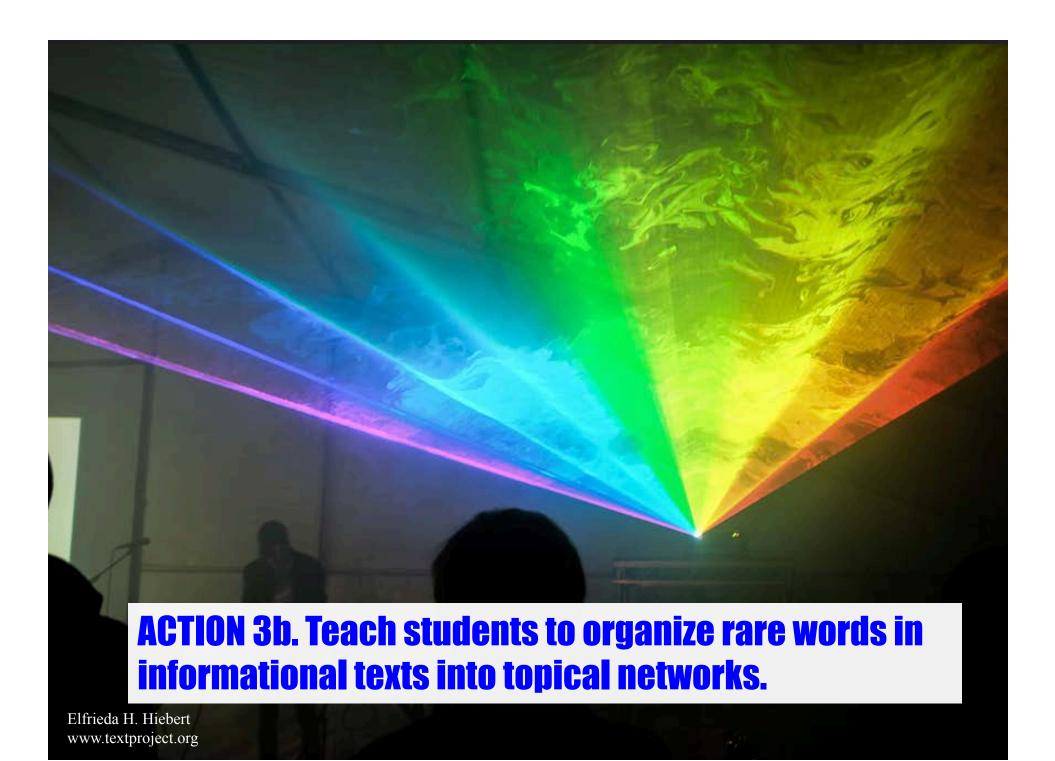
- theorize / teorizar
- estimate / estimar
- speculate / especular
- conjecture / conjetura

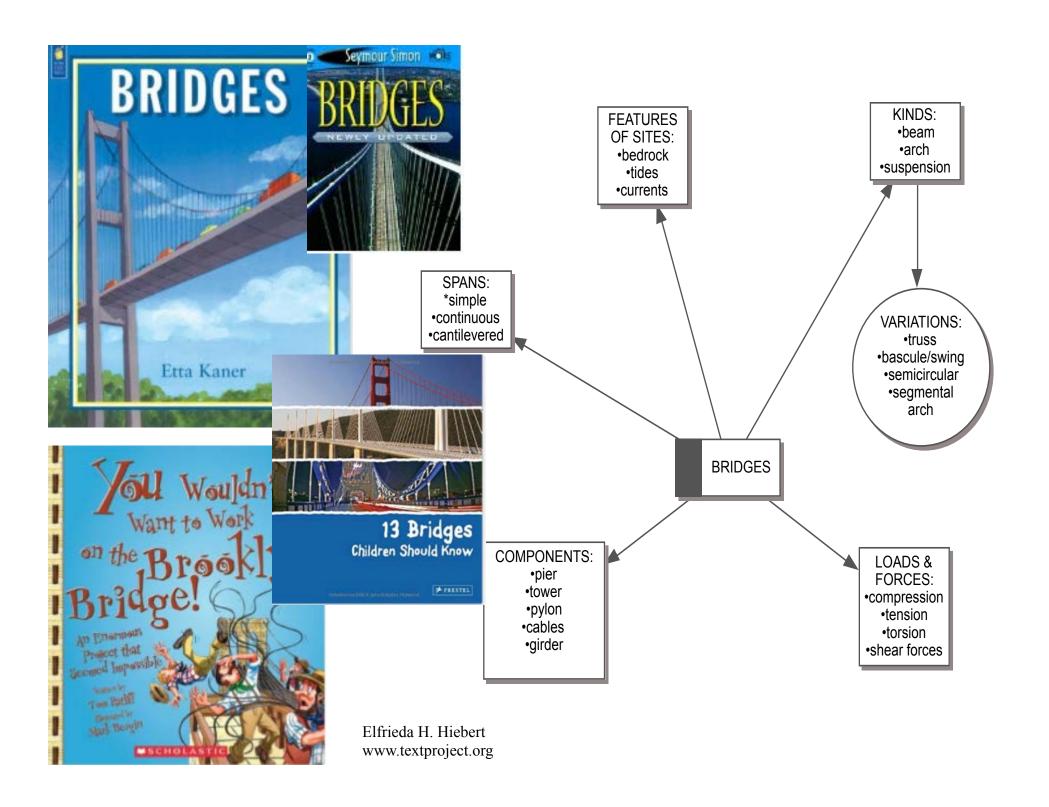
Guess as in to give an unsure reply (verb)

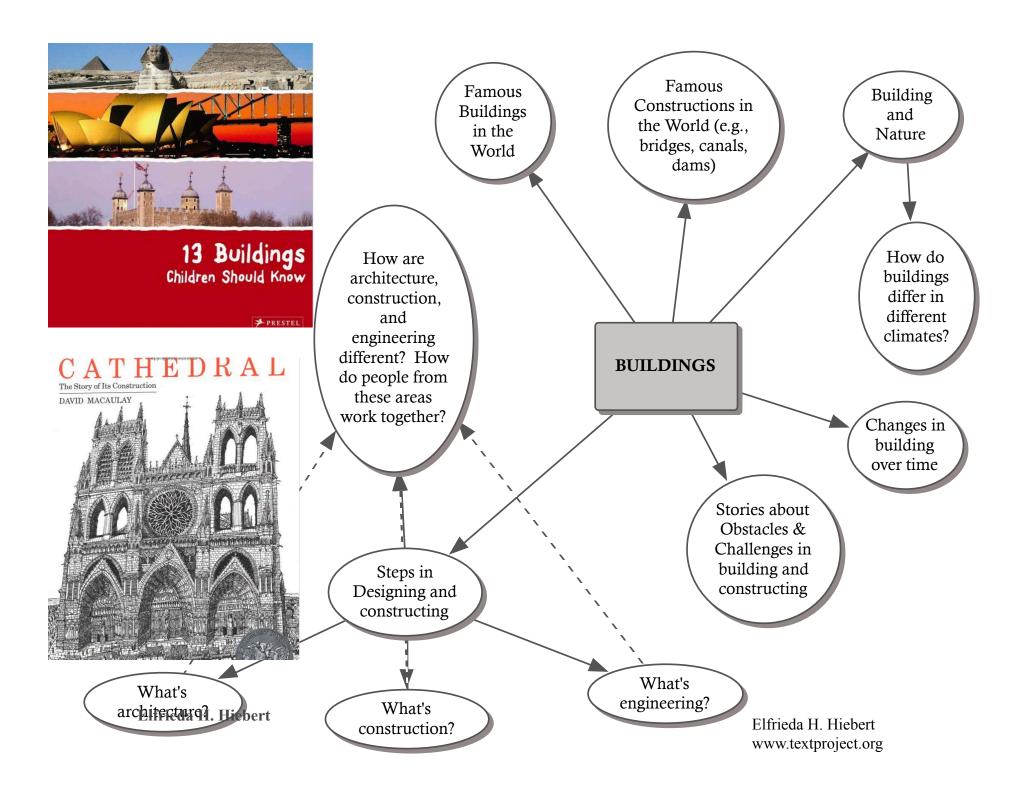
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3. Rare words in narrative texts belong to synonym networks; those in informational texts in topic networks.	3. Teach students prolific synonym networks & organize topics into networks.	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)
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Idea 4: Teach developing bodies of knowledge.

vocabulary in the service of



Correlation between Background Knowledge & Comprehension = .94

Reading for Understanding Network Study of Comprehension in Grades 7-12

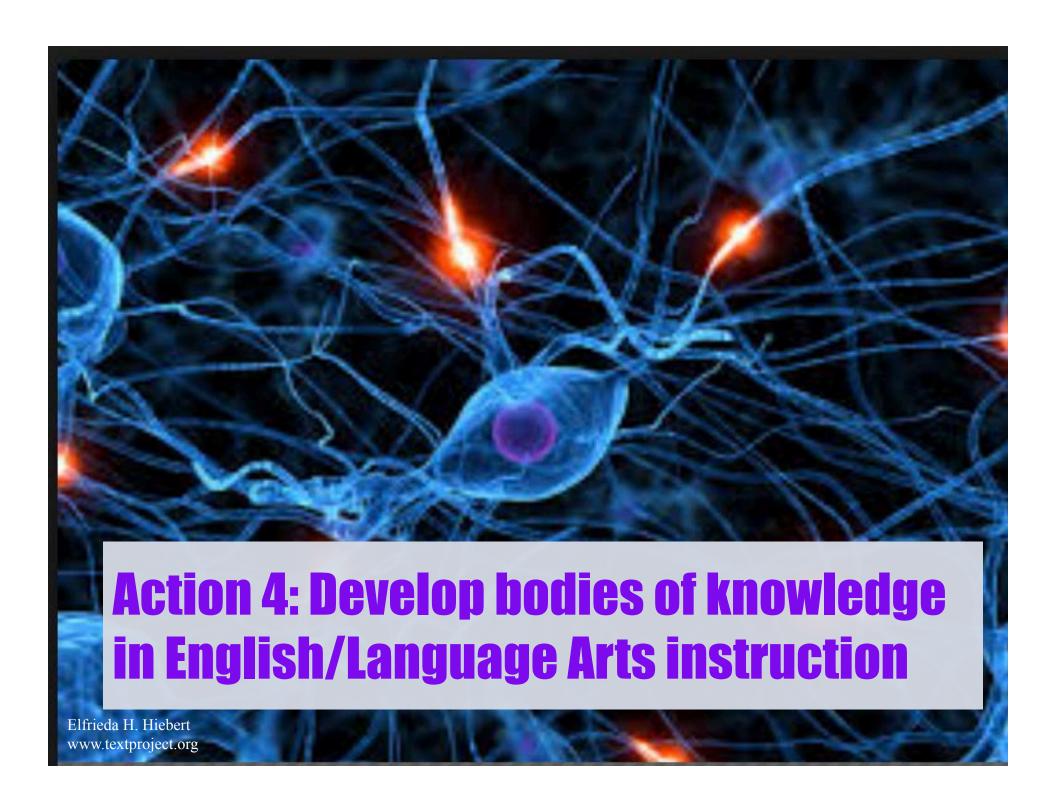
Slide is from the presentation of David Francis (April 19, 2013). CCSS Assessments and Students with Disabilities and English Language Learners. Plenary session at Institute on Assessment in the Era of the Common Core State Standards, International Reading Association.

Blue crabs are very strong. Their big claws can make a painful pinch. When cornered, the crabs boldly defend themselves. They wave their outstretched claws and are fast and ready to fight. Keith and I had to be very careful to avoid having our fingers pinched.

Crabs are arthropods, a very large group of animals that have an external skeleton and jointed legs.

Spider was a hungry one, he always wanted to eat. Everybody in Ashanti knew about his appetite. He was greedy, too, and always wanted more than his share of things. So people steered clear of Spider.

But one day a stranger came to Spider's habitation out in the back country.



1. Intentional and Well-Designed Sets of Texts

Communities are places where people learn to know one another.

People discover that "old" ways of being together can be enjoyable and create a sense of community.

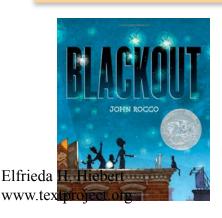
Blackout (Rocco, 2011)

Older people in our communities can teach us interesting things.

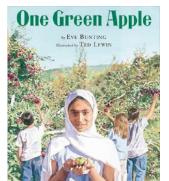
Owl Moon (Yolen, 1987)

New members of a community may look and speak differently, but are like us in many ways.

One Green Apple (Bunting, 2006); The Other Side Woodson, 2001)



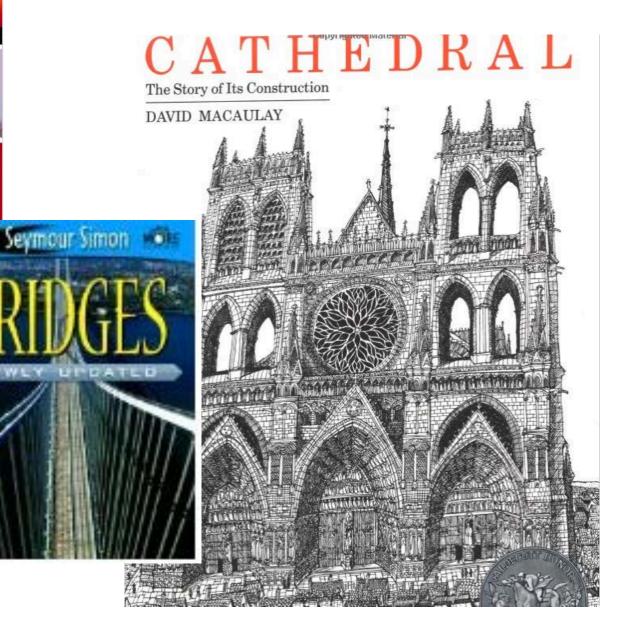








13 Buildings
Children Should Know



2. Build Knowledge through Word Pictures



Fashion and Design—

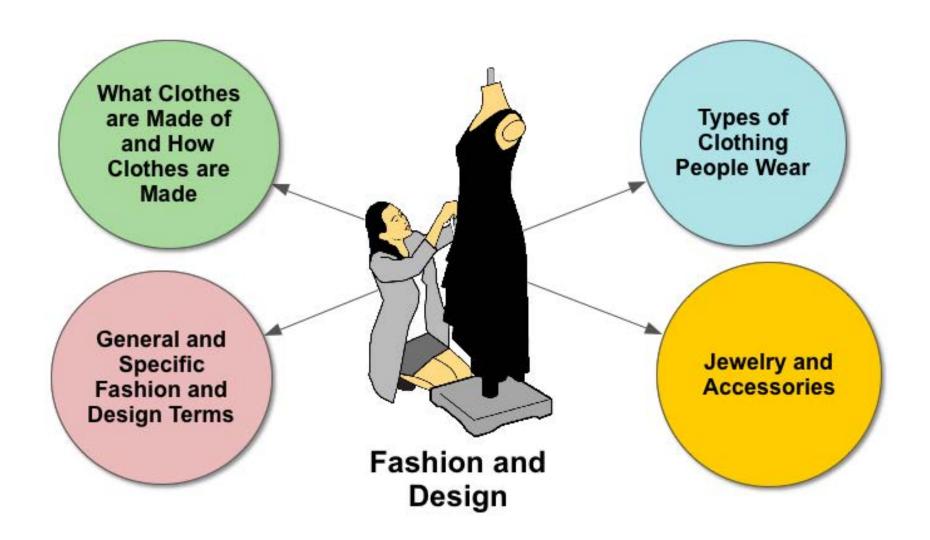
General and Specific Fashion and Design Terms

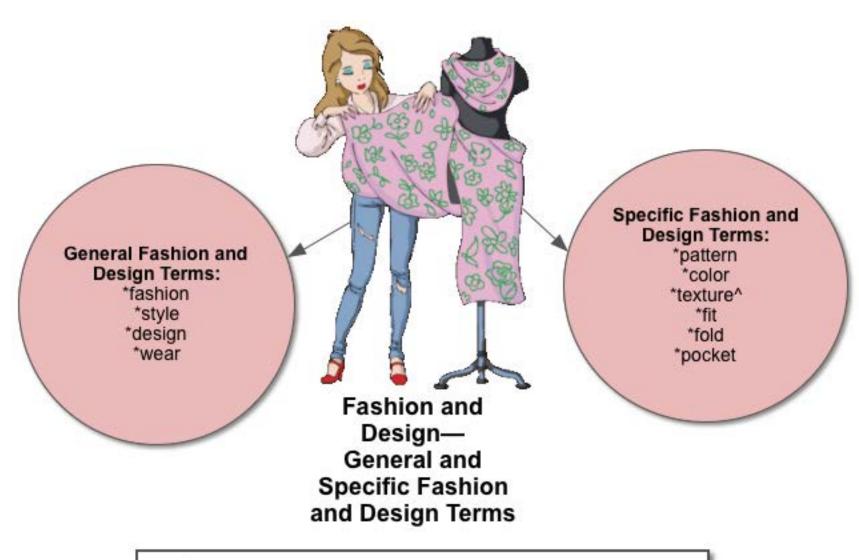




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^ non core vocabulary words added to supplement concept

style (style)

A *style* is a way of expressing oneself. Different styles have clothing that looks a certain way.



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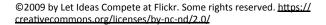
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texture

(tex·ture)

Texture is the structure, feel, and appearance of something. The fabrics clothes are made of have different textures.







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4. Teach vocabulary in the service of developing bodies of knowledge. Elfrieda H. Hiebert www.textproject.org	4. Develop bodies of knowledge in ELA instruction.	4. •Intentional Read- Alouds Curriculum •ReadWorks Lessons •Word Pictures















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Strategies, tools, and texts to bring beginning readers and struggling readers to high levels of literacy

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- · Comprehension, Close Reading, and Assessment
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