

Where Knowledge & Word Recognition Intersect: The Texts of Reading Instruction

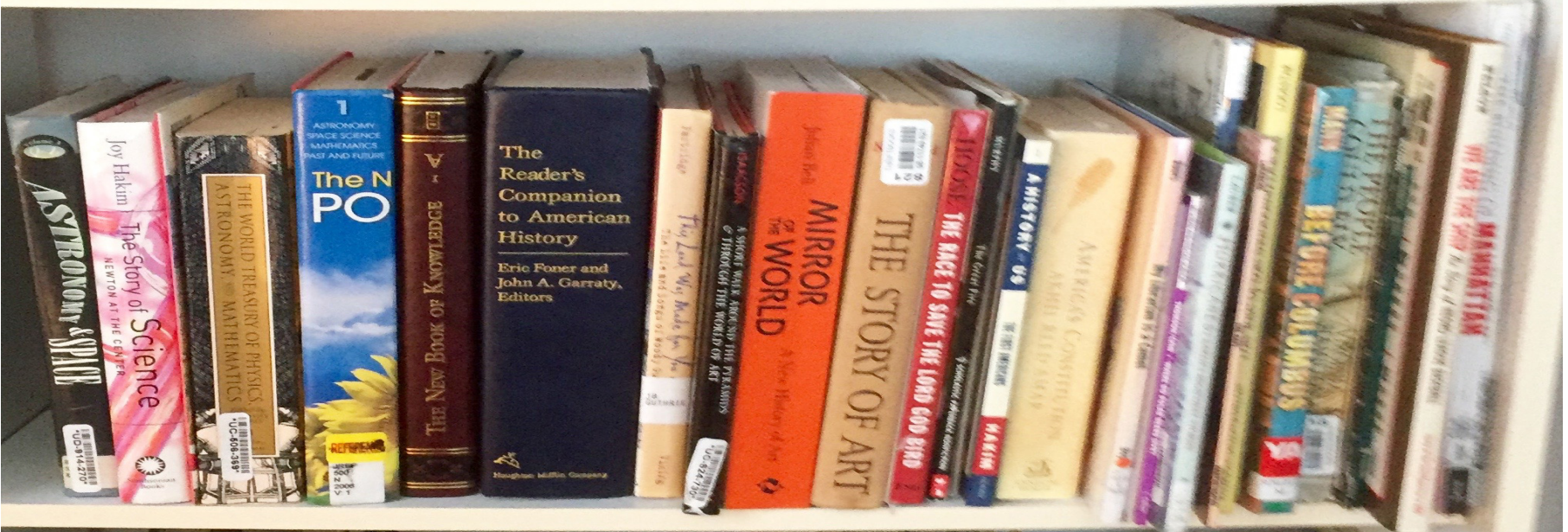
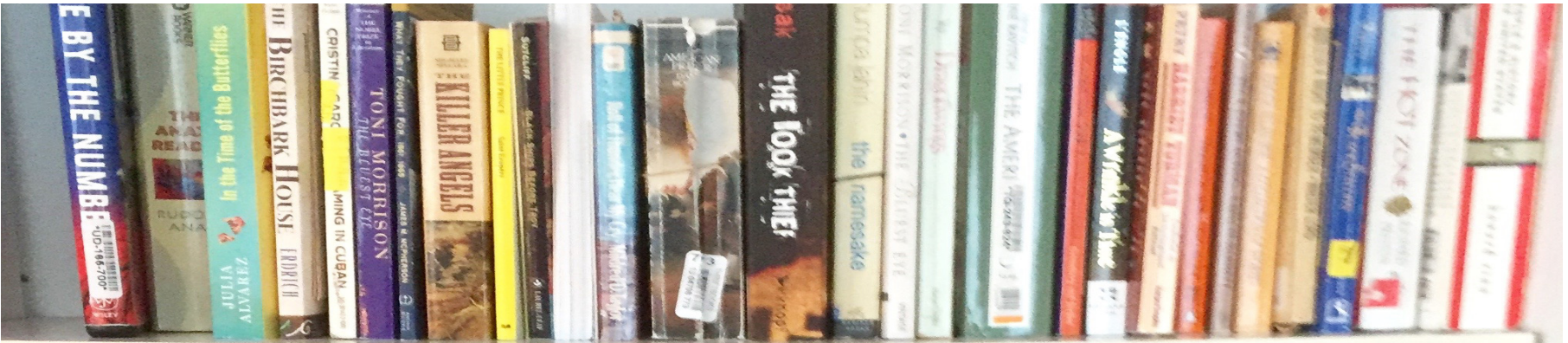


Elfrieda H. Hiebert
TextProject &
University of California,
Santa Cruz

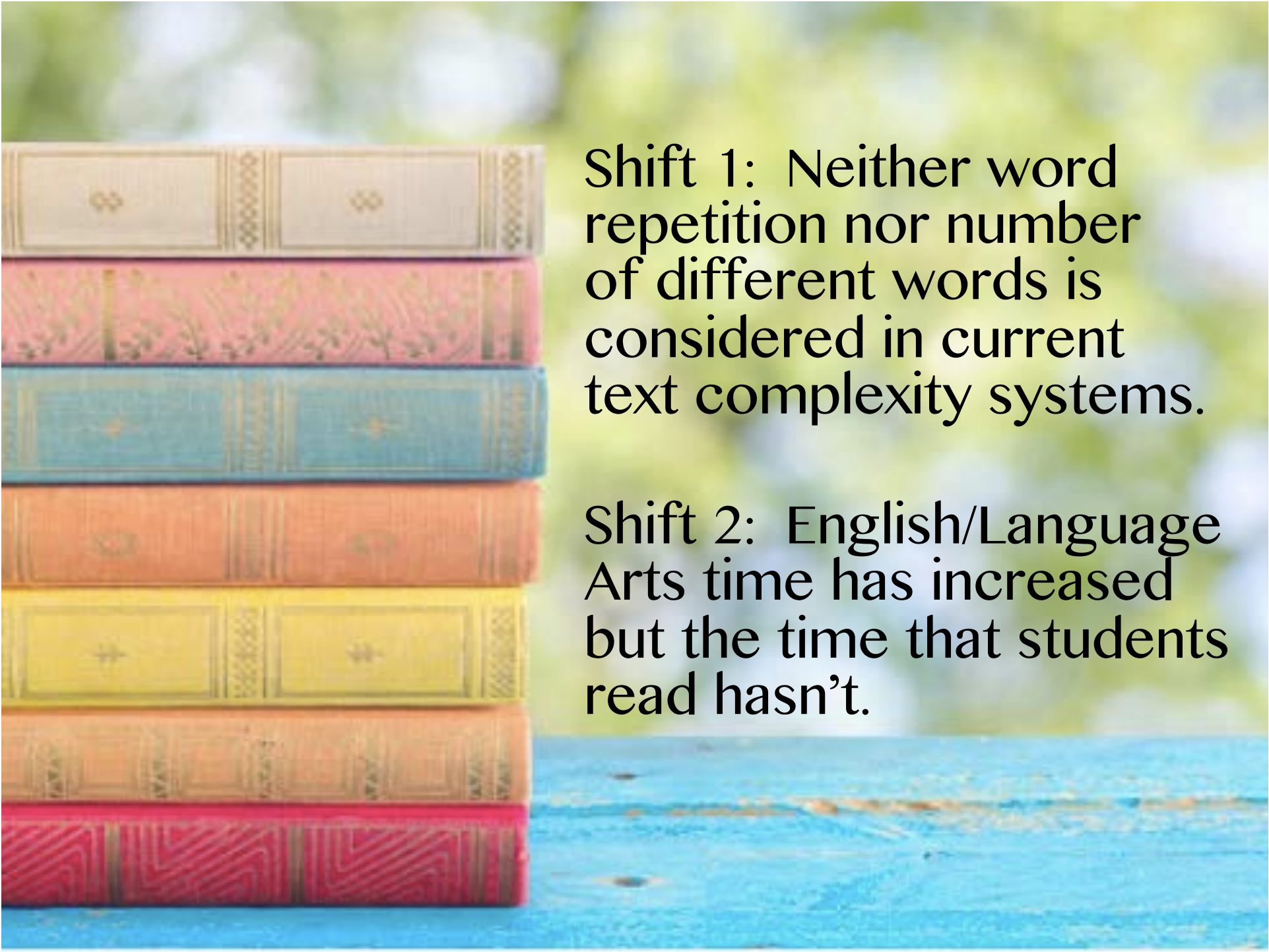












Shift 1: Neither word repetition nor number of different words is considered in current text complexity systems.

Shift 2: English/Language Arts time has increased but the time that students read hasn't.

Shift 1: Repetition and
pacing of words aren't part
of current text complexity
systems.



1963



 Jack, the kitten has a mitten.

 A mitten?

Where is the mitten?

 Here is the mitten.

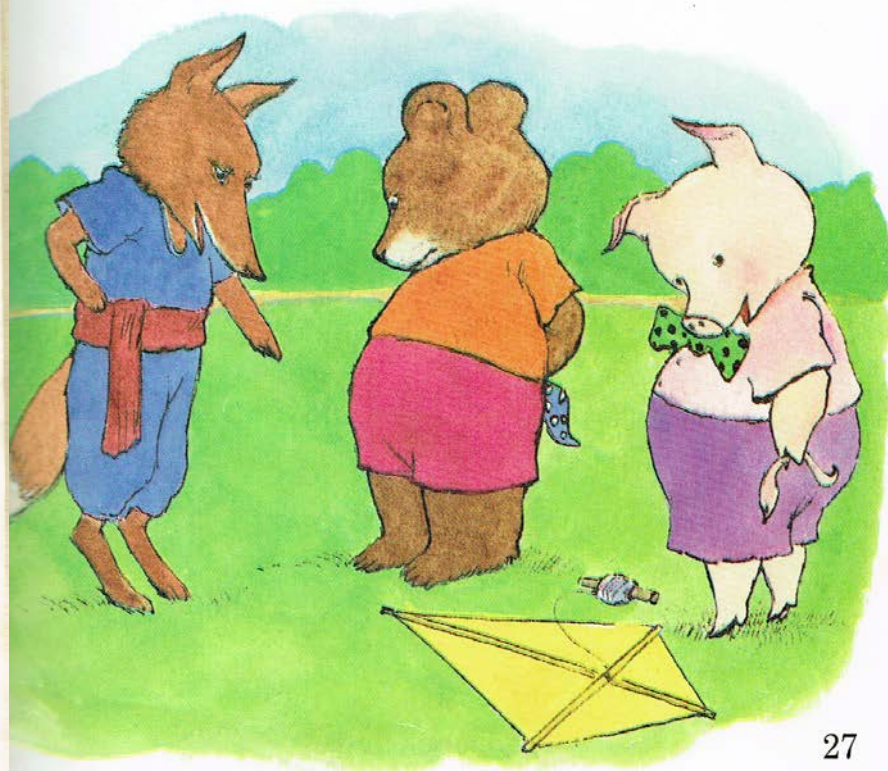
We have a kitten with a mitten.

1986

Fox: I see what you need.
You need a big tail.

Pig: I have a tail.
But my tail is little.

Boo: My tail is little, too.





So they dug



and they weeded,



1993

50

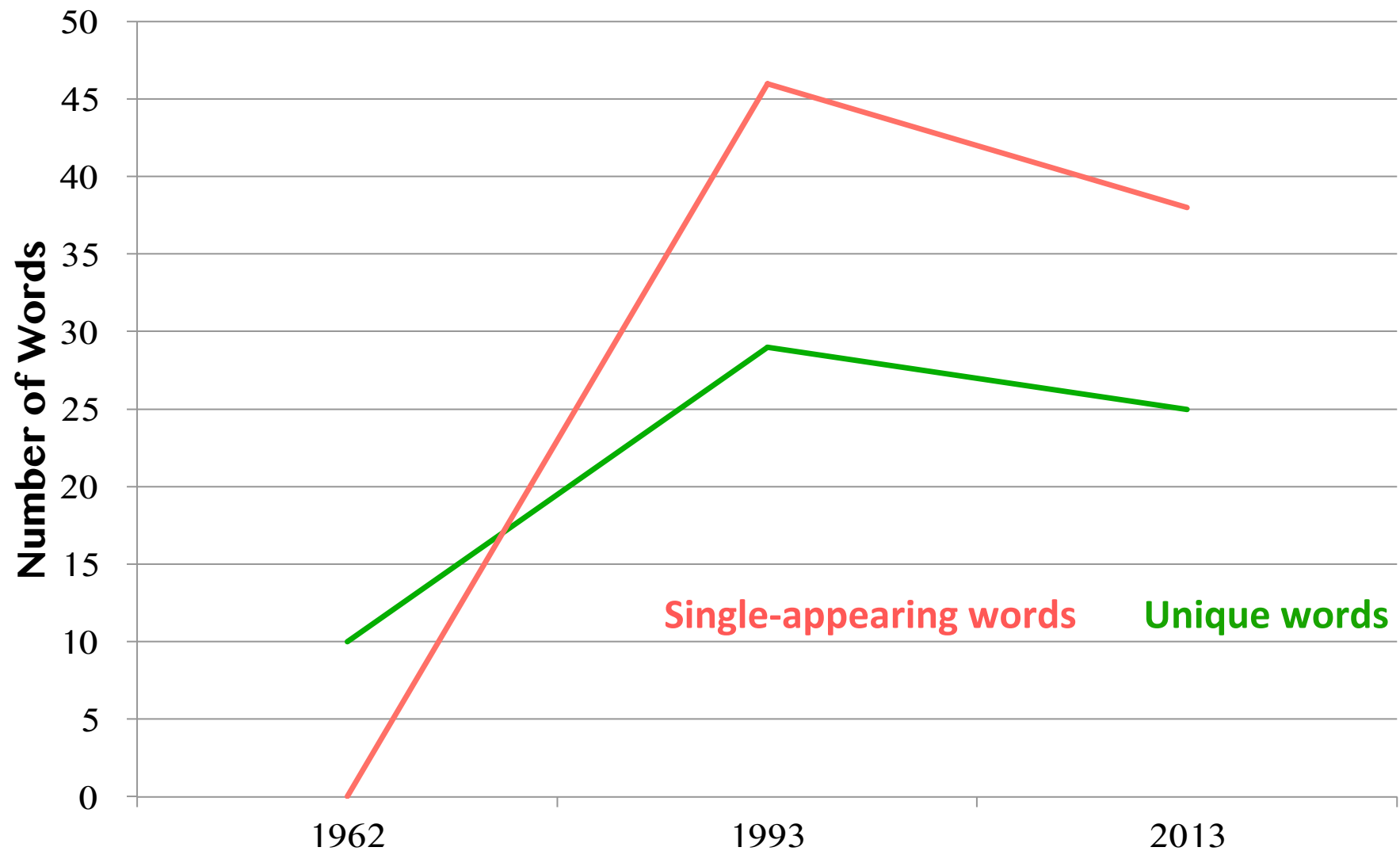


they raked

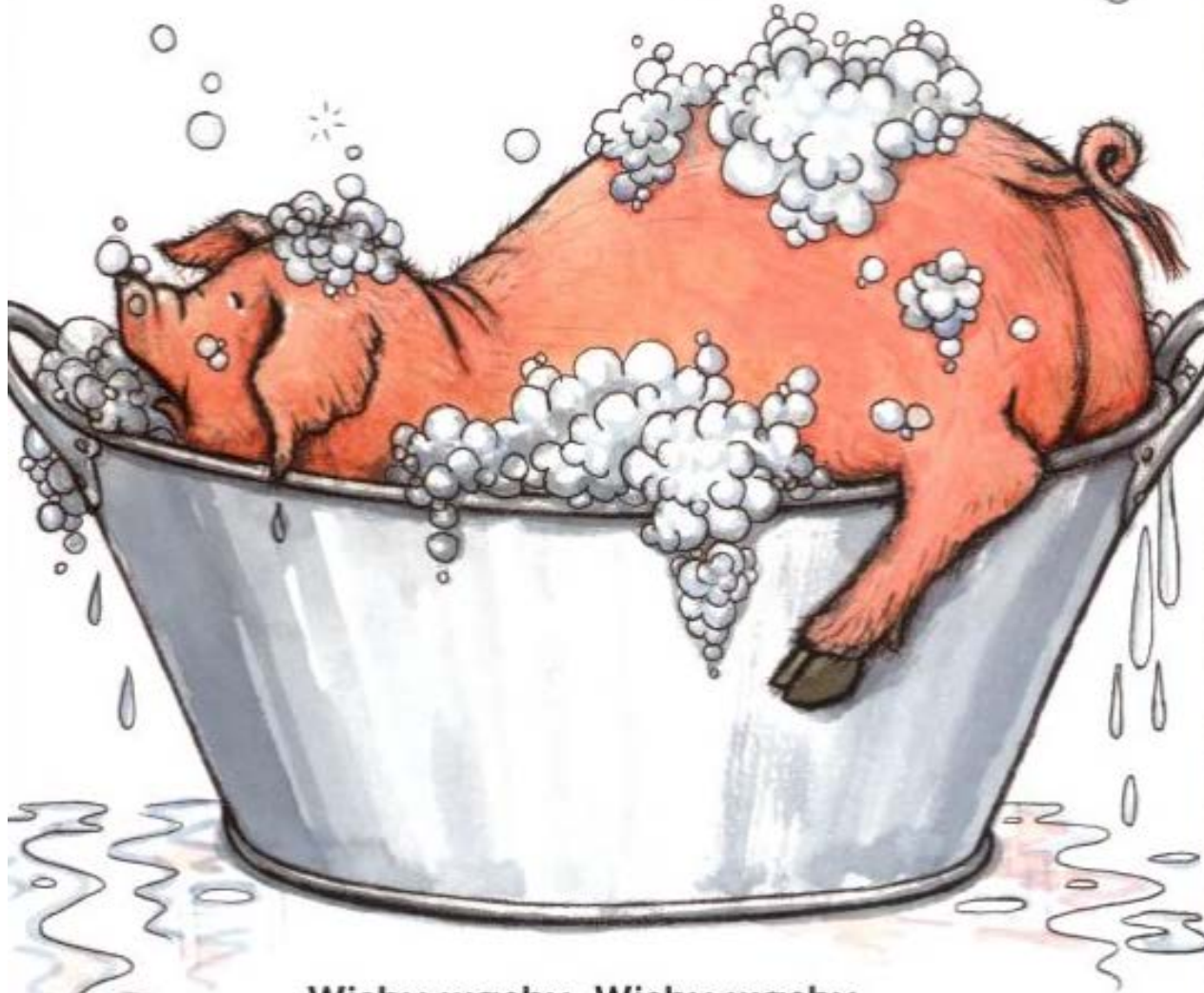


and they planted.

Beginning of Gr. 1: Task Over 50 Years



Leveled Texts (or Guided Reading Books)



Wishy-washy. Wishy-washy.
"Ee-ee!" the pig squeals.
"I have been scrubbed
from my nose to my heels."

Leveled Books in a Week of Instruction

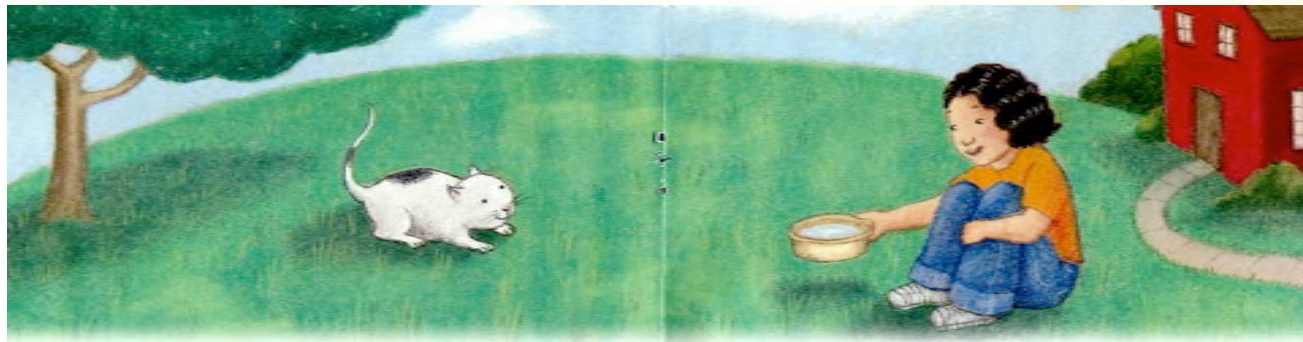


Rosa put a leash
on the puppy.

8

"Come walk,"
said Rosa.

9



Where is that cat?
My cat is on the grass.

4

Here, cat!
Come here, cat.
Come for a drink.

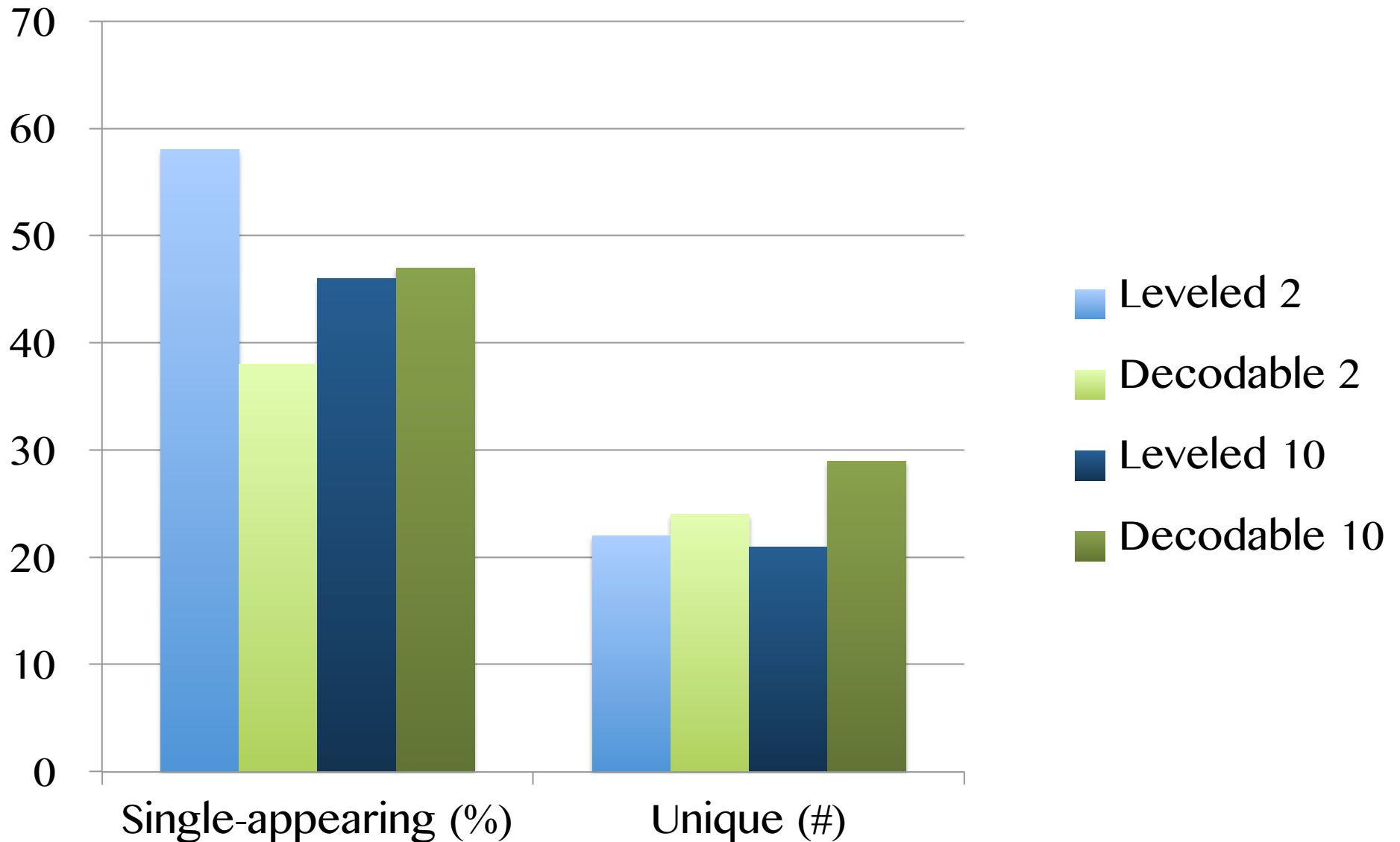
5

Decodable Texts



Brad's ram spins
and nabs his hat.
Brad is mad.
Brad nabs his hat.

Features of Decodable & Leveled Texts: Single-Appearing and Unique Words



Once upon a time, there was a duck named Drakes Tail.



Drakes Tail was a duck with brains. He saved all of his money. One day, the king asked to borrow some. Drakes Tail said yes.

12

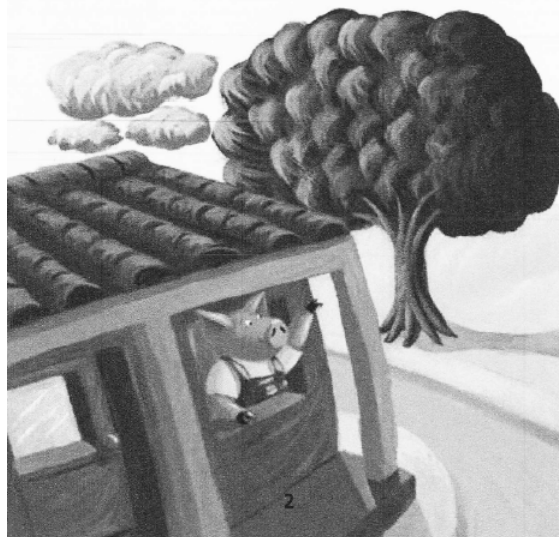
Anthology

Text Diet for One Week: Mid-Year Gr. 1 in A Core Reading Program

Leveled

Once upon a time, Pig and Mule were pals. Pig lived across the way from Mule.

Pig and Mule liked to bake.



2

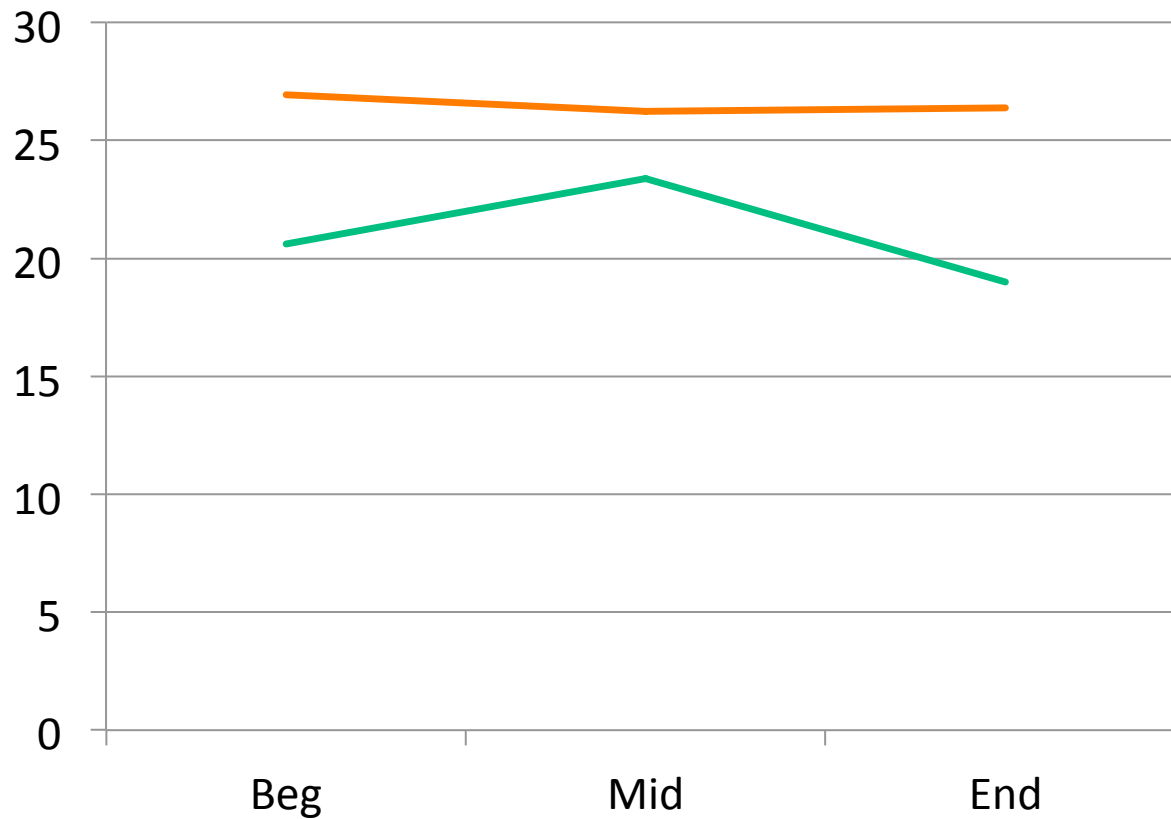


Rain is on Mom's gray rug.
Rain is in Mom's braid.
Rain is on Big Jay's tail.
There is so much water!

2

Decodable

Grade 3 Texts: Unique Words per 100



2014

1963

Consequences

By the middle of first-grade – despite all that they have been taught—the students in the basic and below basic groups know only relatively short words that appear with considerable frequency.

25th Quartile

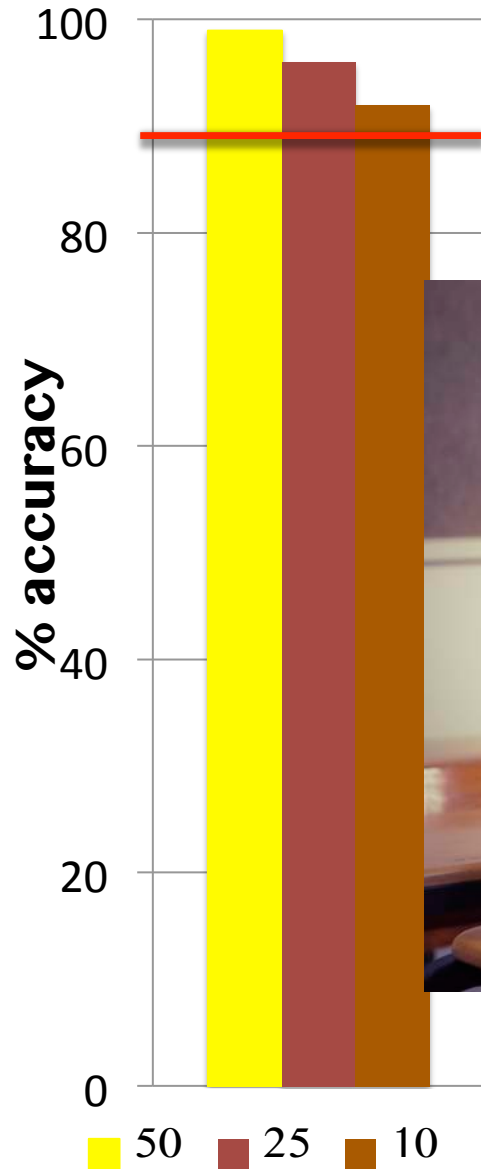
It was the day of the jump rope contest. Kim and Anna were going to compete. Kim was going to do a new trick. Anna was going to help.

50th Quartile

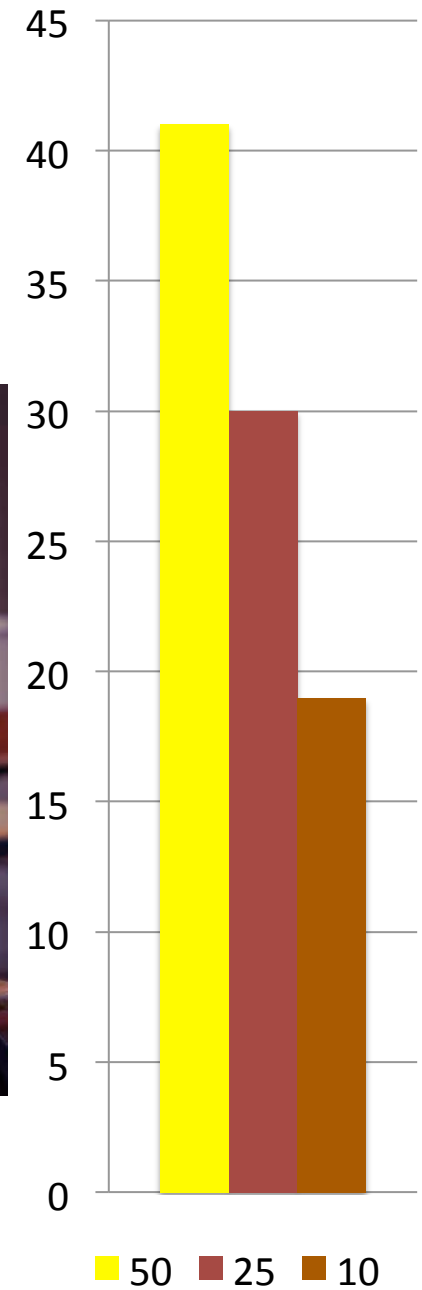
It was the day of the jump rope contest. Kim and Anna were going to compete. Kim was going to do a new trick. Anna was going to help. The two girls watched as younger children took

End Gr. 3: Oral Reading

Word Recognition Accuracy



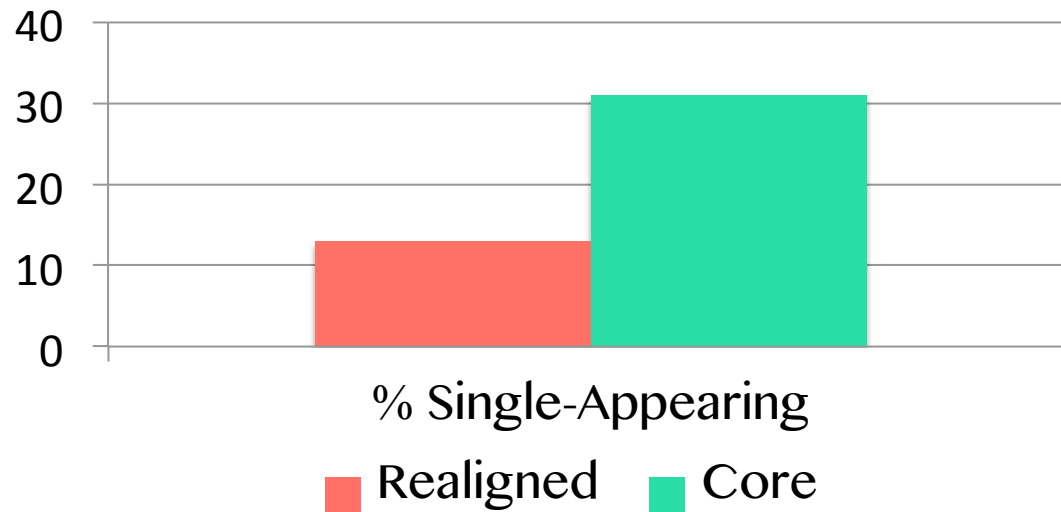
Comprehension



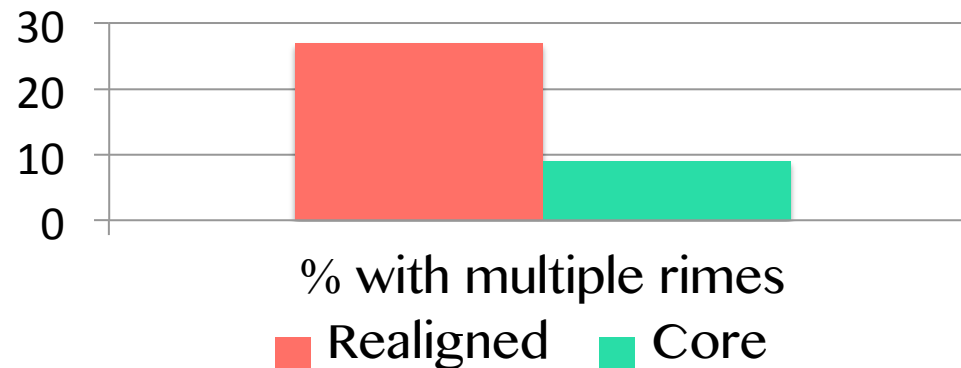
An Alternative

- Ordering books by linguistic content rather than by word count, picture-text match, or predictability of text structure
 - Menon, S., & Hiebert, E.H. (2005). [A comparison of first graders' reading with little books or literature-based basal anthologies. *Reading Research Quarterly*, 40\(1\), 12-38.](#)

1. Decrease the number of single-appearing words.



2. Increase the percent of words with shared rimes.



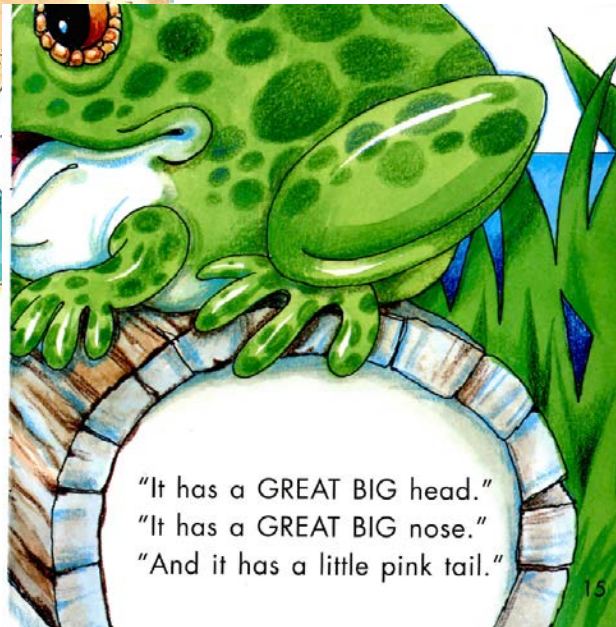
WORD	FREQ	# LET	U	A of A	CON- CRETE	FAMILY	FAMILY RANK
coach	5	5	26	6.89	4.12	oach o	101
toast	2	5	8	4.67	4.93	oast o	101
broke	4	5	106	5.3	3.29	oke o	101
woke	5	4	24	5.63	3.15	oke o	101
hole	1	4	82	5.05	4.81	ole o	95
home	2	4	631	3.87	4.11	ome o	101
bone	1	4	87	5.53	4.9	one o	93
hope	1	4	103	4.89	1.25	ope o	96
hose	2	4	6	5.33	4.87	ose o	46
nose	2	4	85	2.95	4.89	ose o	46
rose	3	4	96	6.11	4.9	ose o	46
those	1	5	659	5.01	2.32	ose o	46
note	12	4	84	6.4	4.61	ote o	101
wrote	3	5	111	4.89	3.55	ote o	101
stove	1	5	26	4.32	4.96	ove o	101

WORD	FREQ	# LET	U	A of A	CON- CRETE	FAMILY	FAMILY RANK
coach	5	5	26	6.89	4.12	oach o	101
toast	2	5	8	4.67	4.93	oast o	101
broke	4	5	106	5.3	3.29	oke o	101
woke	5	4	24	5.63	3.15	oke o	101
hole	1	4	82	5.05	4.81	ole o	95
home	2	4	631	3.87	4.11	ome o	101
bone	1	4	87	5.53	4.9	one o	93
hope	1	4	103	4.89	1.25	ope o	96
hose	2	4	6	5.33	4.87	ose o	46
nose	2	4	85	2.95	4.89	ose o	46
rose	3	4	96	6.11	4.9	ose o	46
those	1	5	659	5.01	2.32	ose o	46
note	12	4	84	6.4	4.61	ote o	101
wrote	3	5	111	4.89	3.55	ote o	101
stove	1	5	26	4.32	4.96	ove o	101



Bob tripped on a hose.
He dropped the note.

12



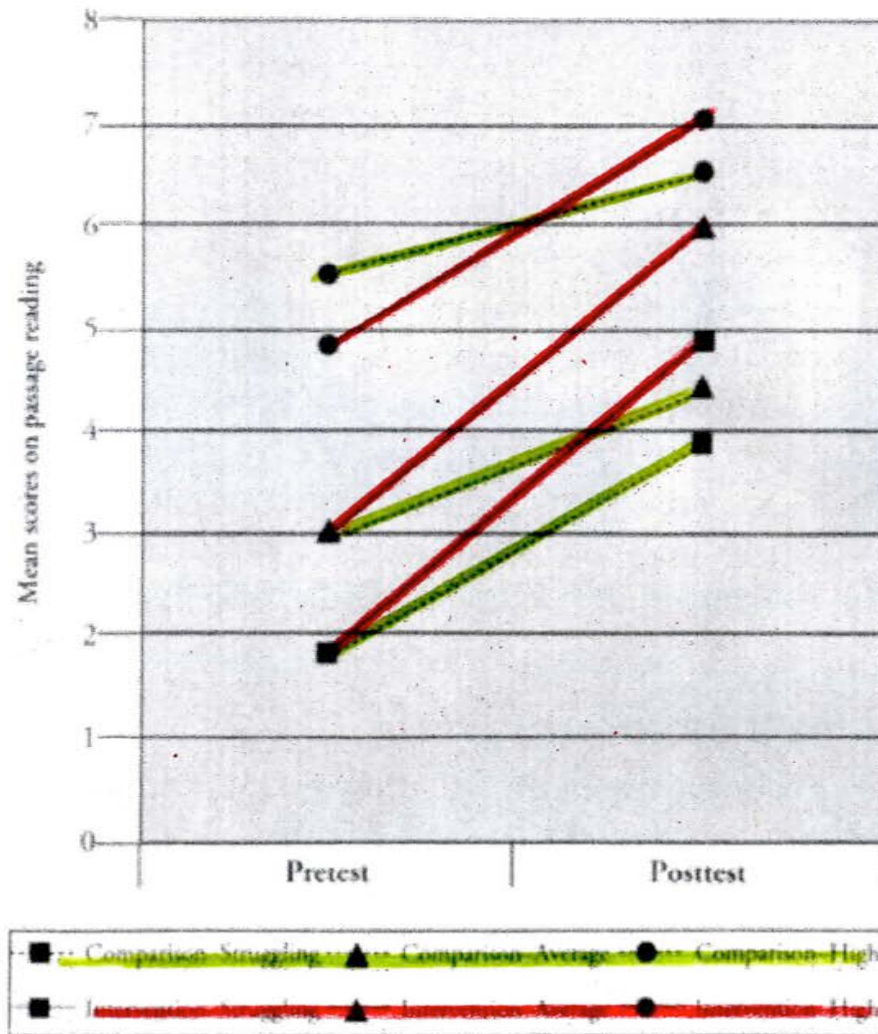
15

Shared Rimes:
hose
rose
nose



"A rose would be nice for Mom," said Egor.
Egor put the rose in the pot.

FIGURE 2
INCREASE IN MEAN SCORES OF
CHILDREN AT DIFFERENT ACHIEVEMENT
LEVELS ON PASSAGE READING
(PRE- AND POSTTEST COMPARISONS)

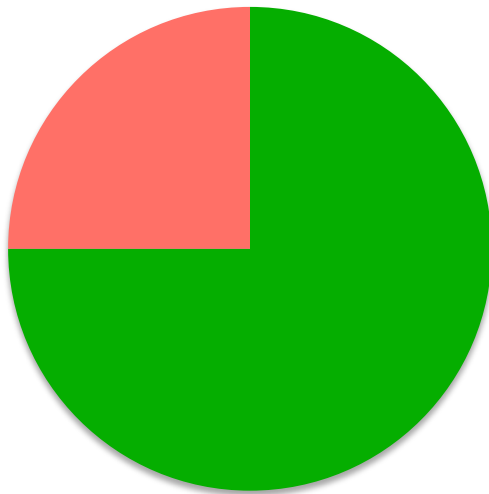


II. More school time devoted to ELA—but similar/ decreased amounts of reading, especially silently.



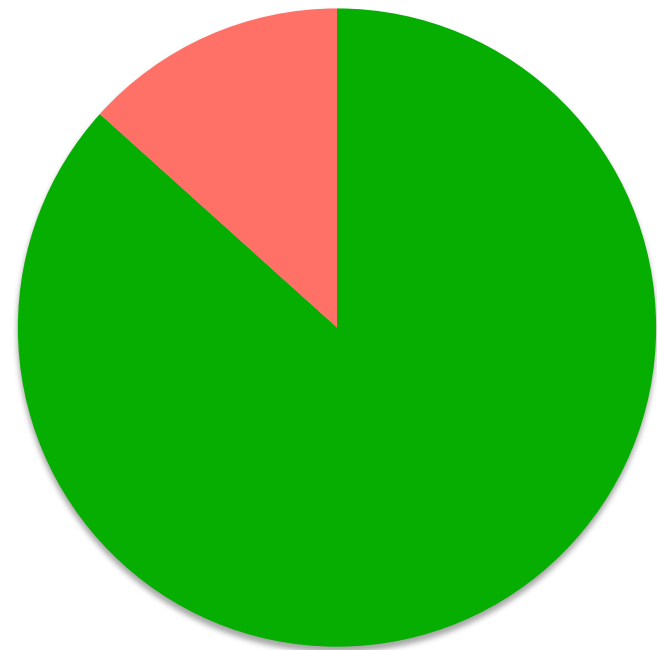
Time Spent in Reading Instruction & “Eyes on Text”

Reading Instruction (1970s
to late 1980s)



■ Instruction ■ Time Spent reading

Reading Instruction (late 1990s -)



■ Instruction ■ Time Spent reading

Longer Teachers' Editions

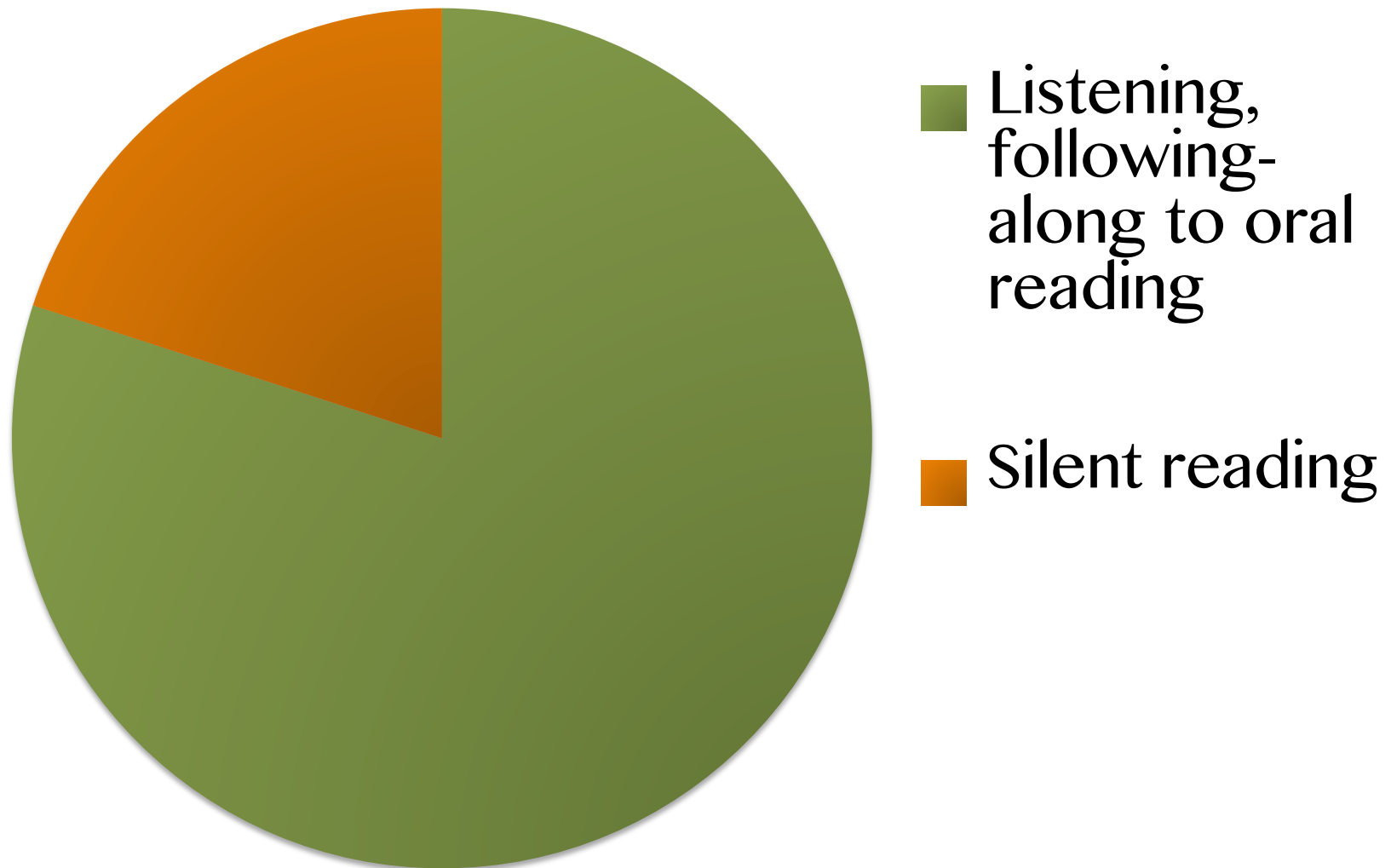


1st half of Gr. 3:

1965: 235 pages

2014: 2,271 pages

Time in Assisted and/or Oral Reading

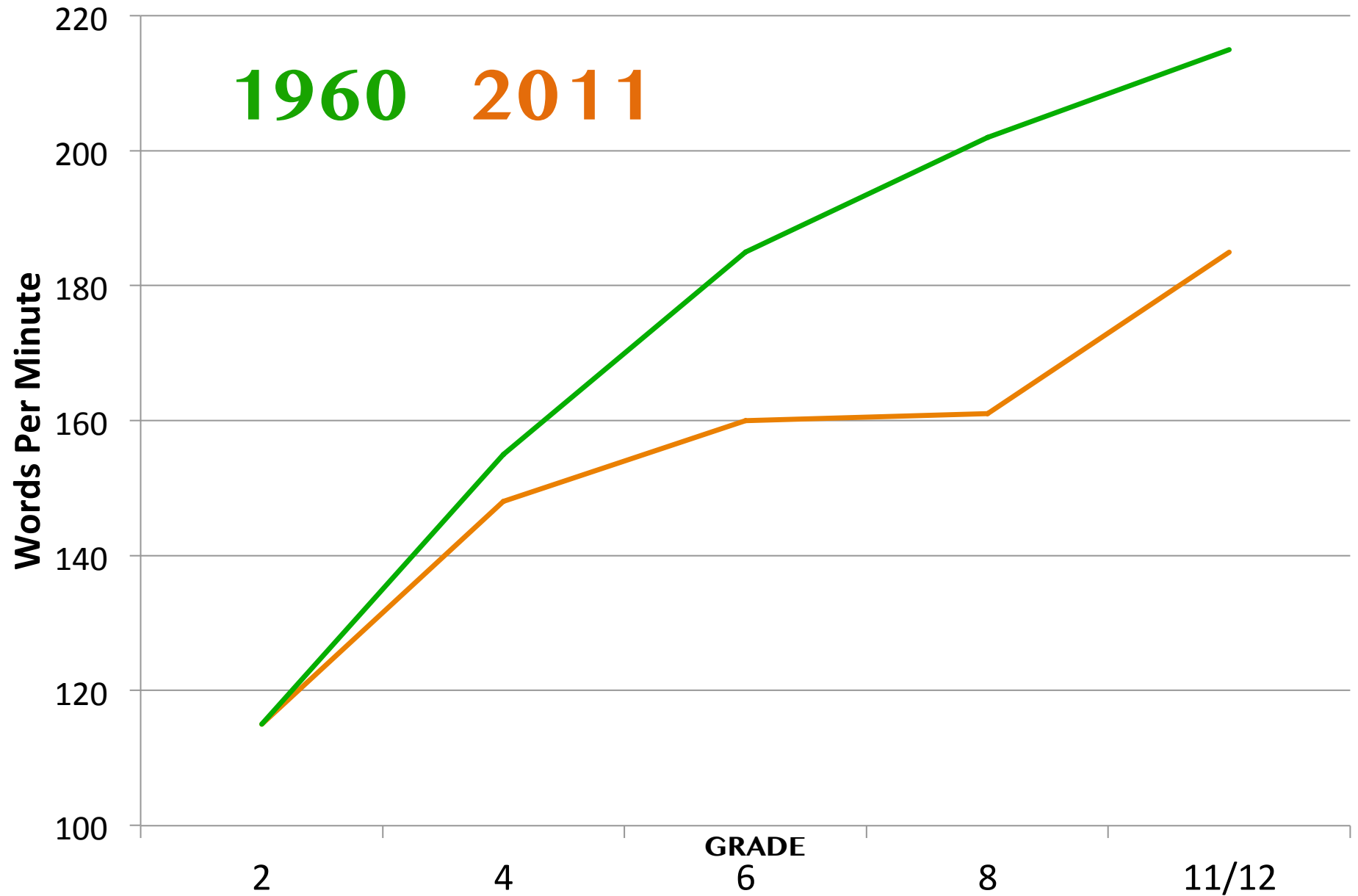


Swanson, E., Wanzek, J., McCulley, L., Stillman-Spisak, S., Vaughn, S. Simmons, D., Fogarty, M., & Hairrel, A. (2016)).

Consequences

- In silent reading tasks, many students don't have the stamina to keep reading on their own.

Comprehension-Based Silent Reading Rate



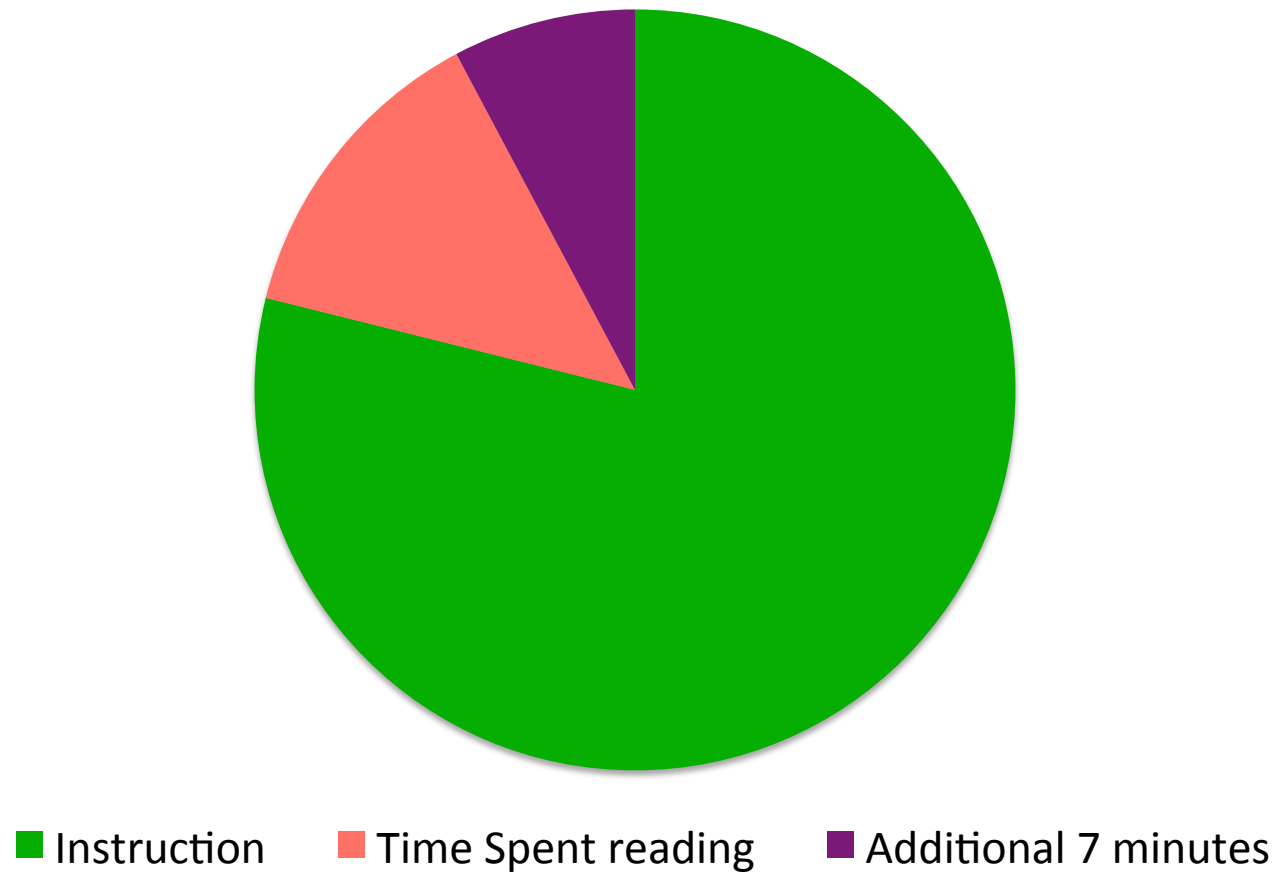
Spichtig, Hiebert, Vorstius, Pascoe, Pearson, & Radach, 2016

An Alternative

- 7 minutes of additional reading distinguished classrooms with high achievement than those with lower achievement
 - Kuhn, M.R., & Schwanenflugel, P.J. (2009). Time, engagement, and support: Lessons from a 4-year fluency intervention. In E.H. Hiebert (Ed.), *Reading more, reading better* (pp. 141-160). New York, NY: Guilford.

7 Minutes of Additional Reading

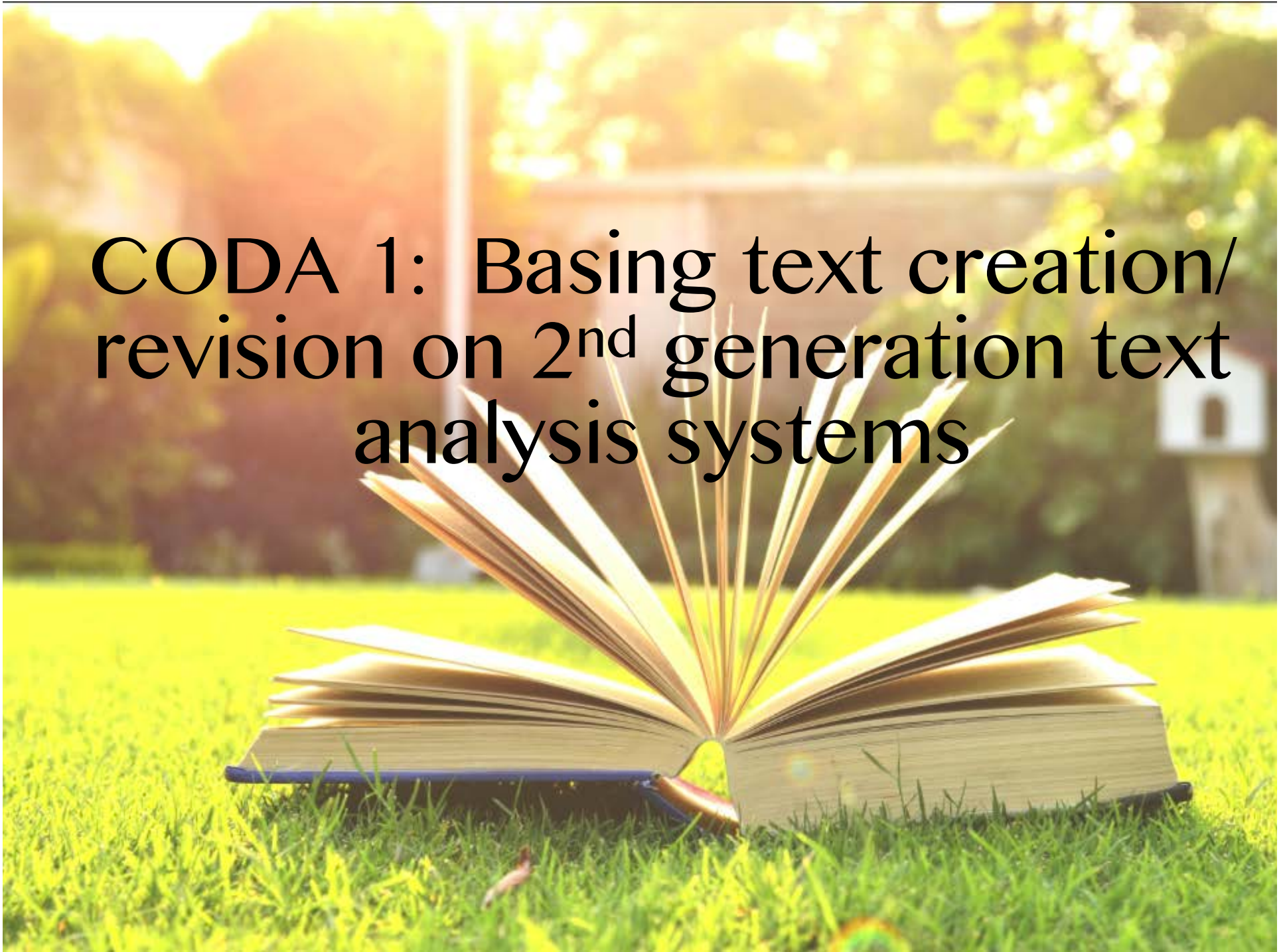
Reading Instruction (w/ 7 additional minutes)



Features of Deliberate Practice

- Students take responsibility for reading (i.e., *responsible reading*)
- Students have a clear task—including purpose for reading.
- There is follow-through after reading but amount of time spent responding to reading does not exceed time spent reading (for *many* but not all texts—especially in the primary grades).

CODA 1: Basing text creation/ revision on 2nd generation text analysis systems



Lexile-leveled texts

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

MAX

1210L

1040L

850L

620L

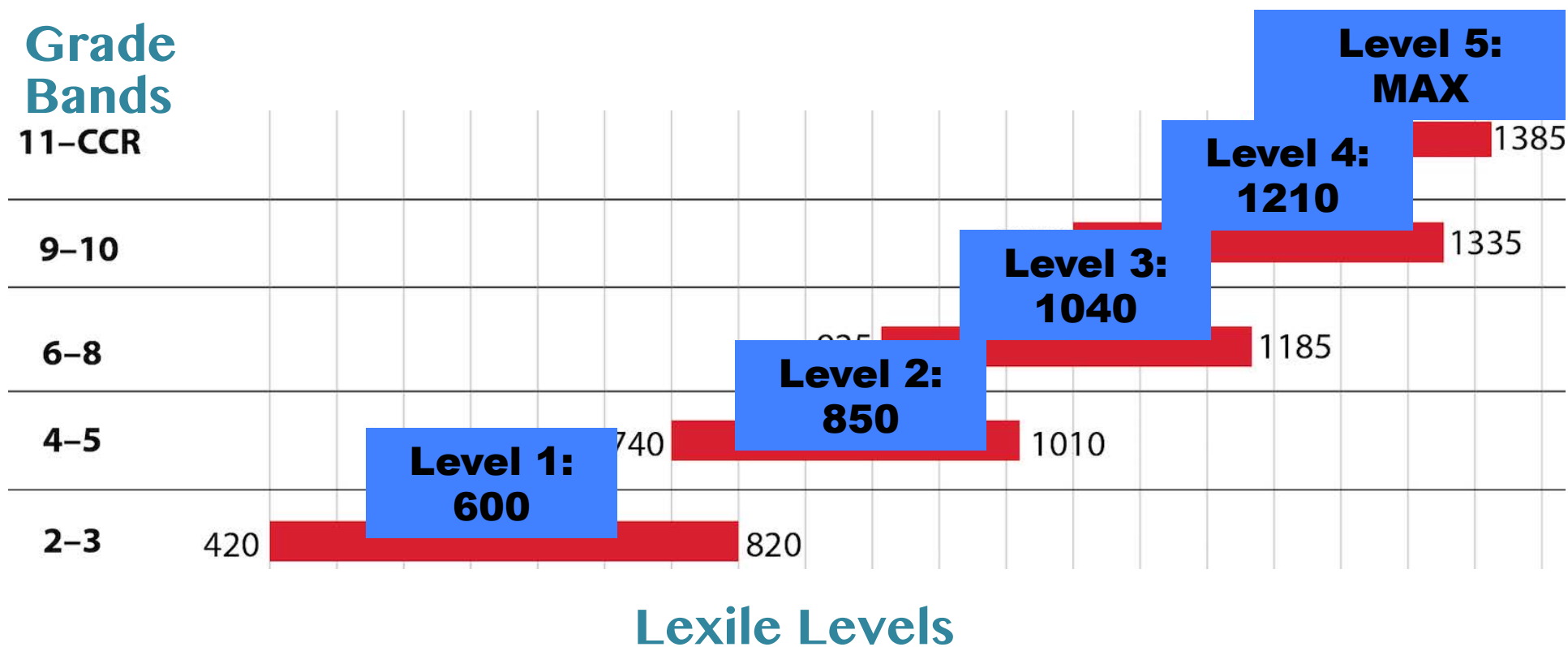


WRITE



QUIZ

Common Core State Standard's Staircase and Leveled Texts for a Topic



Endangered koalas affected by forest clearing in Queensland

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

Grade Level **7**
Word Count **682**



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

In Queensland, Australia, the laws over cutting down trees were made less strict. As a result, new maps show that about 325 square miles of important koala forests have been destroyed. Two years ago, the koala, Australia's national icon, was listed as endangered.

The koala's homeland made up about 14 percent of all land cleared between 2013 and 2015. This is alarming, according to the conservationist groups the World Wildlife Fund and the Australian Koala Foundation.

Conservationist Groups Are Shocked

Deborah Tabart runs the Australian Koala Foundation. She said that the loss of that much land was "shocking given the recent statement that koalas are functionally extinct in various parts of Queensland."

Tabart asked how this could have been allowed when the koala was listed as endangered by the government in 2012. She thinks the federal government should have voted on the land clearing, instead of being passed quickly by the state government in Queensland.

World Wildlife Fund scientist Martin Taylor said they need to stop destroying the koala's home. Otherwise, there is no hope of saving Queensland's koalas.

Bill To Be Discussed By Parliament

A Queensland government bill will be discussed by parliament very soon. The bill would restore the controls on land clearing that were undone by the former Liberal National government. The Liberal National Party is the right-wing party in Queensland.

The government argues that land clearing reforms have been very important. They stopped pollution from running off into the Great Barrier Reef. The change convinced the international organization UNESCO to keep the natural wonder off its "in danger" list last year.

The proposed reforms have provoked strong opposition from the rural lobby AgForce. However, AgForce is not a political party, but a group in Queensland that attempts to persuade officials to make and vote for laws that benefit farmers. Other political parties oppose the bill as well. They include the Liberal National Party and two representatives from the smaller Katter Party. They are expected to vote against the bill.

Peter Wellington is an independent member of parliament, meaning he does not belong to any major Australian political party. His vote might decide whether the bill passes or not. Wellington was supposed to meet Greenpeace representatives before the parliamentary meeting began to accept a petition in favor of restoring controls against clearing. Almost 24,000 Queenslanders have signed the petition.

Earlier, about 200 people rallied outside parliament in favor of the laws.

Landowners Should Be Held Accountable

The Queensland law society has condemned part of the bill. The bill would not require landowners to provide proof that they did not unlawfully clear land. The current Queensland state government thinks this lets landowners off too lightly.

Last week, the government's environment department stopped clearing on a north Queensland property. They wanted to study how the Environmental Protection and Biodiversity Conservation Act has affected the Great Barrier Reef. The act was passed to protect the country's plants and animals.

One Queensland senator, Ian MacDonald, raised concerns about the federal government. He does not want it interfering in permits already granted by the state government.

Koala Homeland Being Cleared For Cattle Pasture

The mapping of the clearing of koala homeland is the result of joint work by the World Wildlife Fund and the Australian Koala Foundation. They compared state government surveys showing land use with the Australian Koala Foundation's koala population maps. The maps show that 91 percent of clearing was for cattle pasture.

About 180 square miles were cleared between 2014 and 2015, which is up from the 140 square miles cleared the year before.

The single largest amount of clearing took place in western Queensland. At 45 square miles, it was nearly double the amount cleared in the next-highest local government area.

There was also significant clearing of koala homeland in other rural areas. Almost all of the areas lie west of the Great Dividing Range, Australia's largest mountain range.

Clearing forests in Queensland has more than tripled since 2010. Between 2009 and 2010, 300 square miles were cleared. Between 2014 and 2015, 1,140 square miles of forests were cut down.

MAX

1200L

1030L

870L

600L



WRITE



QUIZ

Many forests where koalas live are being cut down

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

Grade Level **3**
Word Count **299**



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

In Queensland, Australia, the government loosened some of its rules about cutting down trees. Many of the cleared forests were home to koalas. The koala has almost died out in Queensland.

Martin Taylor is a scientist. He said the koala's home forests need to be protected. If not, the nation's koalas cannot be saved.

Laws To Stop Cutting Down Trees

The Queensland parliament might pass a law to stop cutting down forests. Then it will not be so easy for people to chop down trees. In Australia, parliament makes the laws.

The government wants to stop too many people from cutting down trees. The forests help to protect the Great Barrier Reef. The reef is home to some of the world's most beautiful fish. Many people visit the reef. The government wants them to keep visiting.

Some people do not want the law to pass. They work for farmers who want the land for cattle. They will vote against it.

Many people in Queensland do want the new law. Almost 24,000 Queensland citizens signed a letter. The letter says the new law is needed. About 200 people stood outside parliament. They wanted to show support for the law.

Some people think the rules are not strong enough. Landowners will not have to show proof that they did not cut down forests. Some people think this lets them get away with it.

Lots Of Koala Homeland Is Gone

Many forests were cut down in the country. Almost all were west of the Great Dividing Range. The Great Dividing Range is Australia's largest mountain.

The World Wildlife Fund and the Australian Koala Foundation are working together to save the koala. They showed how much koala homeland has been lost. Much more land is being cleared now than just five years ago.

MAX

1200L

1030L

870L

600L

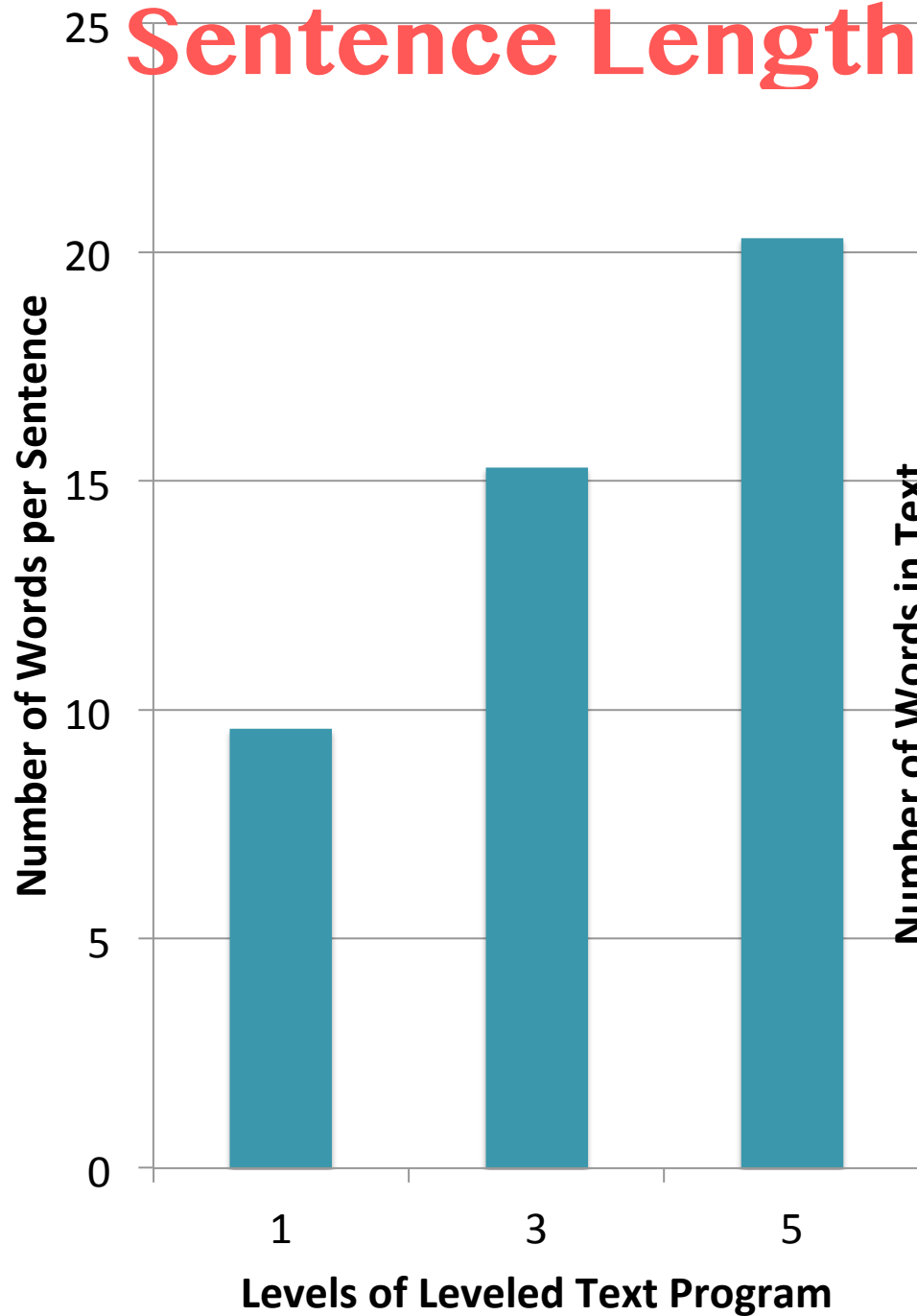


WRITE

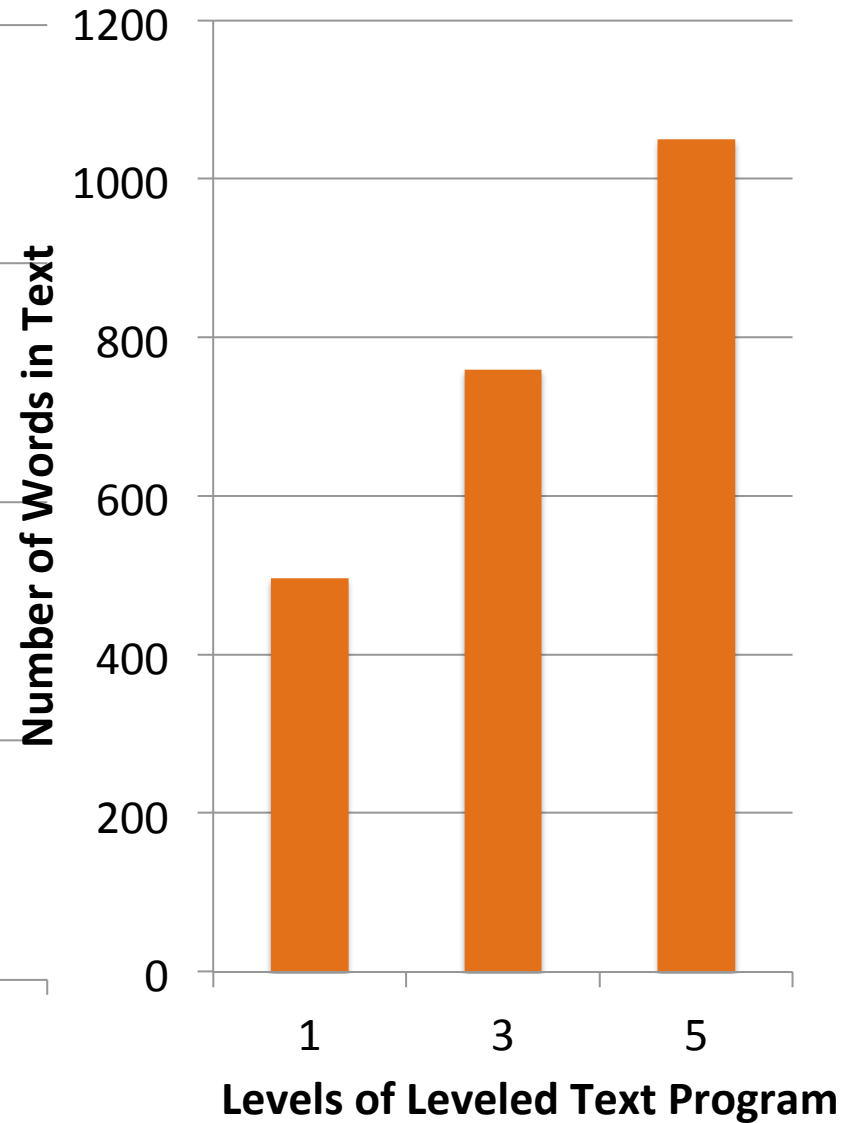


QUIZ

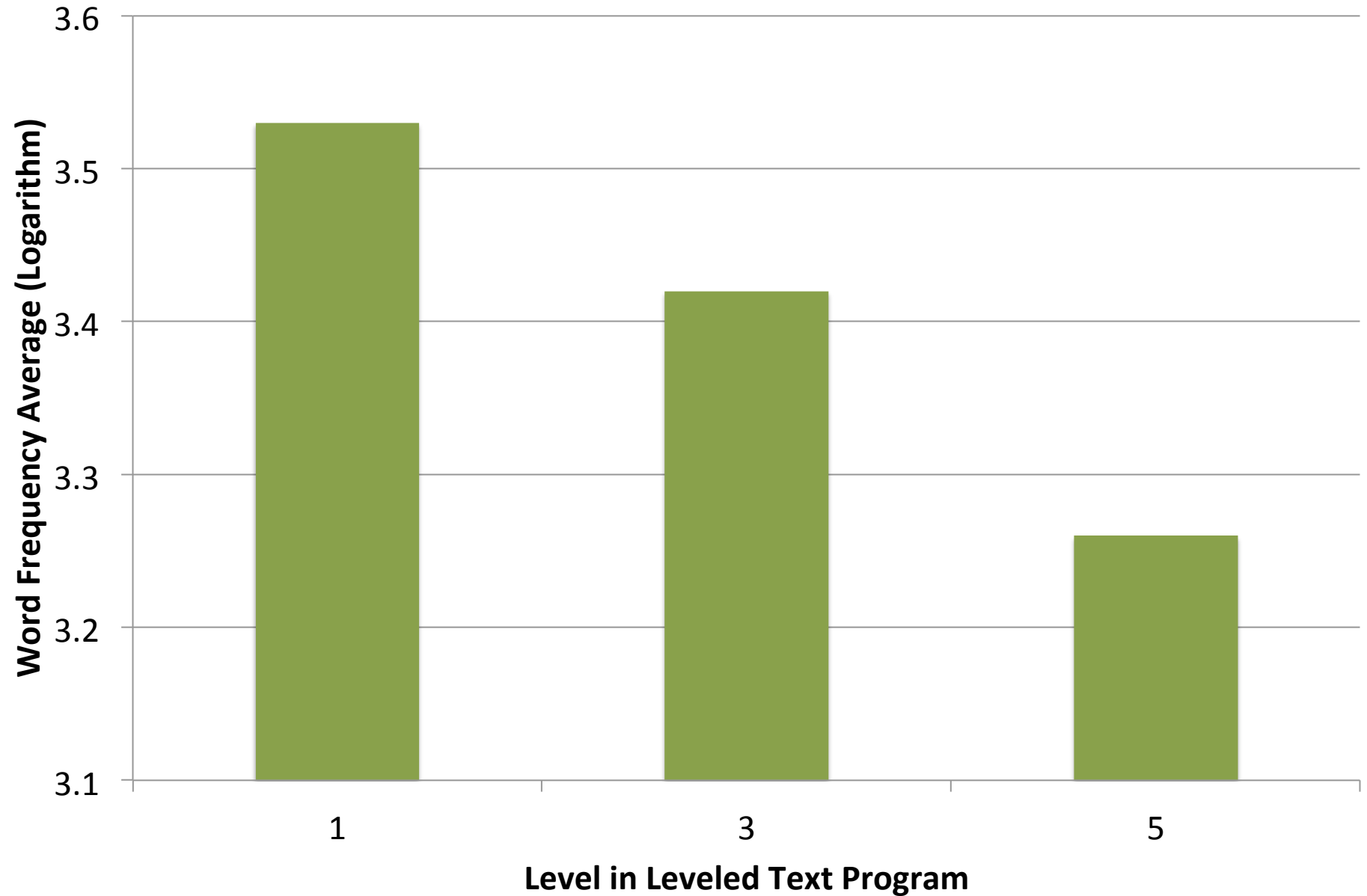
Sentence Length



#Words



Word Frequency



2 texts with Word Freq. Mean of 3.21

Mack had a hat.

Mack had a **sack**.

Mack sat in the **sack**.

Tack sat.

Tack had a hat.

Tack had a **sack**.

Tack sat on the hat.

Tack ran.

Mack ran.

Can **Mack nab Tack**?

Among the physical characteristics of these **nonlinear condensation polymerizations**, the occurrence of a sharp gel point is of foremost significance. At the gel point, which occurs at a well defined stage in the course of the **polymerization**,...

**Because the chain broke,
the machine stopped.**

**The chain broke. The
machine stopped.**

3rd-Grade FSA: Text 1

Then the big fish saw tiny feet and wet, feathery wing tips coming toward her. She started to drift upward toward the struggling bird.

Meanwhile, the bird's frantic parents were watching from the willow tree. They shrieked and screamed and darted about in the branches while the young bird swam on.

3rd Grade FSA: Text 2

What kind of birds will you see? Some of this will depend on where you live. You can look up state birds **online** or at your local library.

Make the holes in your milk **carton** the right size for the birds you hope to attract. You can also set out the food that they like best!

3rd Grade FSA: Text 3

He was trained as an acrobat and for tightrope walking, and came to this country with a troupe of pantomimists [or people who act through body movements].

While here he visited Niagara Falls, and the idea at once struck him that, if he dared to cross those terrible waters on a rope, his fortune would be made.

Lexile Information on FSA Texts

	Lexile	Sentence Length	Word Frequency	#Words
Swim, Baby, Swim!	830	13.28	3.66	704
Better Birdhouse	820	12.14	3.52	449
Daredevil Performer	1150	20.88	3.70	355

“Leveled” sets of same content texts

He was trained as an acrobat and for tightrope walking, and came to this country with a troupe of pantomimists [or people who act through body movements].

While here he visited Niagara Falls, and the idea at once struck him that, if he dared to cross those terrible waters on a rope, his fortune would be made.

Lexile: 1150

Sentence length: 20.9

Average Vocabulary Frequency: 3.70

He was trained as an acrobat and for tightrope walking. He came to this country with a troupe of pantomimists [or people who act through body movements].

When he visited Niagara Falls, an idea struck him at once. If he dared to cross those terrible waters on a rope, his fortune would be made.

Lexile: 870

Sentence length: 14.4

Average Vocabulary Frequency: 3.67

“Leveled” sets of same content texts

He was trained as an acrobat and for tightrope walking. He came to this country with a troupe of pantomimists [or people who act through body movements].

When he visited Niagara Falls, an idea struck him at once. If he dared to cross those terrible waters on a rope, his fortune would be made.

Lexile: 870

Sentence length: 14.4

Average Vocabulary Frequency: 3.67

He was trained as an acrobat and for tightrope walking. He came to this country with a troupe of pantomimists. They are people who act through body movements.

When he visited Niagara Falls, an idea struck him at once. What if he dared to cross those terrible waters on a rope? He knew his fortune would be made.

Lexile: 520

Sentence length: 8.69

Average Vocabulary Frequency: 3.66

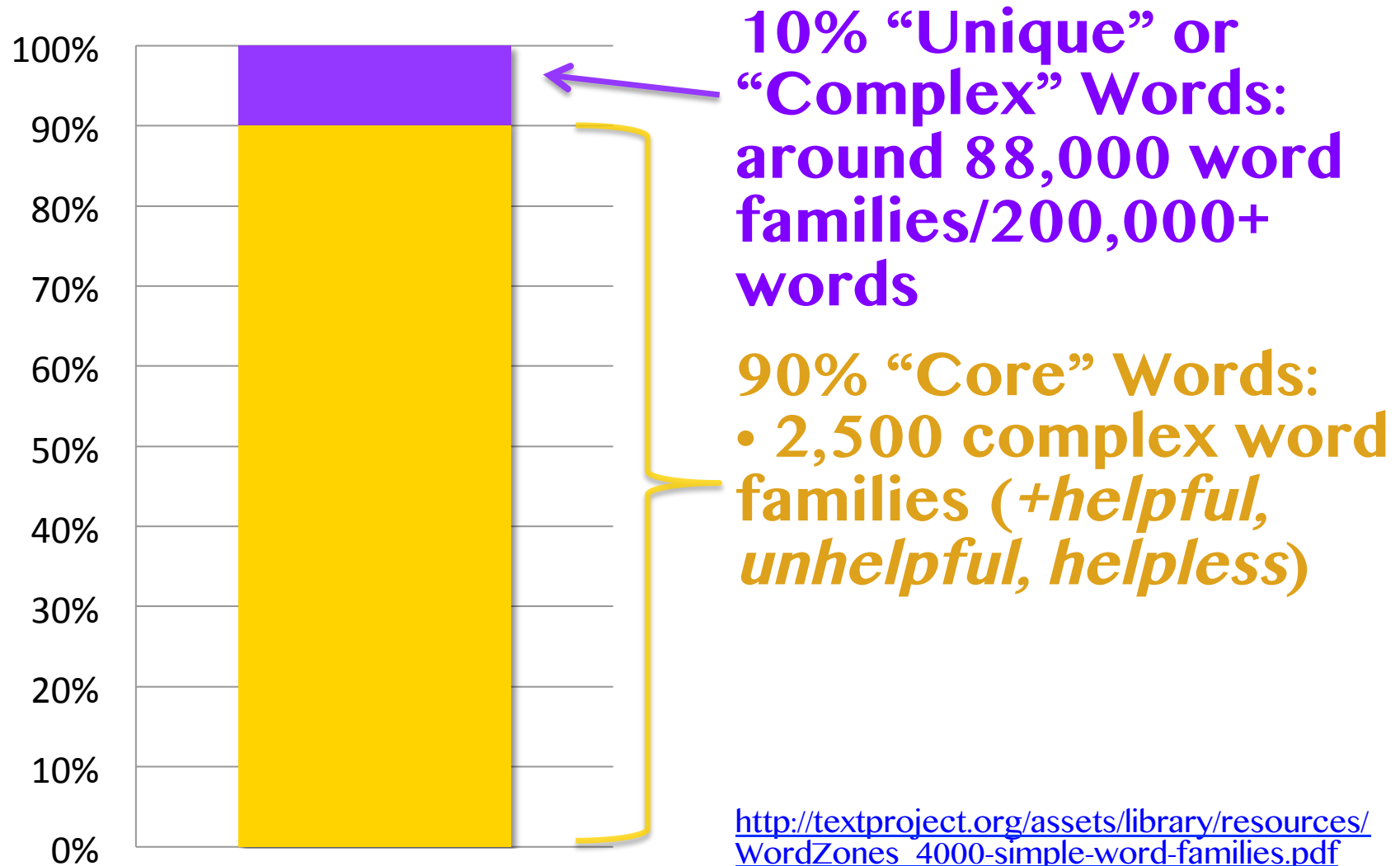
CODA 2: Three Illustrations of Text Creation Based on Models of Words and Learning



Project 1: QuickReads



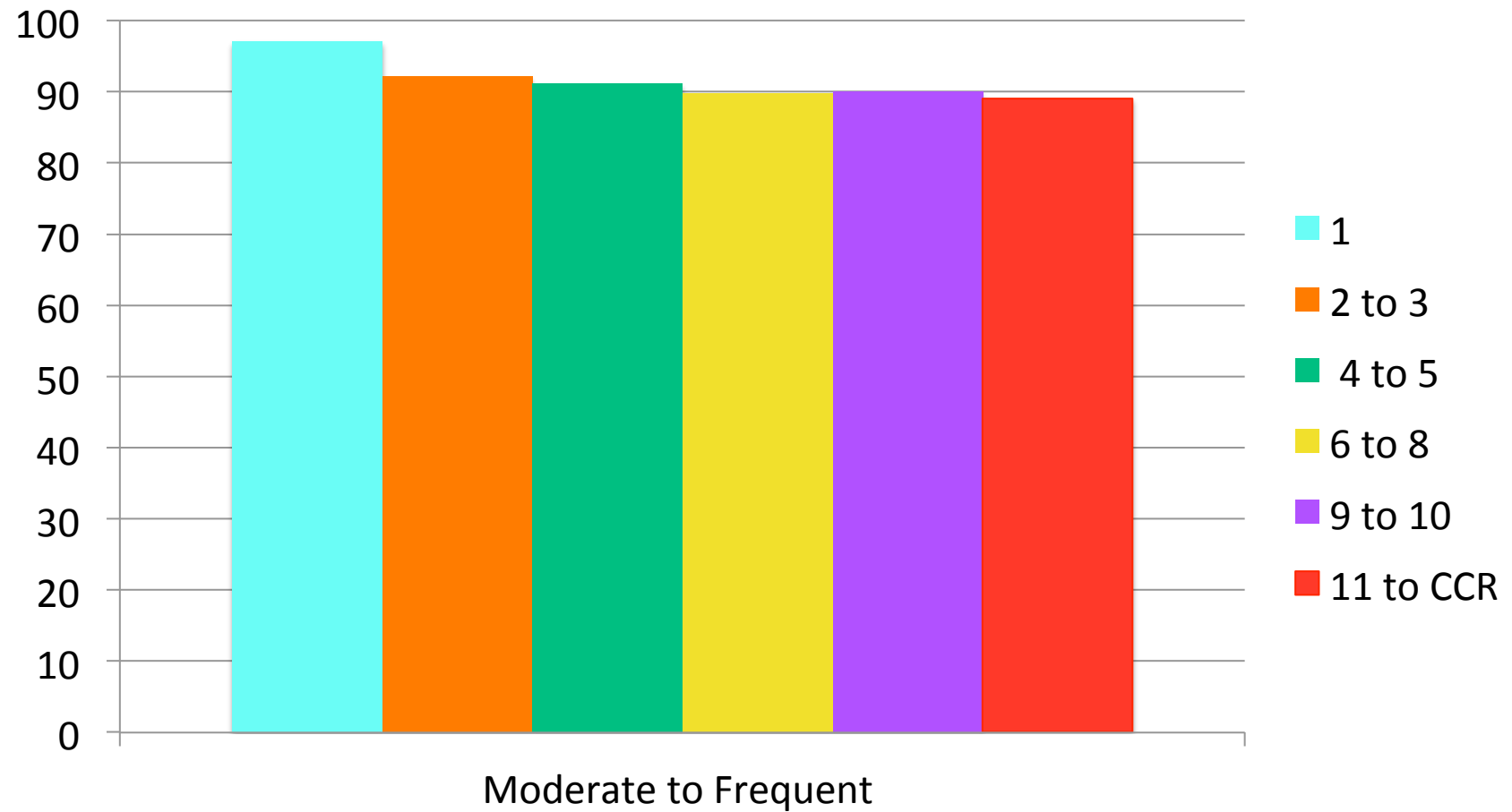
Distribution of Words in Written English



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

Distribution of Core Vocabulary in Texts



Vocabulary Progression in Content Texts

Level F: 6,000 most frequent words;
monosyllabic words

Level E: 2,500 most frequent words;
monosyllabic words

Level D: 1,000 most frequent words; monosyllabic
words; two-syllable words with regular vowel patterns

Level C: 1,000 most frequent words; all monosyllabic words

Level B: 600 most frequent words; short, long, and *r* vowels

Level A: 300 most frequent words; short and long vowels

Stars



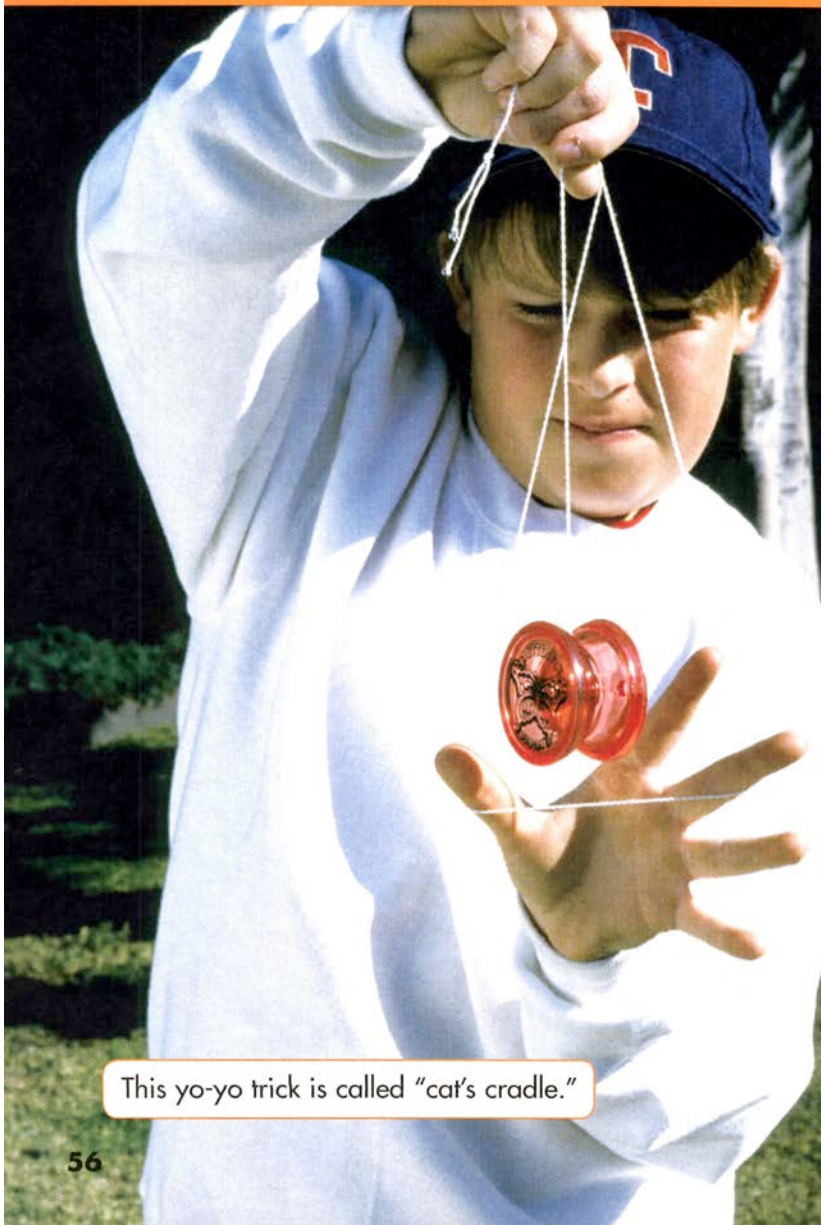
This picture shows lots of shooting stars falling into the air around Earth.

Shooting Stars

Sometimes, it looks like a star is falling very fast in the night sky. People call this a shooting star. However, shooting stars²⁵ are not stars at all.

What people call a shooting star is really a rock in space that is falling toward Earth. The white line⁵⁰ that people see is the space rock as it burns up in the air around Earth. These space rocks can be as small as dust⁷⁵ or as big as a car. Some people have found space rocks that have hit Earth.⁹¹

Toys of Long Ago



This yo-yo trick is called "cat's cradle."

Yo-Yos

Even thousands of years ago, children played with yo-yos. Early yo-yos could only go up and down. Today's yo-yos, however, can spin, too.

It²⁵ takes skill to learn yo-yo tricks like "walking the dog" and "around the world." The trick called "walking the dog" is done when someone gets⁵⁰ the yo-yo to spin fast as it moves along the floor. The trick called "around the world" is done when someone spins a yo-yo around⁷⁵ in the air.

In 1985, a yo-yo was taken on a spaceship. Pictures of yo-yo tricks done in the spaceship showed people how things work in space.¹⁰²

Hurricanes



Hurricane Katrina caused a lot of harm in the United States.

Hurricane Names

Giving hurricanes names helps people to keep track of hurricanes. Each year, 21 names are picked for hurricanes. The first hurricane in a⁷⁵ year starts with the letter A.

If a girl's name is used for the first hurricane one year, the first hurricane of the next year⁵⁰ will get a boy's name. In the year 2010, the first hurricane was called Alex. In 2011, the first hurricane was named Arlene.

The names⁷⁵ of very big storms are used only once. Hurricane Katrina, in 2005, was a very big storm. It caused a great deal of harm. The¹⁰⁰ name Katrina will never be used for a hurricane again.¹¹⁰

Wind and Solar Energy



A wind farm like this one can produce a lot of electricity.

Wind Farms

A wind farm has many turbines that turn wind energy into electricity. Wind farms need strong, steady winds. Wind farms are built where²⁵ the usual wind speeds are at least 13 miles per hour. Without wind, turbines cannot produce electricity.

In California, a wind farm with 7,000 turbines⁵⁰ has been built in a mountain pass that has especially high winds during the summer. This California wind farm generates electricity that is needed in⁷⁵ the summer, when people use fans and other cooling systems.

Electricity from wind farms is cheaper today than it was 10 years ago. Wind energy¹⁰⁰ does not produce gases that pollute the air. However, some people don't like wind farms. Wind farms take up lots of space, make lots of¹²⁵ noise, and can spoil the beauty of the landscape.¹³⁴

The Middle Ages



This picture, which was painted in the 1500s, shows serfs farming on a lord's manor.

Life on a Manor

Because there were few cities in Europe during the Middle Ages, most people lived on the manors of lords. A manor²⁵ contained the lord's house or castle, fields for crops and cattle, and a village of houses for serfs. Both serfs and their cattle lived in⁵⁰ the small houses. Tools, shoes, and cloth were sold in the village shops.

The lord had power over everyone on the manor. Although serfs farmed⁷⁵ the land, the lord owned everything, including the serfs' houses and cattle. Lords promised to protect their serfs, but serfs had to fight when the¹⁰⁰ lord's land was attacked.

In addition to owning everything, lords made the laws on their manors. They acted as judges when laws were broken and¹²⁵ carried out punishments. If a lord's laws or punishments were unfair, serfs could do nothing to get better treatment.¹⁴⁴

Ancient Greece



This statue shows the Greek god Atlas carrying the world on his back.

Greek Myths

The ancient Greeks believed that gods and goddesses made and ruled the world. Ancient Greek writers and poets wrote stories about these gods⁷⁵ and goddesses. As the years passed, though, fewer people believed the stories. Yet people continued to enjoy hearing about gods and goddesses. Today, these stories⁵⁰ are known by the Greek word *myth*, which means "story."

One character in Greek myths was Atlas. Atlas was the strongest of the losers in⁷⁵ a big battle. After the battle, Atlas was punished by having to carry the world on his back. Sometimes, a person is described as being¹⁰⁰ "as strong as Atlas" or as "having the burdens of Atlas." *Atlas* is also the name both of a book of maps and of the¹²⁵ first bone in the back, which holds up the head. Many words in English, such as *giant* and *fate*, come from characters in Greek myths.¹⁵⁰

Project 2: Beginning Reads



Beginning Reads

- Develop sets of texts connected around a theme/topic
- Ensure high levels of repetitions with 100 most frequent rimes

It's Time to Go



It's time. It's time. It's time to ride in
the van.



It's time. It's time. It's time to ride on
the bus.



It's time. It's time. It's time to go to
school!

On and Off



For more information about BeginningReads, visit www.textproject.org/beginningreads
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The bus stops. The children get on the bus.

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The bus goes and goes. It goes and goes.



The bus stops. The children get off the bus. It's time for school!

School



Trucks bring things to school. They bring many things like books.



Buses bring children to school. Buses take children back home, too.



Vans bring teachers to school. Books, children and teachers! It's time for school.

Features of 1st 4 of 10 Levels

- 6 repetitions per word
- 78% with consistent rimes
- 42% highly concrete



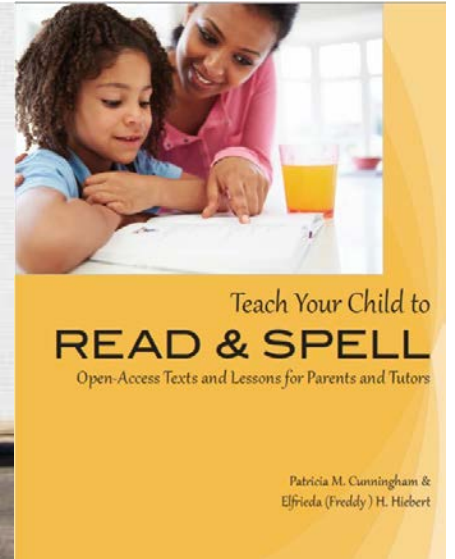
bus



truck



van



car

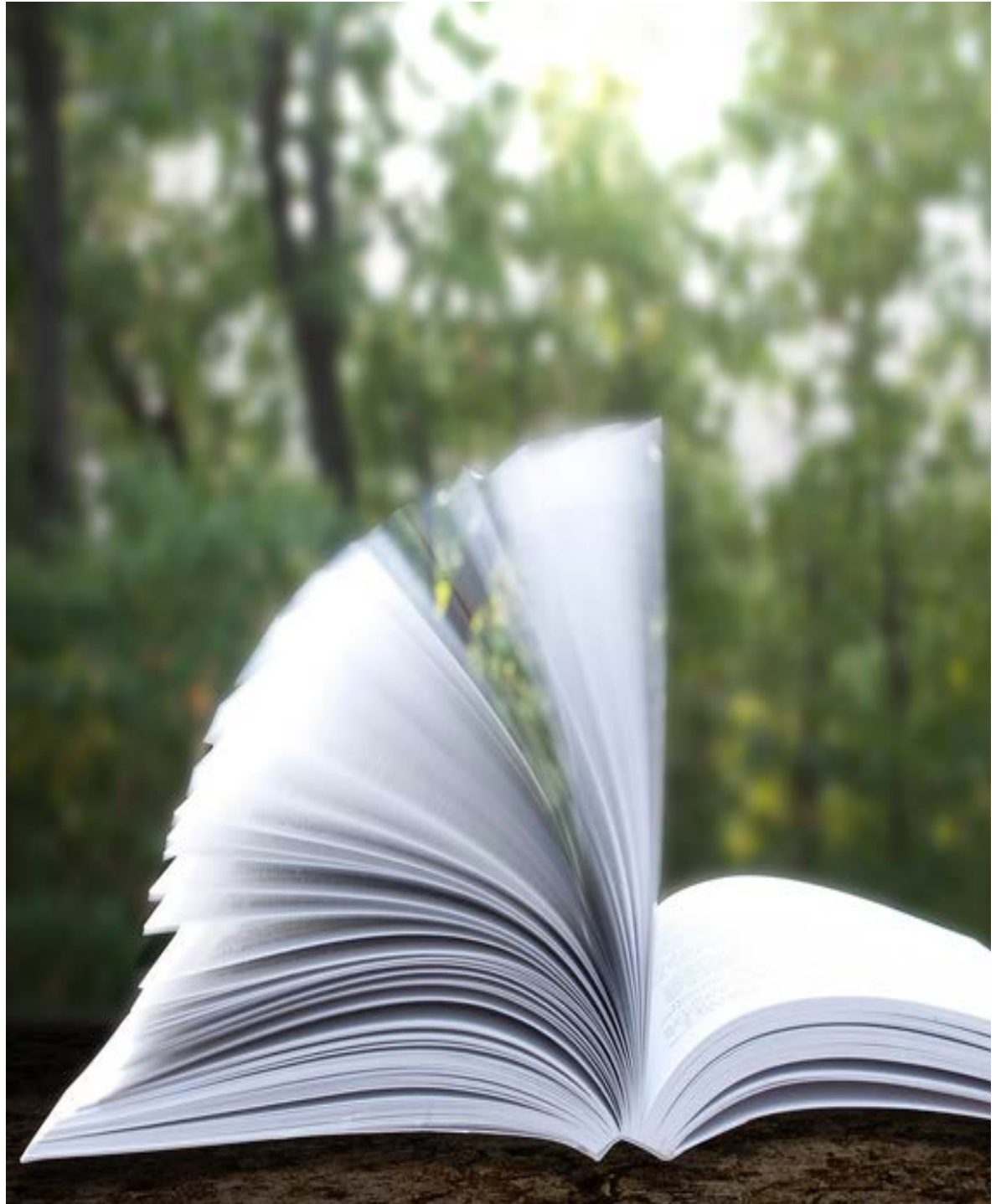


children



school

Project 3:
Training of
ReadWorks.
org writers to
develop true
leveled
informational
texts



Readworks.org StepReads

Worldwide loss of bees—Step 1

- When we think of bees, we think of pesky, buzzing insects that sting us and ruin outdoor gatherings. We might wonder: how badly can we possibly need bees? The truth is, bees are an incredibly important part of our ecosystem on Earth—no matter how annoying they may be to humans. Unfortunately, bees have been disappearing around the world for some time now. The disappearance of large numbers of bees continues to cause new problems around the planet.

Worldwide loss of bees—Step 2

- Many people think of bees as annoying bugs that sting people. Some people might even wonder whether we really need bees. The truth is, we do! Bees are a very important part of our ecosystem on Earth. But for some time now, there has been a big problem with bees. Many bees around the world have been dying off. This loss of bees is causing new problems around the world.

	Step 1	Step 2
Lexile	1020	800
MSL	14.93	11.82
MLWF	3.31	3.50
#Words	642	674

But more importantly: Shared Vocabulary

- biodiversity
- colony
- pollinate

An open book lies flat on a wooden surface. The pages are folded in the center to create a heart shape. The background is a soft-focus image of green trees with sunlight filtering through the leaves, creating a warm, golden glow. A semi-transparent rectangular box is centered over the image, containing the website address in blue text.

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