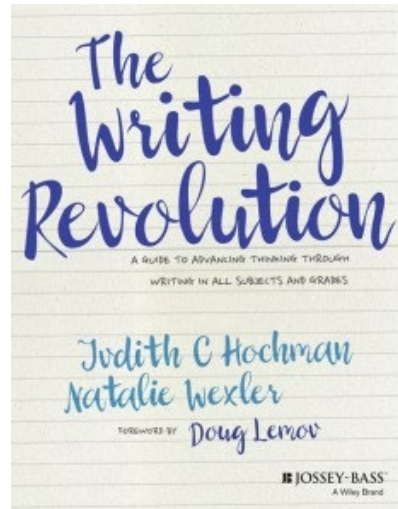
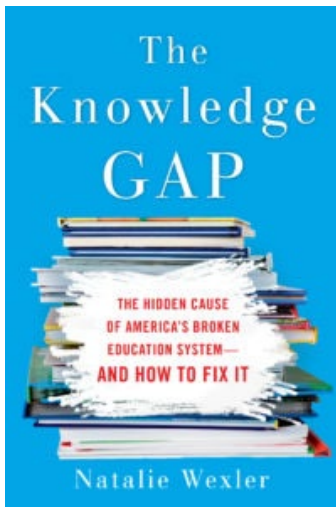




Literacy Academy 2024

KEYNOTE ADDRESS

NATALIE WEXLER





Reading Comprehension Revisited: Why Knowledge Matters

NATALIE WEXLER

OHIO LITERACY ACADEMY

JUNE 10, 2024

This presentation will cover:

- Why the standard approach to reading comprehension isn't backed by scientific evidence—and makes reading boring and joyless.
- What happens when teachers and schools switch to a knowledge-building approach.
- Why it's important to connect writing to curriculum content and teach it explicitly.
- How school and district leaders can bring about a shift in practice.



Episode 1: “Kids were bored to death”

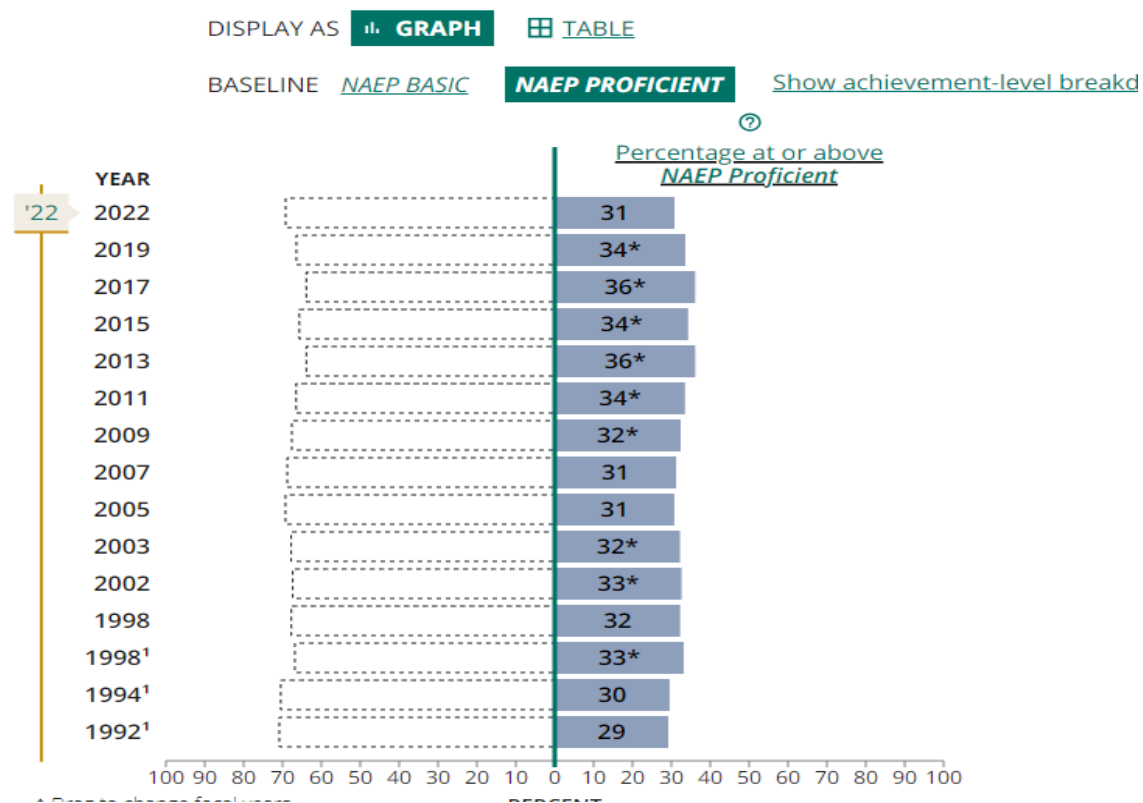
“We would teach the same comprehension skill for a week. If it was ‘main idea,’ we’d start on Monday, do it every day.”

“I started going, is this really the best way to teach this? Because the kids were really bored to death by the end of the week.”



Deloris Fowler
Putnam County, TN

This approach hasn't significantly boosted reading comprehension scores.



Eighth-grade NAEP reading scores, 1992-2022.

30% were below Basic in 2022, the same as in 1994.

Also: kids aren't reading for fun as much as they used to.

- In 2023, **only 14%** of 13-year-olds in the U.S. read for fun “almost every day,” down from 27% in 2012—and from **35%** in 1984.
- **31%** “never or hardly ever” read for fun, up from 22% in 2012—and from **8%** in 1984.

(Long-Term Trend NAEP, 2023)



Literal vs. Non-Literal Language, 3rd Grade Lesson



Students read a one-paragraph excerpt.

Source: <https://www.educationworld.com/sites/default/files/Literal-and-Nonliteral-Language-Amelia%20Bedelia-handout.pdf>

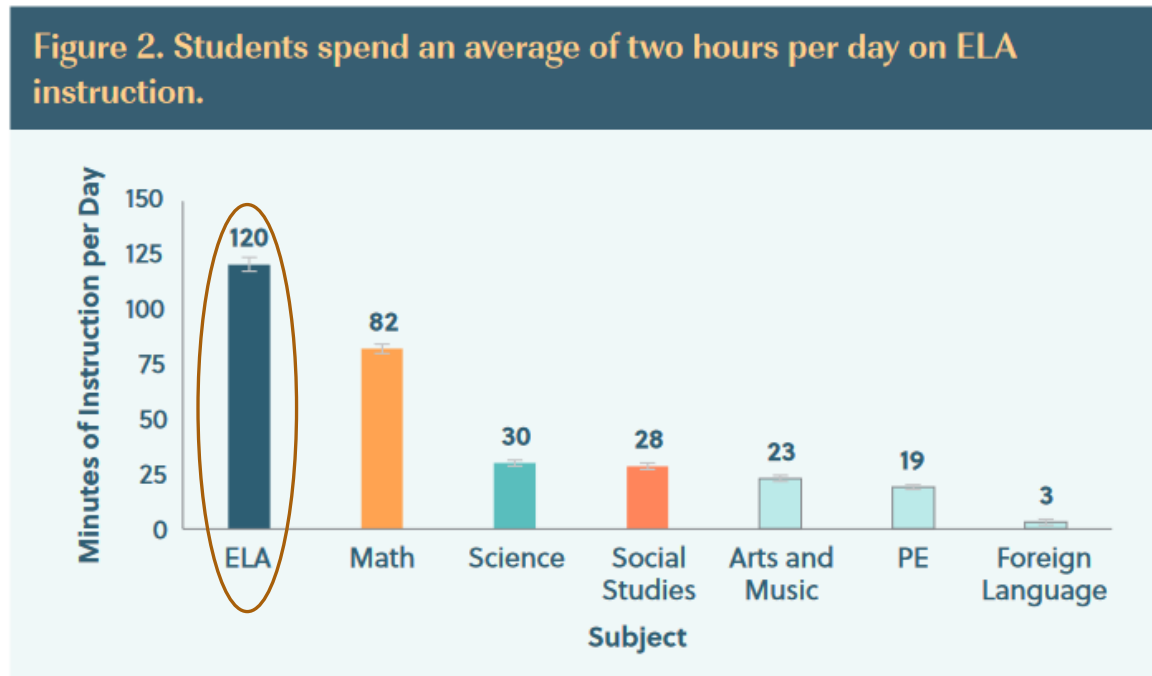
1. What did Amelia Bedelia do to Mrs. Roger's dress? _____

2. What phrase made her think that was the right thing to do? _____

3. What is a different way that Mrs. Rogers could have asked Amelia Bedelia to do what she wanted? _____

Is this the best way to introduce kids to the joy of reading?

We spend a lot of time teaching reading.



Note: The figure contains pooled averages of grades 1 through 5. The mean total instructional time is 302 minutes per day. Analytic sample includes 6,829 students. "Arts and music" includes art, music, dance, and theater. Error bars represent 95 percent confidence intervals.

Source: Adam Tyner and Sarah Kabourek. Social Studies Instruction and Reading Comprehension: Evidence from the Early Childhood Longitudinal Study. Washington D.C.: Thomas B. Fordham Institute (September 2020). (Based on data for students who started K in 2010-11.)

But it doesn't seem to make much difference to test scores.

- Extra half-hour a day of ELA/reading: no increase in reading test scores by 5th grade.
- Extra half-hour a day of social studies: higher reading test scores in 5th grade
- Students from the lowest SES: biggest boost from more social studies
- Students from highest SES: no significant boost from more social studies

Why?



Source: Adam Tyner and Sarah Kabourek. Social Studies Instruction and Reading Comprehension: Evidence from the Early Childhood Longitudinal Study. Washington D.C.: Thomas B. Fordham Institute (September 2020). (Based on data for students who started K in 2010-11.)

Find the main
idea

Much depended on the two overnight batsmen. But this duo perished either side of lunch—the latter a little unfortunate to be adjudged leg-before—and with Andrew Symonds, too, being shown the dreaded finger off an inside edge, the inevitable beckoned, bar the pyrotechnics of Michael Clarke and the ninth wicket.

Passage from Third Grade PARCC Test

In one of the most remote places in the world, the Canadian Arctic, a people have survived over a thousand years. They are the Inuit. For the Inuit, the Arctic is a place teeming with life. Depending on how far north they live, the Inuit find everything from caribou herds and polar bears to beluga whales.

Now find the main idea:

In one of the most [redacted] places in the world, the [redacted], a people have [redacted] over a [redacted] years. They are the [redacted]. For the [redacted], the [redacted] is a place [redacted] with life. Depending on how far north they live, the [redacted] find everything from [redacted] [redacted] and [redacted] [redacted] to [redacted].

This approach to teaching reading has a negative impact on ALL children, but its impact falls hardest on:

- Kids who struggle with decoding
- Kids with less academic knowledge and vocabulary
- Kids who fall into both categories

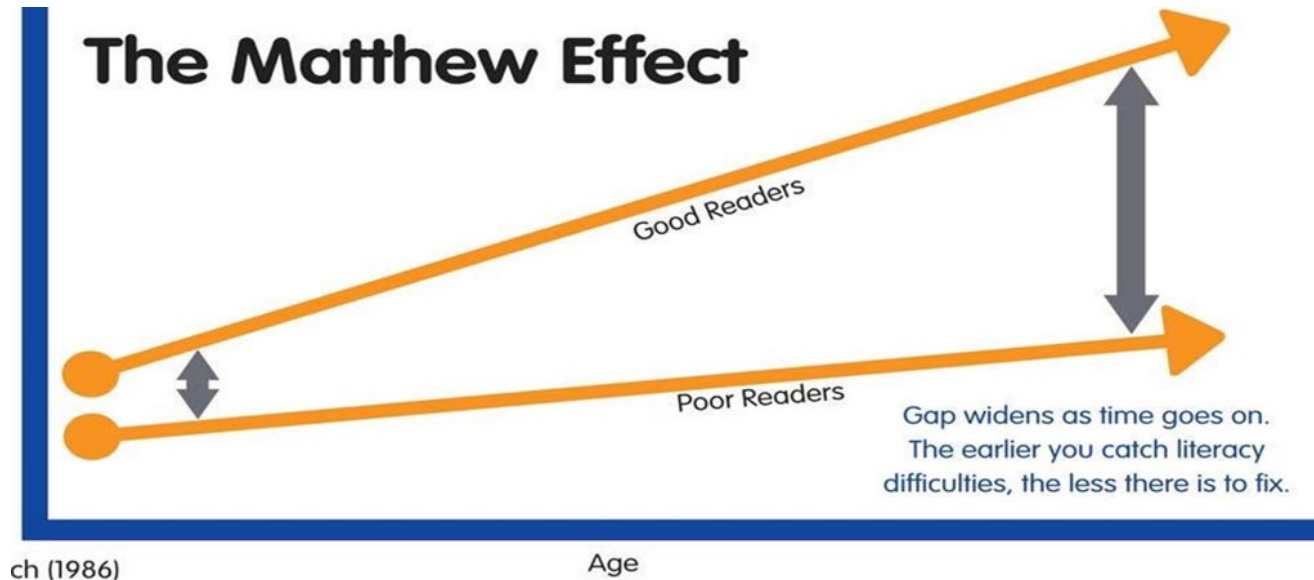
And the situation gets worse as the years go by.



Knowledge also
helps you *retain*
new
information.

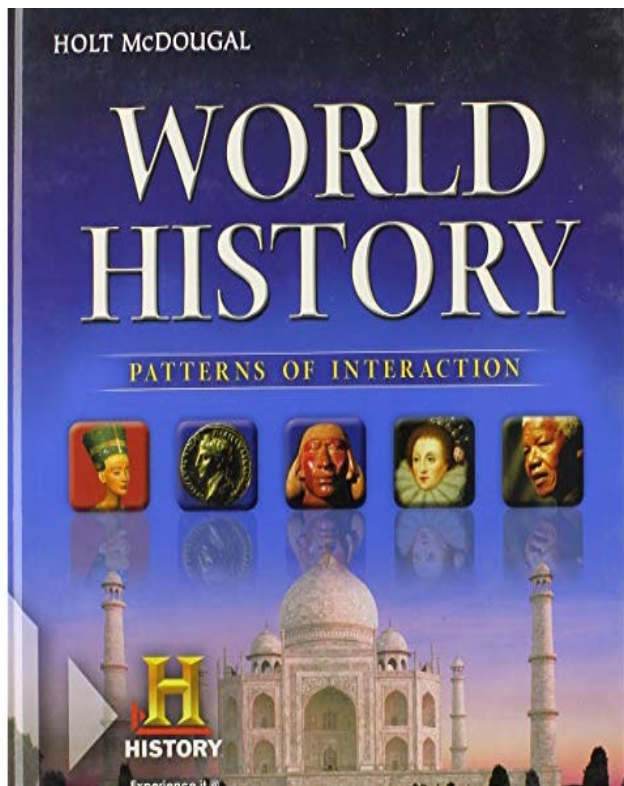


Gaps between “good” and “poor” readers grow over time:



A problem: It can *look* like the “skills and strategies” approach is working at lower grade levels ...

But the approach can backfire when students reach upper grades.



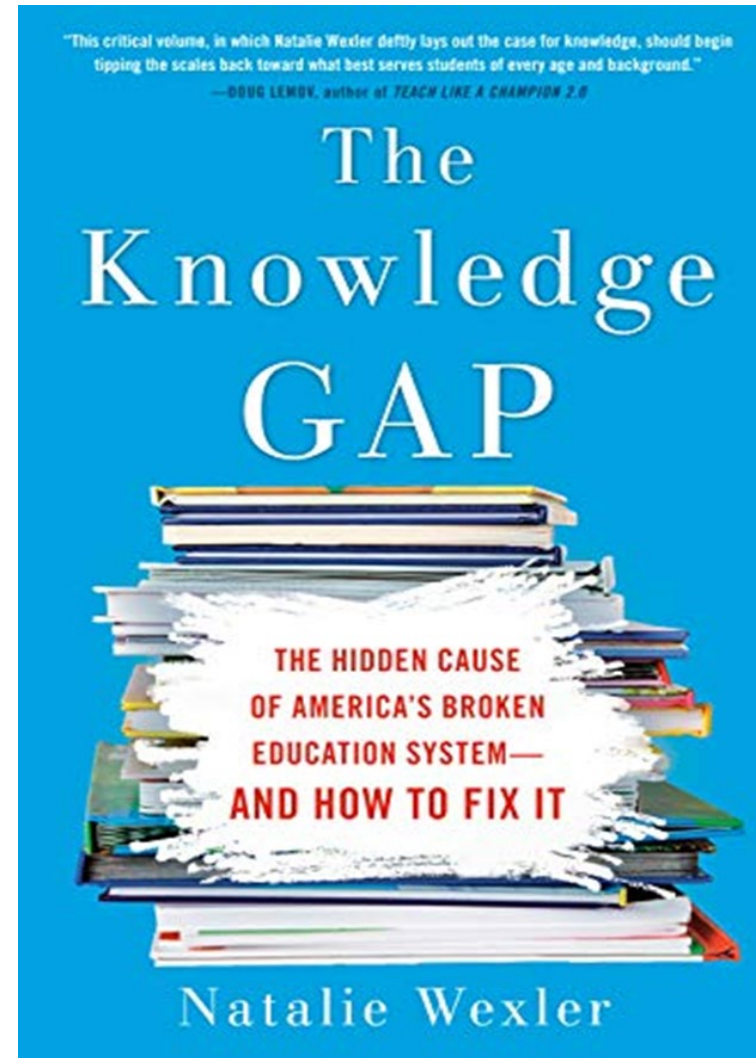
Part of released item from the SAT:

Jan Gimsa, Robert Sleigh, and Ulrike Gimsa have hypothesized that the sail-like structure running down the back of the dinosaur *Spinosaurus aegyptiacus* improved the animal's success in underwater pursuits of prey species capable of making quick, evasive movements. To evaluate their hypothesis, a second team of researchers constructed two battery-powered mechanical models of *S. aegyptiacus*, one with a sail and one without, and subjected the models to a series of identical tests in a water-filled tank.

A related gap:

The difference between what we assume high school students know and what many do know

Since 2019,
some things
have
changed ...



On the negative side:

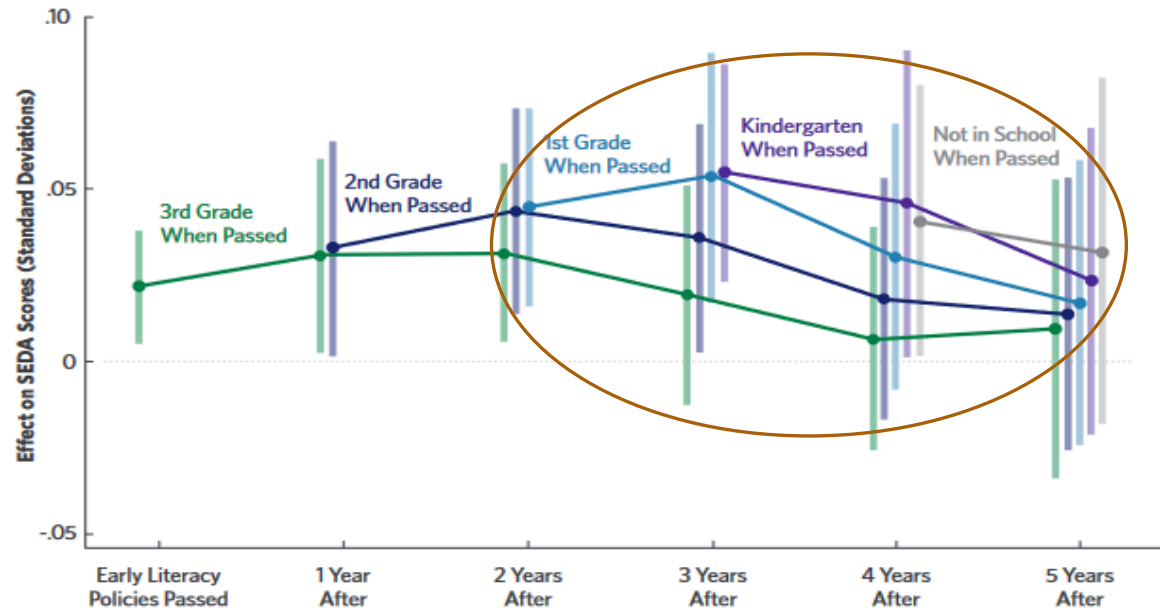
- The pandemic has made everything worse—especially for the most vulnerable students.
- Some believe the “Science of Reading” means we ONLY need to change our approach to phonics instruction.



But when reading reform has focused only on phonics...

the bump in test scores fades out after 5th grade.

FIGURE 2. Effect of Any Early Literacy Policies on High-Stakes Reading Scores



Note: Data are from overall average SEDA reading scores, 2009-2018. The figure only includes cohorts of students who were exposed to an early literacy policy in any of grades K-3. Each line in the figure represents the test score effects of early literacy policies for a particular cohort of students as they progress from 3rd to 8th grade. More information on the sample can be found in the full working paper.

Source: Westall and Cummings, The Effects of Early Literacy Policies on Student Achievement, Policy Brief, June 2023.

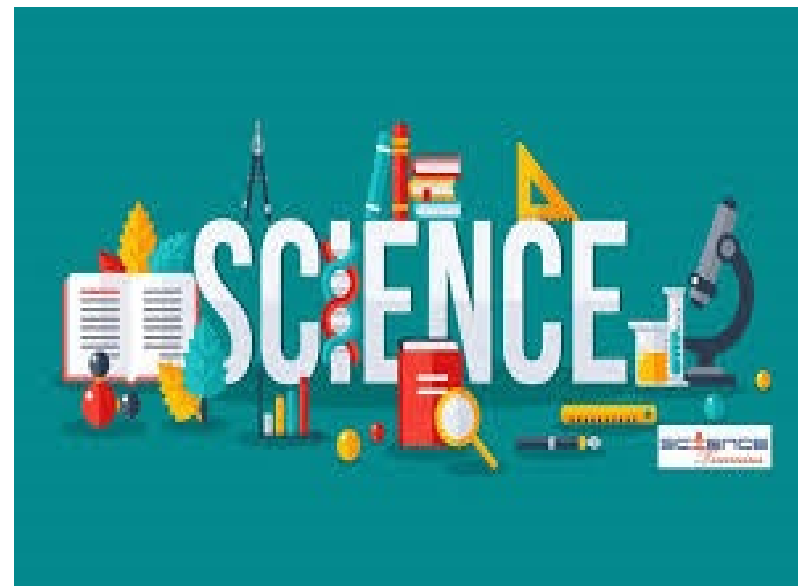
“The key finding is that adopting *any* early literacy policy improves elementary students’ reading achievement on high-stakes assessments, but those effects fade out by middle school.”

Amber Northern, PhD, Flypaper, 11.20.23

On the positive side:
word is spreading about
the importance
of building
knowledge



We now have content-focused elementary literacy curricula that go deeply into topics in ...



Staying on a topic vs. jumping from one to the next

“I moved topics so quickly, I don’t think they ever had a chance to anchor to stuff.”

“The second that they might have been, like, ‘Oh, this is so exciting, I want to do more with this!’ —boom, we were on to something else.”



Abby Boruff
1st grade
Des Moines

Teacher read-alouds of complex text vs. leveled reading

“Teachers [kept saying], ‘Our kids need books in hands. I’m spending this many more minutes a day than I ever have reading aloud to my students.’”

“What I needed to help them understand – and now they get it – is that you’re telling me the students can only learn about that which they can decode. And that’s so limiting.”



Dr. Melanie Beaver
Dir. of Curriculum, Instruction
& Assessment
South Vermillion Schools, IN

Teaching phonics is crucial. It's just not enough.

“I'd been on a soapbox for phonics, but I felt like there was more to it. We started using [a knowledge-building curriculum] and just saw tremendous changes right away.”

“I was teaching a first grader about the American Revolution, and he said, ‘I love this lesson!’”

“And the parents [said their kids were] coming home and telling us all about these interesting things.”

“And our principal said that it really returned the joy of learning to her experience.”



Spring Cook
Former Texas elementary educator

A knowledge-building curriculum can also introduce kids to the joy of *reading*.

- 3rd Grade: The Vikings, Ancient Rome
- “And the librarian had to order more books. She actually came to me and said what are the topics you're teaching in CKLA, because I want to order more books, because the kids are asking for these books on these topics.”

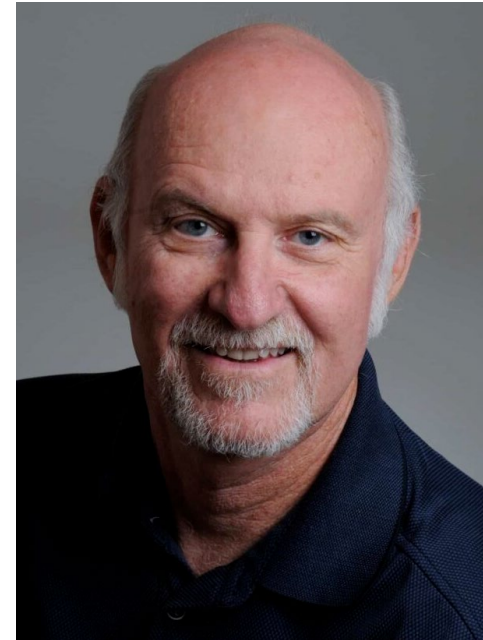


Deloris Fowler
Sumner County, TN

Episode 2: “A simple way of looking at a complex problem”

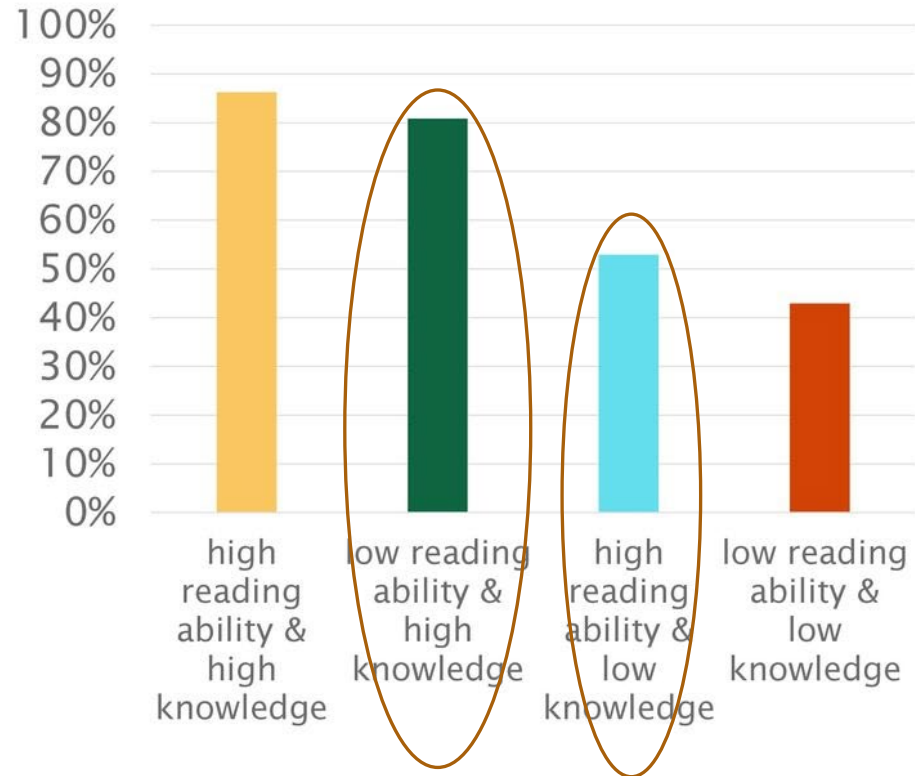
“We’ve thought about reading comprehension as if it was a set of skills that can [transfer] from one text to the next. But reading comprehension doesn’t work like that.”

“Authors make certain assumptions about what readers know. If you don’t have that background knowledge, you’re left with a very incomplete understanding of what you read.”



Dr. Hugh Catts
Florida State University

Measure of Comprehension



The main factor in comprehension—skills, or knowledge of the topic?

The Baseball Study (Recht and Leslie, 1988)

This study and many others show:

- Comprehension “skills” don’t just get better with practice.
- There’s no such thing as a fixed “reading level.”

Also important: vocabulary and syntax

Much depended on the two overnight batsmen. But this duo perished either side of lunch—the latter a little unfortunate to be adjudged leg-before—and with Andrew Symonds, too, being shown the dreaded finger off an inside edge, the inevitable beckoned, bar the pyrotechnics of Michael Clarke and the ninth wicket.

GENERAL knowledge of vocabulary and syntax is the goal.

But: the only way to acquire that knowledge is through knowledge of TOPICS.



Reading comprehension evidence: two different tracks

Strategy Instruction

- Cognitive Psychology
- Reading Research, Teacher Prep



Background Knowledge

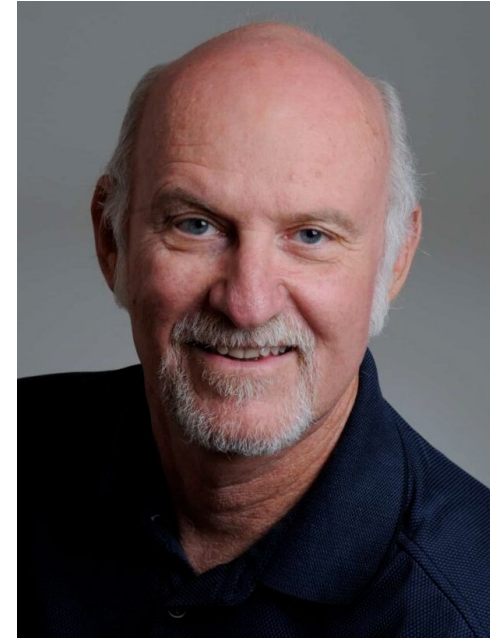
- Cognitive Psychology

The research on **strategy instruction** has fueled the standard approach to reading comprehension in schools.

Why the divergence?

“When I was in graduate school, there was a great deal of interest in the role that knowledge played in comprehension.”

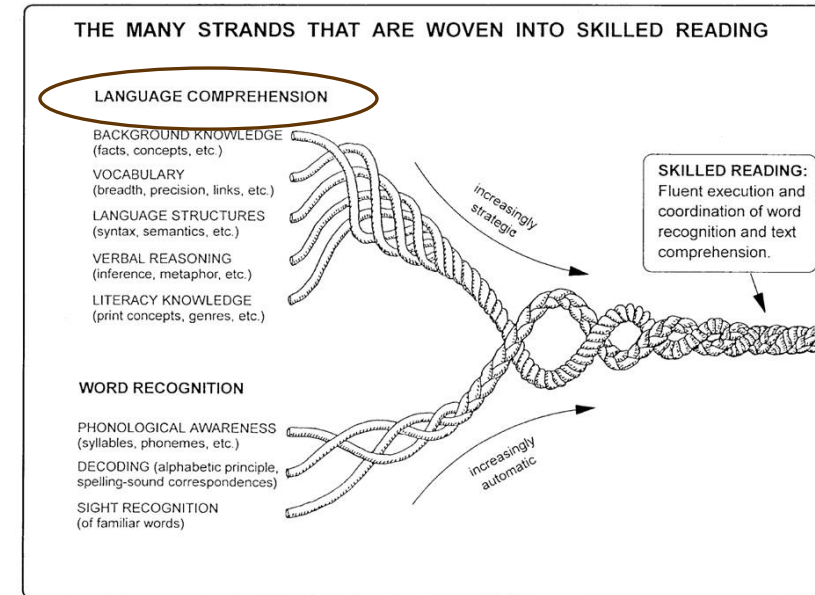
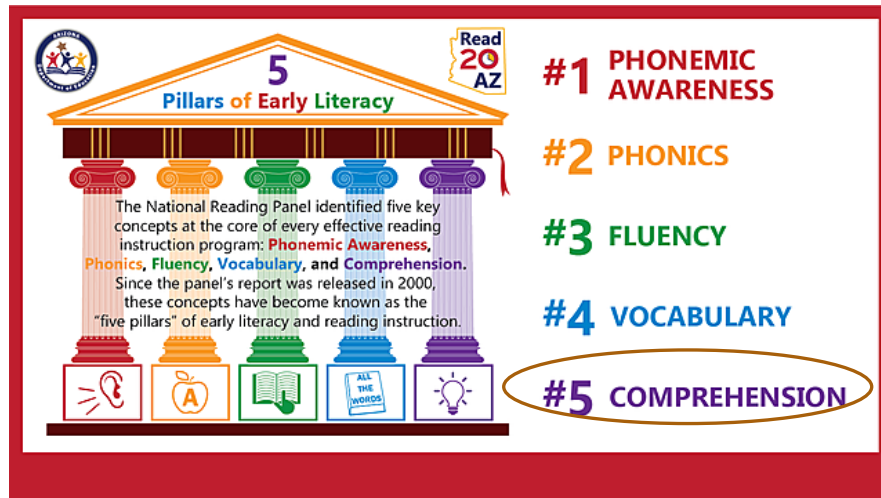
“But over time, we kind of began to forget that that body of knowledge was there.”



Dr. Hugh Catts
Florida State University

The problem with “Science of Reading” infographics

The Simple View of Reading



Catts: “It’s not that it’s a bad thing. It’s just a simple way of looking at a very complex problem.”

We don't have to choose between comprehension strategies and knowledge.

Hugh Catts:

“Strategies are probably best used in a content-rich curriculum, where a topic is being taught for an extended period of time.”

“What’s the most important thing that’s being conveyed in this passage? What specifically is this passage about?”

“It’s focusing on a topic that continues from one day to the next, rather than one day reading about volcanoes, practicing a strategy, and the next day reading about the Civil War.”

The image shows a student's handwritten notes on the story of Daedalus and Icarus. At the top, the title "Daedalus and Icarus" is written in blue. Below it, there are two boxes: one with "desperately" and "wildly with panic" and a drawing of a person falling, and another with "plummeted" and "to fall straight down" with a downward arrow. To the right, a green cloud contains the question "What happened because Icarus did not use foresight?" and a definition: "Foresight means thinking ahead." Below this is a table with two columns: "CAUSE" and "EFFECT". The first row shows King Minos's anger as the cause and Daedalus's imprisonment as the effect. A second row shows Daedalus's trick of saving bird feathers as the cause and the family's flight as the effect. The final row shows Icarus's overconfidence as the cause and his fall as the effect. A red circle highlights a prediction: "PREDICT: What is Daedalus' plan?..."

CAUSE	EFFECT
King Minos was upset with Daedalus for helping Theseus defeat the Minotaur.	King Minos locked Daedalus and his son up in a high tower. (F!)
Daedalus convinces the soldiers to bring them food and candles. (F!)	Daedalus saved crumbs to attract birds. He took their feathers and saved the wax. (F!)
Daedalus and Icarus used the feathers and wax to make wings. (F!)	They used the wings to fly from the tower.
Icarus loved flying so much that he began doing tricks and flying higher. (F!)	He flew too close to the sun. His wings melted and he plummeted into the sea.

How can you tell if a curriculum builds knowledge effectively?

Red flags to watch out for:

- Overstuffed/not curated
- Thin content or “themes” rather than topics
- New information without enough background knowledge
- Skills and strategies in the foreground
- Too much reliance on leveled texts
- Writing not linked to curriculum content
- Excerpts rather than whole texts



Resources from the Knowledge Matters Campaign

ELA programs that excel in building knowledge

In our estimation, eight English language arts curricula currently meet the criteria for knowledge-building detailed here.

While these curricula share common virtues and are all solidly grounded in what matters most for literacy, each has a unique and compelling identity. They present students with substantive, rich content and lack “fluff.” They support access for all students. They motivate and engage students through their content and design. They help all students achieve at high levels. And teachers get ever better at their craft by using them.

Learn what characterizes each curriculum – and gives all of these materials an advantage over programs that are organized around strategies and skills.

ARC CORE

BOOKWORMS

CORE KNOWLEDGE/AMPLIFY

EL EDUCATION

FISHTANK ELA

LOUISIANA GUIDEBOOKS

READING RECONSIDERED

WIT & WISDOM

About the Knowledge Matters Review Tool

We’ve developed the Knowledge Matters Review Tool to help educators understand how key research insights and practices should be translated into curriculum design for K-8 ELA. It is intended for use by states, districts, and schools when evaluating ELA curriculum.

The Review Tool is designed to be used in addition to, not instead of, other instruments to ensure that “knowledge building,” and by extension reading comprehension, is appropriately addressed.

Our team of experts has identified 26 separate criteria across eight dimensions of high-quality, content-rich ELA curriculum. The more evidence these criteria are present in a curriculum, the better.

KnowledgeMattersCampaign.org

Episode 3: “That cloud looks like an anvil.”



Abby Boruff
1st grade
Des Moines, IA



Deloris Fowler
3rd grade
Sumner County, TN



Kyair Butts
7th grade ELA
Baltimore, MD

Before: “There’s nothing to infer in a Level A text. So I’d be having them read books that they can’t read, using a skill that they probably don’t know how to use.”

Initially: “I heard ‘Well, Abby, you’re gonna teach about three things this whole year and that’s it, nothing else.’ And I was like, I can’t believe I have to do this!”

After: “There’s no way that prior to doing that knowledge-building, those inferences could have happened.”



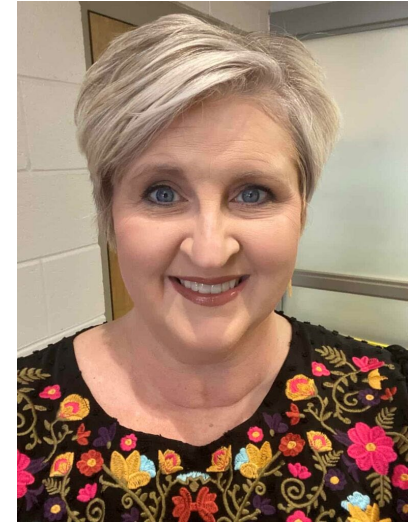
Abby Boruff
1st grade
Des Moines, IA

Before: “I thought, I’m doing what I’ve been told to do. But I just felt it was wrong when my kids are saying to me, ‘Am I always going to be in the low group?’”

Initially: “They started talking about these units like the Vikings and Ancient Rome. I’m like, this text is too difficult for them. What about my students who have special needs?”

After: “One of those little girls [with an IEP] said, ‘You know what, that cloud looks like an anvil!’ And this was like two months later. I wanted to cry, because she retained that and she knew how to apply it.”

Both girls went from K to 2nd grade reading level by the end of the year.



Deloris Fowler
3rd grade
Sumner County, TN

Before: “We had a separate writing curriculum, a separate building-vocabulary curriculum, a separate foundational reading program, and a separate comprehension program.”

Initially: “I don’t really think that this curriculum belongs in Baltimore City.” He also worried about scriptedness.

After: “Knowledge is a party. Everybody wants to get an invitation. Everybody wants to be seen and everybody wants to show up and sort of glam out.”

And: “The more that I internalized the material, I thought, wow, this is actually freeing. Before I had to make the map myself and plot the destinations. Now the destinations are already plotted for me, but I can still sort of create the map.”



Kyair Butts
7th grade ELA
Baltimore, MD

Episode 4: “Now they had something to write about”

Before:

Abby: The conventions were “just a little teeny tiny piece, and [then] have them do all this writing. But actually how to form sentences, how to put ideas to paper—no, not at all.”



Deloris: “If you’re writing about my favorite vacation, and you have a child that’s never left Putnam County, Tennessee, then they don’t really have a lot to write about.”



Kyair: “I would be teaching *Tuck Everlasting*, but when it was time for the writing block, we would read about an earthquake in San Francisco so that we could do this sort of exploded moment.”



For some students, just connecting writing to curriculum content is enough.

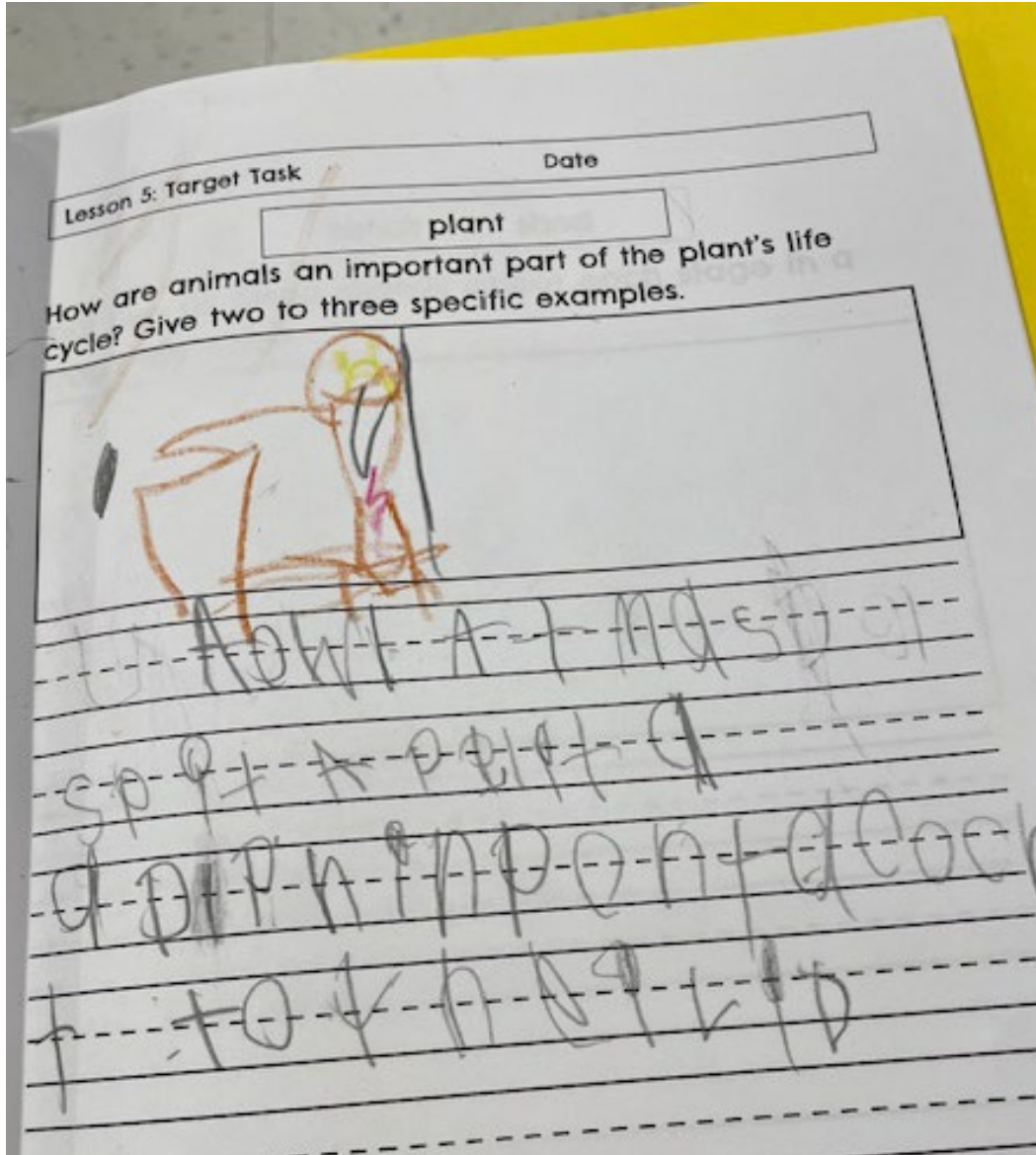
Prompt: “How did living by the sea influence Viking people’s lives?”

Deloris: “It blew me away. The writing got much more complex. You can see the writing skills really coming out in the students because they had something to write about.”

But that’s not the case for most students.

Deloris (as instructional coach): Teachers “feel like their kids have something to say, they just developmentally can’t organize it. They can’t get it out.”





Kindergarten writing prompt

Curricula (and standards) often have unrealistic writing expectations.

That includes some knowledge-building curricula.

Writing can provide a powerful boost to learning.
But it's also the hardest thing we ask students to do.

Working Memory

4-5 items

~ 20 seconds

“Cognitive load” = the burden
placed on working memory

Inexperienced writers may be
juggling:

- Letter formation
- Spelling
- Word choice
- Organization
- Content
- The peculiar syntax & vocabulary
of written language
- All of this creates “cognitive
load”—and stress

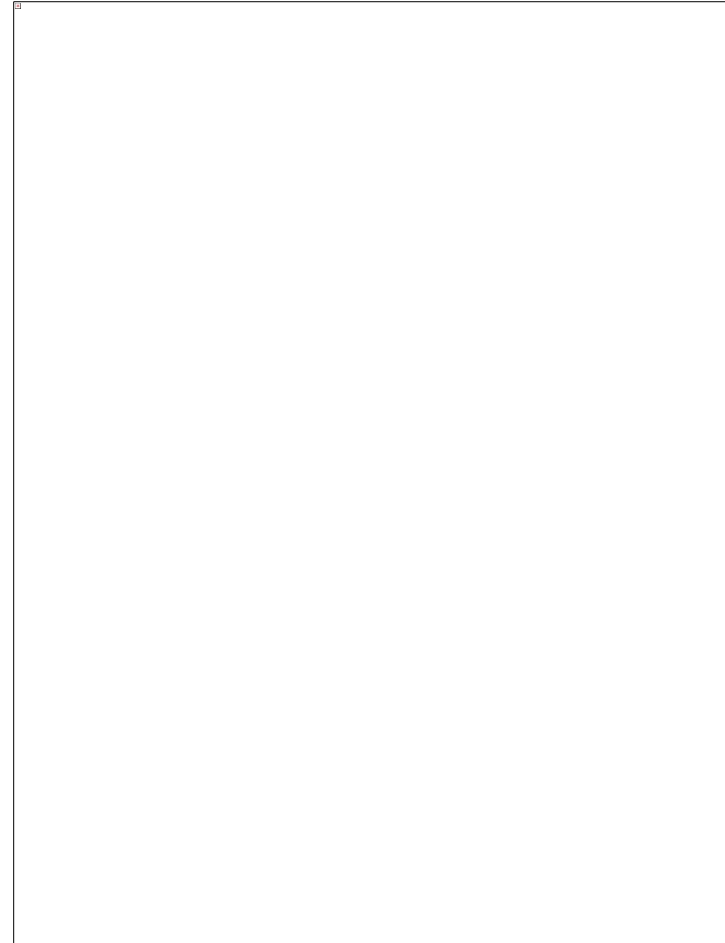
Writing instruction has enormous potential power.

BUT we have:

1. Underestimated how hard it is
2. Tried to teach it in isolation from content

To unlock the power of writing, we need to:

1. Modulate cognitive load
2. Teach grammar/conventions in the context of students' own writing
3. Embed writing activities in the content of the curriculum



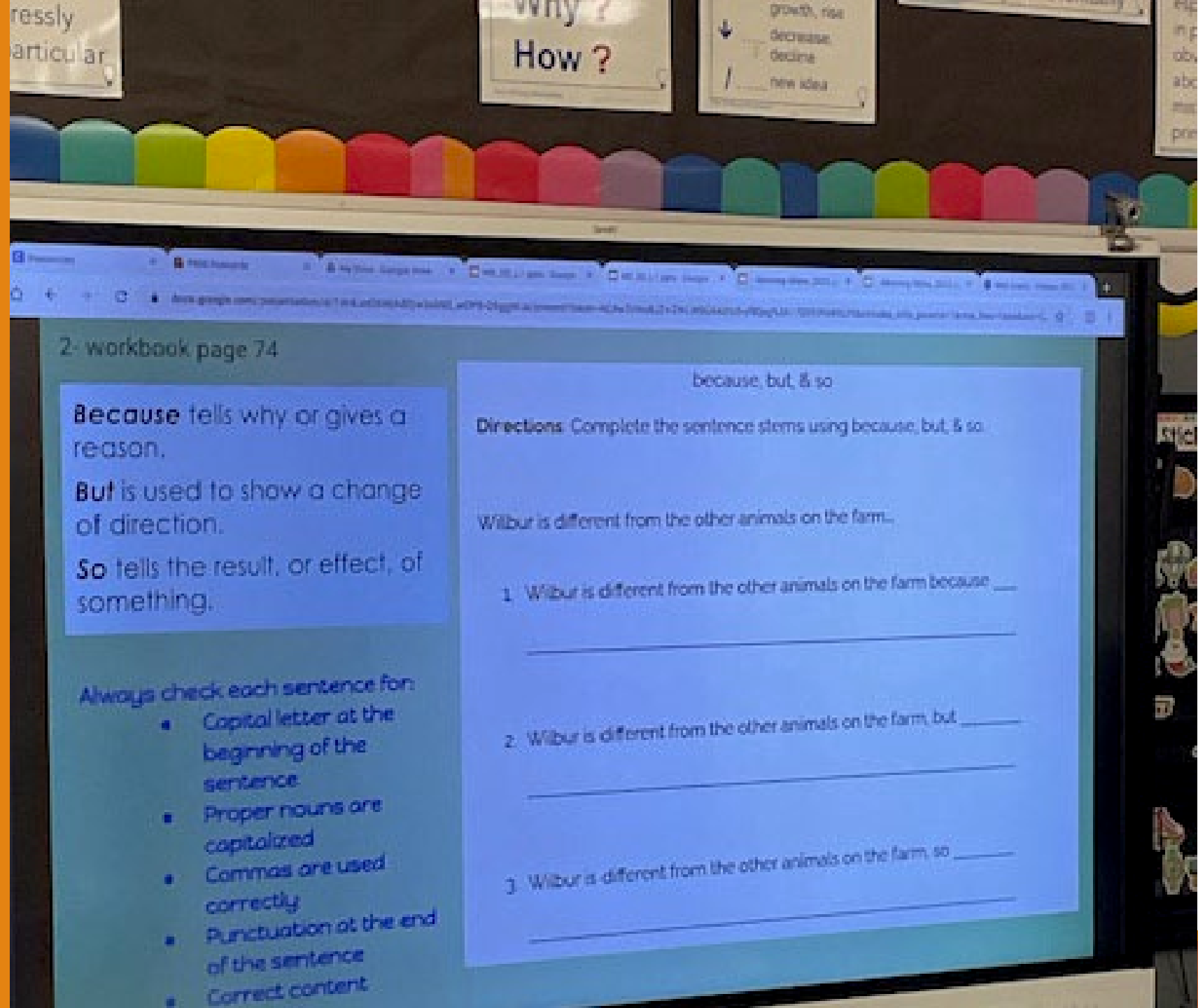
“The third lesson of third grade, they’re expected to write a full essay about the central message of a story. Well, they’re not ready for that.”

“We backed up to a sentence-level activity to make sure they can construct beautiful sentences before we expect them to write paragraph responses to a writing prompt.”



Cassidy Burns
3rd grade
Monroe, LA

Cassidy's Classroom



2- workbook page 74

Because tells why or gives a reason.

But is used to show a change of direction.

So tells the result, or effect, of something.

Always check each sentence for

- Capital letter at the beginning of the sentence
- Proper nouns are capitalized
- Commas are used correctly
- Punctuation at the end of the sentence
- Correct content

because, but, & so

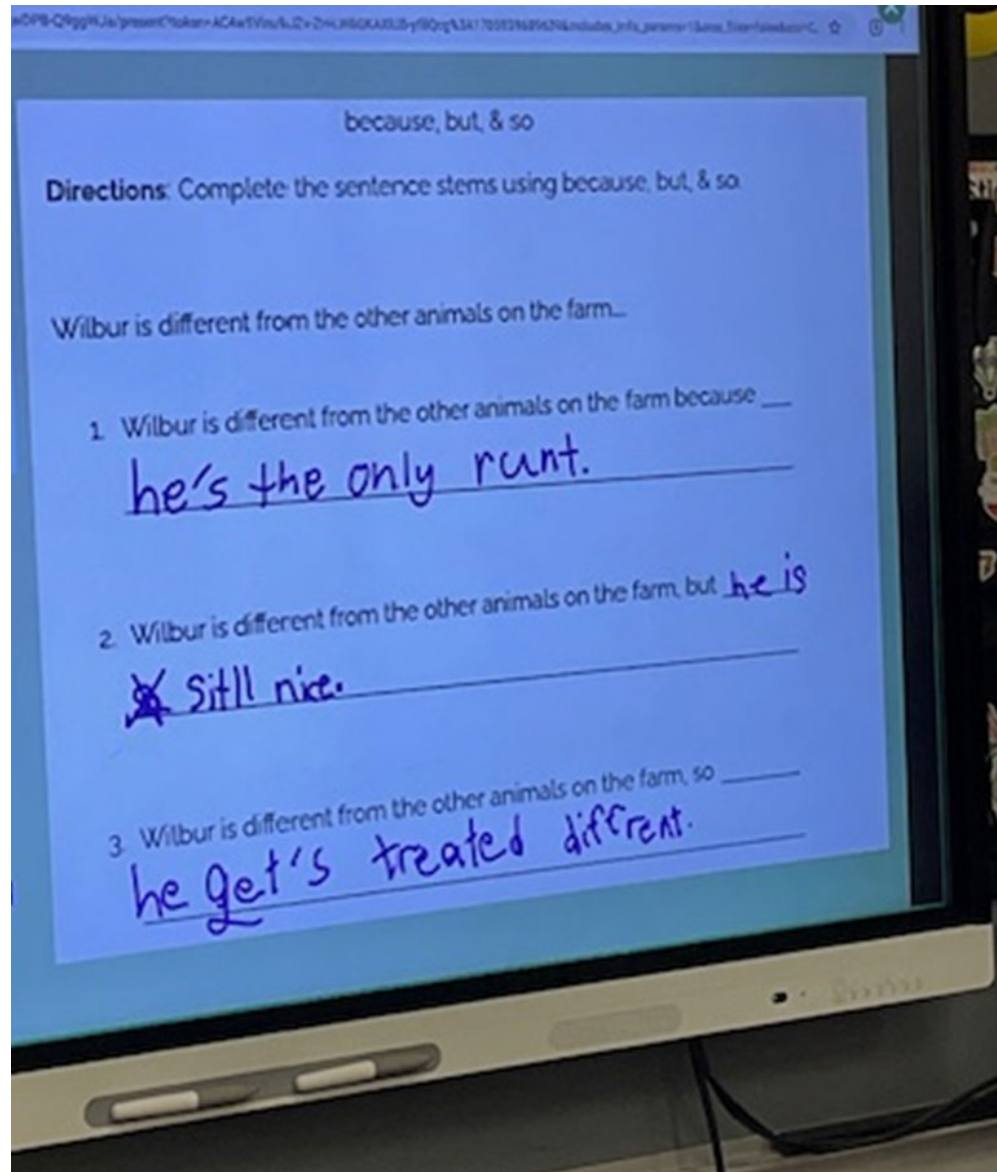
Directions: Complete the sentence stems using because, but, & so.

Wilbur is different from the other animals on the farm.

1. Wilbur is different from the other animals on the farm because _____

2. Wilbur is different from the other animals on the farm, but _____

3. Wilbur is different from the other animals on the farm, so _____



Student Responses

The Single-Paragraph Outline

TS: _____

1.

2.

3.

4.

CS: _____

To prep them for written answers on state tests, Cassidy gives them two stories they've never read, plus a prompt.

“And they know what to do. They go straight to that blank paper: topic sentence, 1-2-3-4 [notes for detail sentences], concluding sentence. And then they get started writing their topic sentence.”



Cassidy Burns
3rd grade
Monroe, LA

Writing instruction can compensate for missing “Velcro” —even at higher grade levels.



But it only works if the curriculum is rich in content.

COMPREHENSION

strategies vs. skills

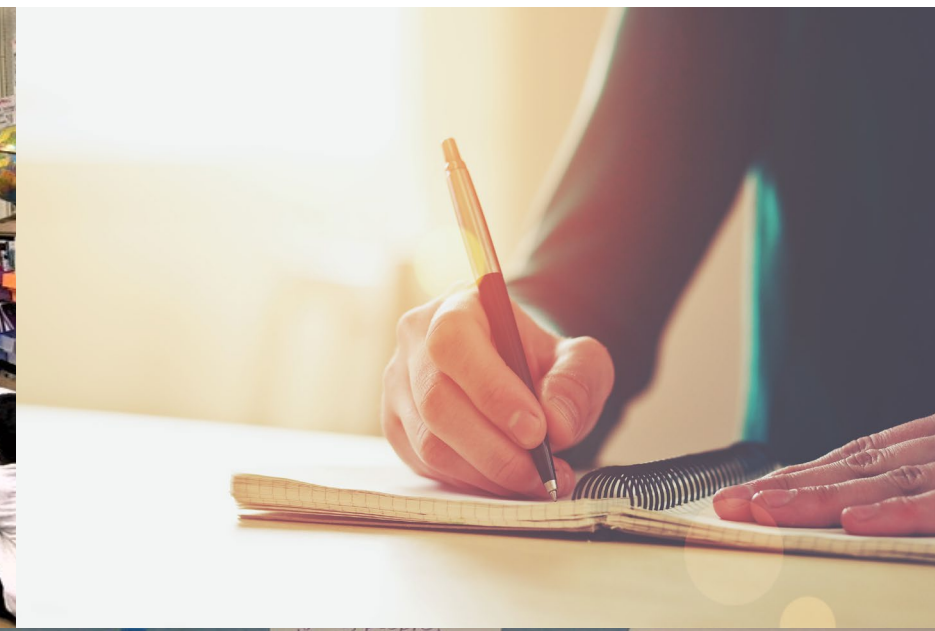
- Using Schema
- Predicting
- Inferring
- Questioning
- Determining Importance
- Visualizing
- Synthesizing

- Main Idea & Details
- Author's Purpose
- Determining Theme
- Cause & Effect
- Summarize/Retell
- Sequence of Events
- Compare & Contrast
- Story Structure
- Classify & Categorize
- Fact & Opinion
- Drawing Conclusions
- Point of View
- Identifying Genre
- Describing Plot
- Making Predictions
- Figurative Language



Individual teachers *can* build knowledge:

1. Organize read-alouds by topic, not skill.
2. Ask questions that put content in the foreground.
3. Organize classroom libraries by topic.
4. Spend lots of time on meaty social studies & science topics.
5. Have students *write* about what they're learning.



But to really make progress, leaders need to adopt a content-rich curriculum.

- Building knowledge is a process that extends across grade levels.
- Creating curriculum is an enormous burden on teachers.
- A curriculum—plus ongoing support—can enable teachers to focus on how best to *deliver* the curriculum.



Episode 5: “Everything Was in Silos”



Brent Conway
Asst. Superintendent
Pawtucket, MA



Dr. LaTonya Goffney
Superintendent
Aldine ISD, TX

As a principal: “We started to shift the book room away from levels into content, putting the books together in themes, a lot more nonfiction.”

As a district leader: “We had a lot of teachers trying very hard to do what the Reading Rope sort of outlined – all the components. But everything was in silos.” They needed an integrated curriculum.

What helped: Changing the entire system—including the schedule.

E.g., teachers resisted giving up SSR. They felt that’s how kids learn to love reading.

“I got news for you! Half of your kids despise that time. And doing it more is not going to create a love, it will make it worse. Let me explain why.”

Data: students growing at higher levels than before the pandemic.



Brent Conway
Asst. Superintendent
Pawtucket, MA

As a new superintendent, got an audit saying, “Abandon Units of Study.”

A teacher said her students would be frustrated by complex text. “I was thinking about the fact that my grandfather wrote his name with an X, and how frustrating that was for him.”

Brought in a consultant to help choose a knowledge-building curriculum.

“We sent a group to visit a school, and they were like, ‘We can’t wait. We want our kids to have this experience.’ So we decided to launch district-wide.”

This was in February 2020.

The vast majority of teachers/coaches were on board by the end of the year. “Some of my best coaches were originally trained in the Lucy Calkins methodology.”

“To hear [students] say, ‘Oh, Dr. Goffney, we’re reading a novel, we got a novel!’ It’s probably one of the highlights of my career.”

Data: “The plummeting [from Covid] would have been even more significant had we not been doing this work.”

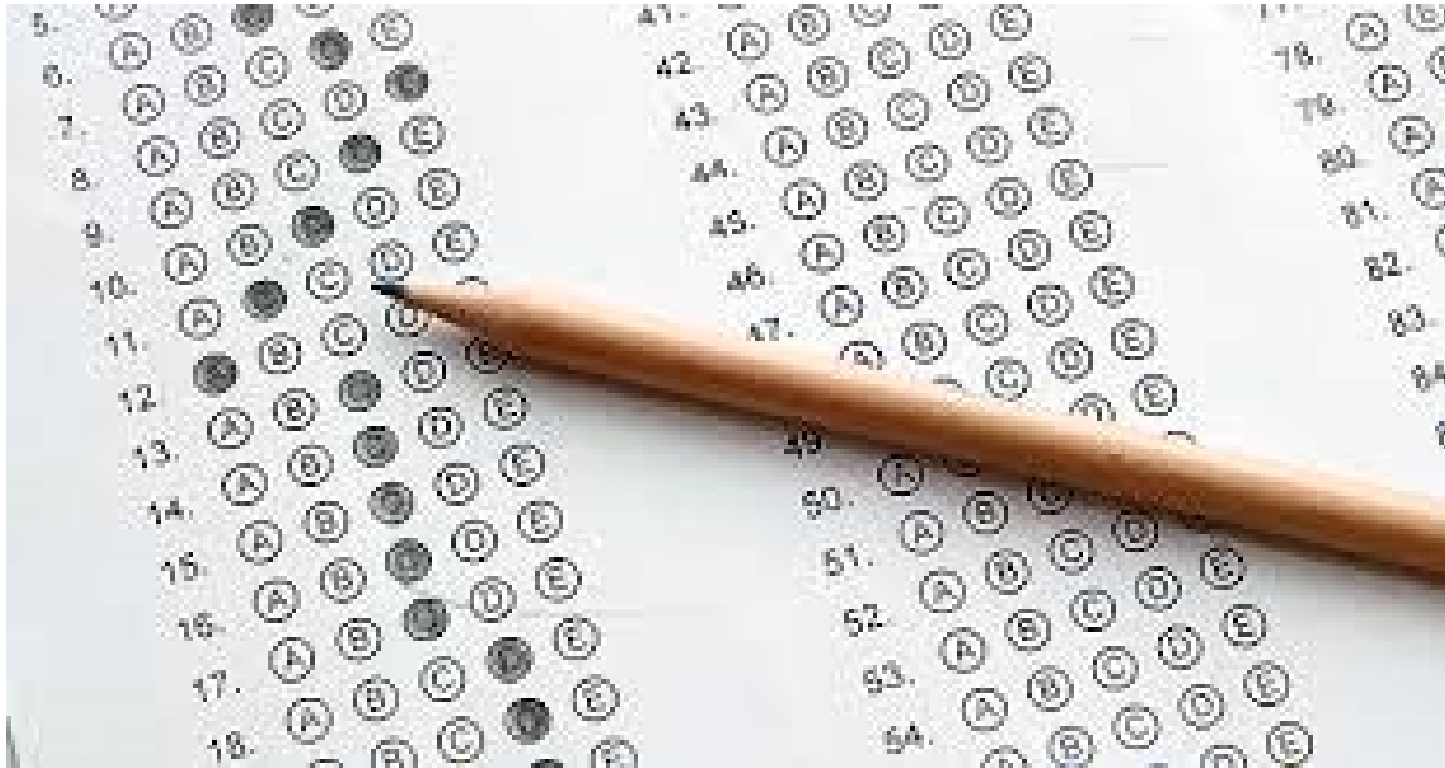


Dr. LaTonya Goffney
Superintendent
Aldine ISD, TX



This Photo by Unknown Author is licensed under [CC BY-NC](#)

Some Caveats



You may not
see quick
results on test
scores.

The benefits may not be fully apparent until students reach higher grade levels.

“You may not see the benefits of what you’re doing. But when students get to third grade, all of a sudden they’re reading about something and they remember you discussing it back then.”

“And they’re building this volume where things begin to make connections.”



Brent Conway

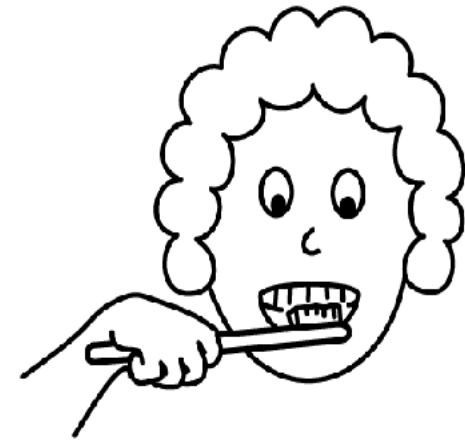
Just adopting an effective curriculum is crucial—but it's not enough to guarantee success.

SUCCESS



FAILURE

Possible Obstacles



To overcome these obstacles, teachers need:

The Why



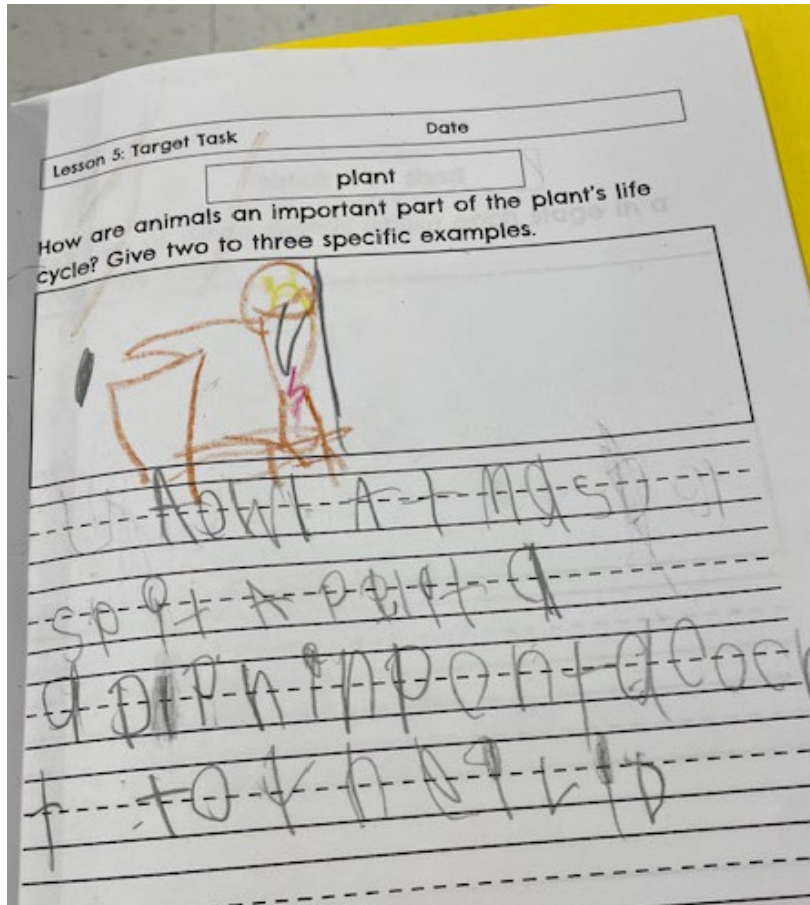
The What



The How



Don't wait to address writing instruction.



A method like The Writing Revolution isn't just a way of teaching writing.

It's a way of *teaching*.

Things are beginning to change ...

BETWEEN THE LINES: CHAPTER FIVE

Why Kentucky's reading crisis can't be solved by phonics alone

As some Kentucky school districts go all in on phonics, they are quick to realize there's much more to making kids proficient readers.

Mandy McLaren Louisville Courier Journal

Published 5:02 AM EDT Oct. 19, 2022 | Updated 5:06 PM EDT Oct. 19, 2022

"I think for so long we thought that (our students) couldn't understand these things, so we didn't teach these things to them," [a third-grade teacher] said.

But three years into the new reading approach, [she] and her colleagues say they have proof to the contrary.

"They like being challenged," said a second-grade teacher.

"It's their favorite part of the day."



The Power of Knowledge- Building Curriculum

“It is a matter of equity, it’s a matter of democracy, and when we’re able to give students those skills and that knowledge at an early age, then think what a better society will have.”



Spring Cook
Former Texas elementary educator



Thank you!

WWW.NATALIEWEXLER.COM

TWITTER: @NATWEXLER

FREE NEWSLETTER: MINDING THE GAP,
[HTTPS://NATALIEWEXLER.SUBSTACK.COM/](https://NATALIEWEXLER.SUBSTACK.COM/)

KNOWLEDGE MATTERS PODCAST:
[HTTPS://KNOWLEDGEMATTERSCAMPAIGN.ORG/PODCAST/](https://KNOWLEDGEMATTERSCAMPAIGN.ORG/PODCAST/)



Literacy Academy 2024