At a Loss for Words

How a flawed idea is teaching millions of kids to be poor readers

Illustration by Jeff Wilson

For decades, schools have taught children the strategies of struggling readers, using a theory about reading that cognitive scientists have repeatedly debunked. And many teachers and parents don't know there's anything wrong with it.

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Molly Woodworth was a kid who seemed to do well at school. Her parents read to her every bedtime story program. But she couldn't read very well.

"There was no rhyme or reason to reading for me," she said. "When a teacher would dictate a word and say, 'Write that down,' I would look at the ceiling and say my mouth spew white other kids gave spellings, and I thought, 'How do they even know where to begin?' I was totally lost."

Molly Woodworth, who struggled with reading in school, now teaches teachers. Courtesy of Molly Woodworth

Woodworth went to public school in Owasso, Michigan, in the 1980s. She was sounds and letters just didn't make sense to her, and she doesn't remember anyone teaching her how to read. So she came up with her own strategies to get through text.

Strategy 1: Memorize as many words as possible. "Words were like pictures to me," she said. "I had a really good memory."

Strategy 2: Guess the words based on context. If she came across a word she didn't know in her school reading book, she'd look at the first letter and come up with a word that seemed to make sense. Reading was kind of like a game of 20 Questions. What word could this be?

Strategy 3: If all else failed, she'd skip the words she didn't know.

Most of the time, she could get the gist of what she was reading. But getting through text took forever. "I failed reading because it takes me forever to read. I'm looking at a chapter and my brain burn by the end of it. I wasn't accurate in that."

Woodworth was stunned. "I thought, 'Oh my God, those are my strategies.' Those are the things I taught myself to look like a good reader. And now they're good readers. Ah," she said. "These kids were being taught my dirty little secret."

She went to the teacher and expressed her concerns. The teacher told her she was teaching reading the way the curriculum told her to.

Woodworth had stumbled on to American education's own little secret about reading: Elementary schools across the country are teaching children to be poor readers — and educators may not even know it.

For decades, reading instruction in American schools has been rooted in a flawed theory about how reading works, a theory that was debunked decades ago by cognitive scientists, yet remains widely promoted by organizations that train teachers and coaches. As a result, the strategies that struggling readers use to get by — memorizing words, using context to guess words, stopping words they don't know — are the strategies that many beginning readers are taught in school. This makes it harder for many kids to learn how to read fluently and accurately. And fluent, accurate reading is a skill that is difficult to even master the practice.[1]

A shocking number of kids in the United States can't read very well. A third of all fourth-graders can't read at a basic level, and most students are slot not proficient readers by the time they finish high school.

Percentage of U.S. fourth-graders below basic level in reading

When kids struggle to learn how to read, it can lead to a downward spiral in which behavior, vocabulary, knowledge and other cognitive skills are eventually affected by slow reading development.[2] A disproportionate number of poor readers become high school dropouts and end up in the criminal justice system.[3]

The fact that a dispassion theory about how reading works is still driving the way many children are taught to read is part of the problem. School districts spend hundreds of millions of taxpayer dollars every year on programs that are based on the theory and are taught the theory in their teacher preparation programs and on the job. As long as this dispassion theory remains part of American education, many kids will likely struggle to learn how to read.

Percentage of U.S. 12th-graders proficient in reading

The origins

The theory is known as "three cueing." The name comes from the notion that readers use three different kinds of information — or "cues" — to identify words as they are reading.

The theory was first proposed in 1967, when an education professor named Ken Goodman presented a paper at the annual meeting of the American Educational Research Association in New York City.

In the paper,[4] Goodman rejected the idea that reading is a precise process that involves exact or near-exact perception of letters or words. Instead, he argued that as people read, they make predictions about the words on the page using three kinds of cues:

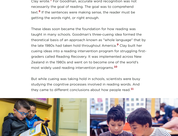
- graphic cues (what do the letters tell you about what the word might look like?)
- syntactic cues (what kind of word could it be, for example, a noun or a verb?)
- semantic cues (what word would make sense here, based on the context?)

Molly's reading journey is a common one. Her parents read to her every night, but she struggled to decode. Her teachers taught her to read using the three cueing strategies, which research has shown to be ineffective and even harmful. Her reading development, like that of many students who struggle with reading, was hindered by the three cueing strategies.

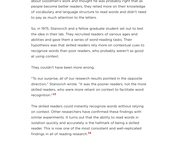
Goodman's proposal became the theoretical basis for a new approach to teaching reading that would soon take hold in American schools.

Previously, the question of how to teach reading had focused on one of two ways: phonics.

One idea is that reading is a visual memory process. The teaching method associated with this idea is known as "whole word." The theory was popularized by Rudolph Flesch in his book "Why Johnny Can't Read" books that first appeared in the 1950s. The books rely on word repetition, and pictures to support the meaning of the text. The idea is that if you see words enough, you eventually store them in your memory as visual images.



The other idea is that reading requires knowledge of the relationship between sounds and letters. Children learn to read by sounding out words. This approach is known as phonics. It goes way back, popularized in the 1600s with the McGuffey readers.



These two ideas — whole word and phonics — had been taking turns as the favored way to teach reading until Goodman came along with a proposal to be known among educators as the "three-cueing system."

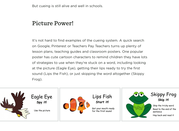
In the cueing theory of how reading works, when a child comes to a word she doesn't know, the teacher encourages her to think of a word that makes sense and looks like it. Does it look right? Does it sound right? A word checks out on the basis of three questions, the child is getting it. She's on the path to skilled reading.

Teachers may not know the "three cueing theory," but they're probably familiar with "MSV." It stands for cueing meaning to figure out what a word is, it for using sentence structure and if it for using visual information (i.e., the letters in the words). MSV is a cueing idea that can be traced back to the Reno Day, a developmental psychologist from New Zealand who first laid out her theories about reading in a dissertation in the 1970s.

Clay developed her cueing theory independently of Goodman, but the two researchers came to the same conclusion about reading process. Their theories were based on observational research. They would listen to children read, note the kinds of errors they made, and use that information to identify a child's reading difficulties. For example, a child who says "horse" when the word was "house" is making a meaning error. Clay noticed that most of the errors kids made back ?? the centeeeee were meaning ones. Her lesson was monitor mo getting the words right, or right enough.

These ideas soon became the foundation for how reading was taught. Clay's work in New Zealand influenced Marie Clay, who made the theoretical basis of an approach known as "whole language" that by the late 1980s had taken root throughout America.[5] Clay built her cueing ideas into a reading intervention program for struggling first graders called Reading Recovery. It was implemented across New Zealand and became a kind of national obsession. It's still the most widely used reading intervention program.[6]

But while cueing was taking hold in schools, scientists were busy studying the cognitive processes involved in reading skills. And they came to different conclusions about how people read.[7]



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Scientists take on three cueing

It was the early 1970s, and Keith Stanovich was working on his dissertation at the University of Toronto. He was interested in why the reading field was ready for an infusion of knowledge from the "cognitive revolution" that was underway in psychology. Stanovich had a background in experimental science and an interest in learning and cognition due in part to the influence of his wife, Paula, who was a special education teacher.

Stanovich wanted to understand how people read words.[8] He knew about Goodman's work and thought he was probably right that people become better readers, they relied more on their knowledge of sound-symbol relationships and less on context and visual cues to help pay much attention to the letters.

So, in 1975, Stanovich and a fellow graduate student set out to test the idea in their lab. They recruited readers of various ages and reading skills and had them read sentences aloud. The hypothesis was that skilled readers rely more on contextual cues to recognize words than poor readers, who probably weren't as good at using context.

They couldn't have been more wrong.

"To our surprise, all of our research results pointed in the opposite direction," Stanovich wrote. "It was the poorer readers, not the more skilled readers, who were more reliant on context to facilitate word recognition."[9]

The skilled readers could instantly recognize words without relying on context. Other researchers have confirmed these findings over similar experiments. It turns out that the ability to read words in isolation is a hallmark of skilled reading and a key to comprehension. Decoding is the ability to read the words on the page. Research has found that decoding is the most important skill for reading comprehension.[10]

Other studies revealed further problems with the cueing theory:[11]

- Skilled readers don't scan words and sample from the graphic cues in an incidental way, instead they very quickly recognize a word as a sequence of letters. The brain automatically processes the difference between "house" and "horse." For example:

- Experiments that force people to use context to predict words show that even skilled readers can correctly guess only a fraction of the words, this is one reason people who rely on context to identify words are poor readers.

- Weak word recognition skills are the most common and debilitating source of reading problems.[12]

The results of these studies are not controversial or contested among scientists who study reading. The findings have been incorporated into every major scientific model of how reading works.

But cueing is still alive and well in schools.

Picture Power!

It's not hard to find examples of the cueing system. A quick search on Google, Pinterest or Teachers Pay Teachers turns up plenty of lesson plans, teaching guides and classroom posters. One popular Pinterest poster lists the three cueing strategies and provides a list of strategies to use when they're stuck on a word, including looking at the picture (Eagle Eye), getting their lips ready to try the first round (Lips Lip Flip), or just skipping the word altogether (Sloppy Frog).

There are videos online where you can see teachers using these in one-video posted on The Teaching Channel.[13] A kindergarten teacher in Oakland, California, instructs her students to use "picture power" to identify the words on the page. The goal of the lesson, according to the teacher, is for the students to "use the picture and a first sound to determine an unknown word in their book."

The class reads a book together called "In the Garden." On each page there's a picture of something you might find in a garden. It's what's known as a predictable book, the sentences are all the same except for the last word.

The children have been taught to memorise the words "look," "at," and "line." The challenge during the last word in the sentence "the lesson plan tells the teacher to cover up the word with a sticky note."

In the video, the assigns kindergartners sitting cross-legged on the floor come to a page with a picture of a butterfly. The teacher tells the kids that she's guessing the word is going to be butterfly. She uncovers the word to check on the accuracy of her guess.

"Look at that," she tells the children pointing to the first letter of the word. "It starts with the /b/ /u/ /t/." The class reads the sentence together as the teacher points to the words. "Look at the butterfly! they yell out excitedly.

This lesson comes from "Units of Study for Teaching Reading," more commonly known as "reader's workshop."[10] According to the lesson plan, this lesson teaches children to "know and apply grade-level phonics and word analysis skills in decoding words."[11]

But the children were not taught to decode words in this lesson. They were taught to guess words using pictures and patterns – hallmarks of the three-cueing system.

The author of Units of Study for Teaching Reading, Lucy Calkins, often refers to cueing in her published work.[12] She uses the term MSV – the meaning, structure and visual idea that originally came from Clay in New Zealand.

Then there is Fountas and Pinnell Literacy, started by Irene Fountas and Gay Su Pinnell, teachers who learned the MSV concept from Clay in the 1980s.[13]

Fountas and Pinnell have written several books about teaching reading, including a best-seller about a widely used instructional approach called "Guided Reading." They also created a reading assessment system that uses what are called "leveled books." Fountas and Pinnell have also created a new "Guide to the Center" and move up levels as they're able to "read" the words. But many of the words in those books – butterfly, caterpillar – are words that beginning readers haven't been taught to decode. One of the purposes of the books is to teach children that when they get to a word they don't know, they can use context to figure it out.

When put into practice in the classroom, these approaches can cause problems for children when they are learning to read.

'That is not reading'

Margaret Goldberg, a teacher and literacy coach in the Oakland Unified School District, remembers the moment she realized something was wrong with the three-cueing approach was. She was with a first-grader named Rodney when he came to a page with a picture of a girl kicking an ice cream cone and a dog licking it.

The text said: "My little dog likes to eat with me."

But Rodney said: "My dog likes to lick his bone."

Rodney linked right through it, unaware that he hadn't read the sentence on the page.

Goldberg realized lots of her students couldn't actually read the words in their books. Instead they were memorizing sentence patterns and using context and pictures. She felt like they excelled. "I can read this book with my eyes shut," she said.

"Oh no," Goldberg thought. "That is not reading."

Goldberg had been hired by the Oakland schools in 2015 to help struggling readers by teaching Fountas and Pinnell program called "Leveled Literacy Intervention" that uses leveled books and the cueing approach.[14]

Goldberg and her colleagues were trained in a program that uses a different strategy for teaching children how to read words. The program is called "Systematic Instruction in Phonological Awareness, Phonics, and Sight Words," or SIPPS.[15] It's a phonics program that teaches children how to sound out words and uses decodable books that are aligned to SIPPS. Not all the books have spelling patterns that kids have been taught in their phonics lessons.

Goldberg decided to teach some of her students using the phonics program and some of her students using three-cueing. And she began to notice differences between the two groups of kids. "Not just in their abilities to read," she said. "but in the way they approached their reading."

Goldberg and a colleague recorded first-graders talking about what makes them good readers.

One video shows Mia, on the left, who was in the phonics program. Mia says she's a good reader because she looks at the words and sounds them out. Jalliese, on the right, was taught the cueing system. Jalliese says: "I look at the pictures and I read it."

It was clear to Goldberg after just a few months of teaching both approaches that the three-cueing approach was creating problems. "One of the things that I still struggle with is a lot of guess," she said.

She thinks the students who learned three cueing were actually harmed by the approach. "I did lasting damage to these kids. It was not their fault. It was not their parents' fault. It was the fault of a weird world that I'd been asked to take part them to slow down and sound a word out because they had had this experience of knowing that you predict what you read based on what you read."

Goldberg soon discovered the decades of scientific evidence against cueing.[16] She was shocked. She had never come across any of this science in her teacher preparation or on the job.

And she started to wonder why not.

Balanced Literacy

People have been arguing for centuries about how children should be taught to read. The fight has mostly focused on whether to teach phonics.

The whole language movement of the late 20th century was centered on the belief that teaching children phonics, or any instruction was seen as tedious, time-consuming and ultimately unnecessary. Why? Because – according to the three-cueing theory – readers can use other methods cues to figure out what the words say.[17]

Marilyn Adams came across this belief in the early 1990s. She's a cognitive and developmental psychologist who had just written a book summarizing the research on how children learn to read.[18] One big takeaway from the book is that becoming a skilled reader requires "automatic recognition of the spellings and correspondences."[19] Another big takeaway is that many kids were not being taught this in school.

Soon after the book was published, Adams was describing her research to a group of reading specialists and teachers in Sacramento, California. She was serving documents and continuing on the room. "And I just stopped and said, 'What is it that I'm missing?' she recalled. "What is it that I need to talk about? Help me."

A woman raised her hand and asked: "What does this have to do with the three-cueing system?" Marilyn didn't know what the three-cueing system was. "I think I blew all of their faces that I did not [know what it was] since this was so fundamental to being an elementary reading teacher," she said. "How could I present myself to them as an expert on reading and not know about this?"

The teachers drew her a clear diagram of the three-cueing system. It looked something like this:

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But Adams soon figured out the disconnect. Teachers understood these cues not just as the ways readers construct meaning from text, but as the way readers actually identify the words on the page. And they thought that teaching kids to decode or sound out words was not necessary.

"The most important thing was for the children to understand and develop strategies for figuring out the meaning of words in the context of reading. The words on the page would just pop out at them."

She would explain to teachers at every opportunity that explicitly teaching children about the relationship between sounds and letters is essential for learning to read. But it wasn't easy. "It was exhausting. But the grit kids of anybody from teachers. They didn't want to teach phonics." she recalled in frustration.

In 1998, Adams wrote a book chapter about how the three-cueing system was not based on research and was in fact harmful to reading. She hoped it would help get three-cueing out.[20]

By this time, the scientific research on reading was gaining traction. In 2000, a national panel convened by Congress to review the research on how children learn to read released its report.[21] It identified several essential components of reading instruction, including vocabulary, comprehension and phonics. The evidence that phonics instruction enhances children's success in learning how to read was clear and compelling. National reports on reading from then on have all strongly endorsed phonics come to the same conclusion.[22]

Eventually, many white language supporters accepted the weight of the scientific evidence about the importance of teaching phonics. They began adding phonics to their books and materials and renamed their approach "balanced literacy."

> **"When I put into the classroom and I saw what happened, I felt betrayed by what I didn't question it."**
> Lucy Calkins

But they didn't get rid of the three-cueing system.

Balanced literacy programs will tell you their approach is a mix of phonics instruction with plenty of time for kids to read and enjoy books. But look carefully at the materials and you'll see that's not really what balanced literacy is mixing. Instead, it's mixing a bunch of different things with the three-cueing MSV. It's mixing whole word instruction with long lists of words for kids to memorize. It's a little bit of phonics. And fundamentally, it's the idea that children should be taught to read using the three-cueing system.

And it turns out cueing may actually make it harder for kids focusing on words in the way they need to become skilled readers.

Mapping the words

To understand why cueing can get in the way of children's reading development, it's essential to understand how our brains process the words we see.

Reading scientists have known for decades that the hallmark of being a skilled reader is the ability to instantly and accurately recognize words.[23] If you're a skilled reader, your brain has gotten so good at identifying words that it does it almost "on autopilot" that you process a picture of a cow[24] in less time than it takes tens of thousands of words instantly, on sight. How did you learn to do that?

It happens through a process called "orthographic mapping."[25] It's what when you pay attention to the details of a written word and link the word's pronunciation to its meaning in your brain's storage system.[26] It's what happens when you see a word for the second time and your brain has mapped its his memory where to find the sounds of the /b/ /u/ /t/ in the written word "bring."

That requires an awareness of the spoken sounds in words and an understanding of how those sounds are represented by letters.[27] In other words, you need phonics skills.

Here's what happens when a reader who has good phonics skills tries to read the short nonsense word pictured in print. She stops at the word and sounds it out. If it's a word she knows the meaning of, she has now linked the spelling of that word with its pronunciation. If she doesn't know the meaning of the word, she can use context to try to figure it out.

By about second grade, a typically developing reader needs just a few exposures to a word through understanding both the pronunciation and the spelling for that word to be stored in her memory.[28] The word is now recognized by her brain automatically as a visual image. She knows that word because at some point she successfully sounded it out.

The more words she stores in her memory this way, the more she can read with fluency and understanding. Her brain is now not using way less power to identify words and will be able to devote more brain power to comprehending what she's reading.[29]

But when children don't have good phonics skills, the process is different.

"They sample from the letters because they're not good at sounding them out," said David Kilpatrick, a psychology professor at SUNY Cortland and the author of a book about preventing reading difficulties.[30] "And they can notice."

In other words, when people don't have good phonics skills, they use the cueing system.

"The three-cueing system is the very poor readers read," said Kilpatrick.

And if teachers use the cueing system to teach reading, Kilpatrick says they're not just teaching children the habits of poor readers, they are actually impeding the orthographic mapping process.[31]

"The minute you ask them just to pay attention to the first letter or look at the picture, look at the sentence you're drawing their attention away from the very thing that they need to interact with in order to learn to read words automatically and fluently," Kilpatrick said. In this way, he said, three-cueing can actually prevent the critical learning that's necessary for a child to become a skilled reader.

In many balanced literacy classrooms, children are taught phonics and the cueing system. Some kids who are taught both approaches realize pretty quickly that sounding out a word is the most efficient and reliable strategy for figuring out the word. But others don't realize how understanding the letter-sound clues and letters matter. They'll drop the cueing strategies and begin building that big bank of instantly known words that is a requisite for skilled reading.

But some children will skip the sounding out if they're taught they have other options. Phonics is challenging for many kids. The cueing strategies seem quicker and easier at first. And by using context and memorizing a bunch of words, many children can look like good readers – until they get to about third grade, when their books contain more multisyllabic words they haven't been taught to read. Then they're stuck. They haven't developed their sounding-out skills. Their bank of known words is limited. Reading is slow and laborious and they don't like it, so they don't do it. If they don't have, by White Plains years who mastered decoding early are reading and teaching themselves new words through reading. Meanwhile, for the cueing approach are falling further and further behind.[32]

These poor reading habits, once ingrained at a young age, can follow kids into high school. Some kids who were taught the cueing system and balanced literacy approaches in elementary school are incapable of turning to read self-but textual they were taught the strategies of struggling readers.

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It happens through a process called "orthographic mapping."[25] It's what when you pay attention to the details of a written word and link the word's pronunciation to its meaning in your brain's storage system.[26] It's what happens when you see a word for the second time and your brain has mapped its his memory where to find the sounds of the /b/ /u/ /t/ in the written word "bring."

That requires an awareness of the spoken sounds in words and an understanding of how those sounds are represented by letters.[27] In other words, you need phonics skills.

Here's what happens when a reader who has good phonics skills tries to read the short nonsense word pictured in print. She stops at the word and sounds it out. If it's a word she knows the meaning of, she has now linked the spelling of that word with its pronunciation. If she doesn't know the meaning of the word, she can use context to try to figure it out.

By about second grade, a typically developing reader needs just a few exposures to a word through understanding both the pronunciation and the spelling for that word to be stored in her memory.[28] The word is now recognized by her brain automatically as a visual image. She knows that word because at some point she successfully sounded it out.

The more words she stores in her memory this way, the more she can read with fluency and understanding. Her brain is now not using way less power to identify words and will be able to devote more brain power to comprehending what she's reading.[29]

But when children don't have good phonics skills, the process is different.

"They sample from the letters because they're not good at sounding them out," said David Kilpatrick, a psychology professor at SUNY Cortland and the author of a book about preventing difficulties.[30] "And they can notice."

In other words, when people don't have good phonics skills, they use the cueing system.

"The three-cueing system is the very poor readers read," said Kilpatrick.

And if teachers use the cueing system to teach reading, Kilpatrick says they're not just teaching children the habits of poor readers, they are actually impeding the orthographic mapping process.[31]

"The minute you ask them just to pay attention to the first letter or look at the picture, look at the sentence you're drawing their attention away from the very thing that they need to interact with in order to learn to read words automatically and fluently," Kilpatrick said. In this way, he said, three-cueing can actually prevent the critical learning that's necessary for a child to become a skilled reader.

In many balanced literacy classrooms, children are taught phonics and the cueing system. Some kids who are taught both approaches realize pretty quickly that sounding out a word is the most efficient and reliable strategy for figuring out the word. But others don't realize how understanding the letter-sound clues and letters matter. They'll drop the cueing strategies and begin building that big bank of instantly known words that is a requisite for skilled reading.

But some children will skip the sounding out if they're taught they have other options. Phonics is challenging for many kids. The cueing strategies seem quicker and easier at first. And by using context and memorizing a bunch of words, many children can look like good readers – until they get to about third grade, when their books contain more multisyllabic words they haven't been taught to read. Then they're stuck. They haven't developed their sounding-out skills. Their bank of known words is limited. Reading is slow and laborious and they don't like it, so they don't do it. If they don't have, by White Plains years who mastered decoding early are reading and teaching themselves new words through reading. Meanwhile, for the cueing approach are falling further and further behind.[32]

These poor reading habits, once ingrained at a young age, can follow kids into high school. Some kids who were taught the cueing system and balanced literacy approaches in elementary school are incapable of turning to read self but textual they were taught the strategies of struggling readers.

Margaret Goldberg, a literacy coach in the Oakland Unified School District, keep these Fountas and Pinnell Leveled Literacy Intervention books in her classroom. Teachers in her district are using the three-cueing approach and phonics. Mia was with a first-grader named Rodney when he came to a page with a picture of a girl licking an ice cream cone and a dog licking a bone.

'So what if they use the picture?'

Once Margaret Goldberg discovered the cognitive science evidence against cueing, she and her colleagues in the Oakland school district knew what it was.

Over the past two years, Goldberg and a fellow literacy coach named Lani Madonia have been leading a grant-funded pilot project to improve reading achievement in the Oakland schools.[33]

They have their work cut out for them. Nearly half the district's third-graders are below grade level in reading. Goldberg and Madonia want to raise questions about how kids in Oakland are being taught to read.

They meet every couple weeks with literacy coaches from the 10 elementary schools in the pilot program. They read and discuss articles about the scientific research on reading. At a meeting in March, the coaches watched the video of the "scripted lesson" lesson.

"This teacher meant well," Madonia said to the coaches after they watched the lesson. "It seemed like she believed this lesson would ensure her students would be on the road toward reading."

Madonia wanted the coaches to consider the beliefs about reading that would lead to the creation of a lesson like "picture power." The Oakland schools purchased the Units of Study for Teaching Reading series, which includes the "picture power" lesson, as part of a curriculum that was being implemented in kindergarten and first grade. The district also bought the Fountas and Pinnell assessment system.

The coaches saw right away that "picture power" was designed to teach kids the cueing system. But they also saw many reasons why it wouldn't work. For example, they all saw, if one of the cues is to look at the letters in the word. What's where will teaching kids lots of different strategies to figure out unknown words?[34]

"I remember before we started looking at the science and everything, I thought to myself, 'Reading is so hard for kids, so what if they use the pictures?'" said Sonya Sapuppo-Brooks, the early literacy coach at Prescott Elementary School in West Oakland. "Like, see everything you've got."

But she's come to understand that cueing sends the message to kids that they don't need to sound out words. Her students would get phonics instruction in one part of the day. Then they'd go back to classrooms where they were being taught to guess words. They don't know, they have lots of strategies. They can sound it out. They can also check the first letter, look at the picture, think of a word that makes sense.

Teaching cueing and phonics doesn't work. Sapuppo-Brooks said. "One negates the other."

Goldberg and Madonia want to show the district there's a better way to teach reading. Schools in the pilot project used grant money to buy new phonics-aligned decodable books to supplement the charter school networks in Oakland are switching to common sense phonics to move their schools away from cueing.

To see what it looks like, I visited a first-grade classroom at a charter school in Oakland called Achieve Academy.[35]

One part of the day was explicit phonics instruction.[36] The students were divided into small groups based on their skill level. They met with their teacher, Andrea Ruiz, at a kidney-shaped table in a corner of the classroom. Ruiz had her students practice their sounds and speech sounds in words like "sort" and "bird." The highest level group learned how words like "spy" and "cry" are spelled as "spied" and "cried." In the past lesson

Photo by Gabriel Gurrola on Unsplash

There were also vocabulary lessons.[18] The entire class gathered on a rug in front of the classroom to talk about a book Ms. Ruiz had out loud to them. One of the words in the book was "prey."

"What animals are a classroom's prey? Ms. Ruiz asked the children. "Or we can also ask, what animals do classrooms hunt for food?"

The kids turned and talked to each other. "A classroom's prey are bugs and insects and other classmates and mice and birds," a little boy explained to his classmate. "That's it."

Other vocabulary words Three-first graders had learned were posted on cards around the classroom. They included: wander, persuade, squint and scrumptious. The kids weren't expected to read those words yet. The idea is to build their oral vocabulary so that when they can read those words, they know what the words mean.

This comes straight from the scientific research, which shows that vocabulary is critical to reading comprehension. Ms. Ruiz's job this month is to be able to carry on a short discussion. The child needs to know the meaning of the words she just sounded out. In a third-grade classroom that's following the research, you will see explicit phonics instruction and also lessons that build oral vocabulary and background knowledge. And you will see kids practicing what they've been taught.

After their vocabulary lesson, the kids did "buddy reading." They retreated to various spots around the classroom to read books to each other. Ms. Ruiz circulated among the kids and listen to them. In the classroom, two little boys sprawled. Across from her was her buddy Steven, decked out in a pirate and blue plaid shirt tucked neatly into his pants. He held the book and pointed to the words while Belinda read.

"Elen, Ho," Belinda paused, sounding out the word "meals." She was reading a decodable book about some kids who visit a farm. Almost all of the words in the book contain spelling patterns she'd been taught in her phonics lessons.

"I am a farm hand," Belinda read.

Steven did a double-take. "A farmer hand," he said gently. Steven's job as Belinda's reading buddy was to help her if she missed a word or got it wrong. Ms. Ruiz had explained to the children what they'd been taught how to read the words. She didn't need any help from the pictures, either. She barely glanced at them as she read.

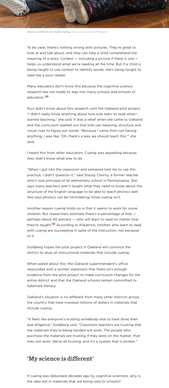


Photo of Elizabeth Trujillo reading. Credit: Carolyn Jones

To be clear, there's nothing wrong with pictures. They're great to look at and they can help kids learn about the world and enhance the meaning of a story. Context — including a picture if there is one — helps us understand what we're reading all the time. But if a child is being taught to use context to identify words, she's being taught to read like a poor reader.

Many educators don't know this because the cognitive science research has not made its way into many schools and schools of education.[19]

Ruiz didn't know about this research until the Oakland pilot project. "I didn't really know anything about how kids learn to read when I started teaching," she said. It was a relief when she came to Oakland and the curriculum spelled out that kids use reading structure and visual cues to figure out words. "Because I came from not having anything, I was like, 'Oh, there's a way we should teach this,'" she said.

I heard this from other educators. Cueing was appealing because they didn't know what else to do.

"When I got into the classroom and someone told me to use this practice, I didn't question it," said Stacey Cherry, a former teacher who's now principal of an elementary school in Northern California. She says many teachers didn't laugh when they realized they were being asked to teach students to guess words based on context. "We saw phonics just as the minimizing three cueing set."

Another reason cueing holds on is that it seems to work for some children. But researchers estimate there's a percentage of kids — perhaps about 40 percent — who will learn to read no matter how they're taught.[20] According to Kapuria, children who learn to read with cueing are succeeding in spite of the instruction, not because of it.

Goldberg hopes the pilot project in Oakland will convince the district to drop all instructional materials that include cueing.

When asked about this, the Oakland superintendent's office responded with a written statement that she wasn't enough evidence from the pilot project to make curriculum changes for the entire district and that the Oakland schools remain committed to balanced literacy.

Oakland's situation is no different from many other districts across the country that have invested millions of dollars in materials that include cueing.

"It feels like everyone's trusting somebody else to have done their due diligence," Goldberg said. "Classroom teachers are trusting that the materials they're being handed will work. The people who purchase the materials are trusting that they were on the market, that they will work. We're all trusting, and it's a system that is broken."

'My science is different'

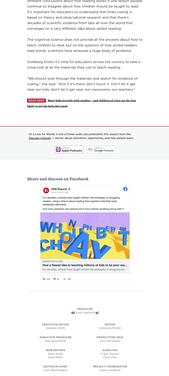
If cueing was debunked decades ago by cognitive scientists, why is the idea still in materials that are being sold to schools?

One answer to that question is that school districts still buy the materials. Hanemann, the company that publishes the Fountas and Pinnell materials, said that last year the Oakland schools use earned scrutiny in the neighborhood of $500 million in 2018, according to earnings reports.[21]

I wanted to know what the authors of those materials make of the research. Hanemann said that Fountas and Pinnell don't seem to explain the ideas behind their work. I wrote to Cathy Fountas and Pinnell and asked for interviews. They all declined. Hanemann sent a statement that said every product the company sells is informed by extensive research.

I also asked Gentilhomme for an interview. It's been more than 50 years since he first laid out the three-cueing theory in that 1967 paper I wanted to know what he thinks of the cognitive science research. Of the major proponents of three cueing I reached out to, he was the only one who agreed to an interview.

I visited Gentilhomme at his home in Tucson, Arizona. He's 90. He uses a scooter to get around, but he's still working. He just finished a new edition of one of his books.



When I asked him what he makes of the cognitive science research, he told me he thinks scientists focus too much on word recognition. He still doesn't believe accurate word recognition is necessary for reading comprehension.

"Word recognition is a precocious phenomenon," he said. "I don't teach word recognition. I teach people to make sense of language. And learning the words is incidental to that."

He brought up the example of a child who comes to the word "Mississippi" and can't pronounce it. He said the child can still understand the meaning of the story because home and prey are the same concept.

I pressed him on this. First of all, a prey isn't the same thing as a home. Second, don't you want to make sure that when a child is learning to read, he understands that /s/ /a/ /t/ /o/ /p/ /ee/ /y/ ? And different letters say "home"?

He dismissed my question.

"The purpose is not to learn words," he said. "The purpose is to make sense."

Cognitive scientists don't dispute that the purpose of reading is to make sense of the text. But the question is: How can you understand what you are reading if you can't accurately read the words? And if you can't accurately read the words, what is the point of being a skilled reader: How does a little kid get there?

Goldman reported the idea that you can make a distinction between skilled readers and unskilled readers. He doesn't like the value judgment that goes with that. But he said there are "a plethora of lots of evidence that it does."[22] And he said the three-cueing theory is based on years of observational research. In his view, three-cueing is perfectly valid, drawn from a different kind of evidence than what scientists collect in their labs.

"My science is different," Goodman said.

This idea that there are different kinds of evidence that lead to different conclusions about how reading works is one reason people who don't know much about the science of reading can be misled. It's important for educators to understand that three-cueing is based on theory and observational research and that there's decades of scientific evidence from labs all over the world that converges on a very different idea about skilled reading.

The cognitive science does not provide all the answers about how to teach children to read, but on the question of how skilled readers read words, scientists have amassed a huge body of evidence.

Goldberg thinks it's time for educators across the country to take a close look at the materials they use to teach reading.

"We should look through the materials and search for evidence of cueing," she said. "And if it's there, don't touch it. Don't let it get near our kids. Don't let it get near our classrooms, our teachers.

RELATED: How do students add number + and subtract other ones on the fly? Here's an easy trick to find out

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At 4 Lens for Words is one of three audio documentaries this season from the Futures Initiative — stories about education, opportunity, and how people learn.

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Resources

- Fountas and Pinnell Studies
- Gentilhomme's research

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1. Molly Woodworth's Gamma division at a reading center in Finding Michigan, where she says the big to high school drive she couldn't get through the ACT test. "I could not get through the reading but enough," she said. "My voice was not clear."

2. In reading, the 3-cue pre-view and the pour-get process: See this same article in Kevin Kamenetz.

3. This long but worth-it Medium Effects by reading with among citations to research. You may also be interested in these articles:

- Are reading and behavior problems risk factors for each other?
- Do poor readers feel worse, and anxious?
- Are reading difficulties ever cured with medical intervention?

4. About 40 percent of children who are not reading proficiently by the end of third grade do not graduate from high school, a rate far times greater than for proficient readers. The link between reading problems and incarceration has been known for years. The link between reading problems and "reading failure in more than 4 cases, not just 3 cases" and suicide is a relatively recent discovery. Sources: Various studies on the prevalence of reading problems among inmates can be found here and here.

5. Reading: A Psychodynamic Grammar Game

6. This article provides some background on Clay's theories about the reading process.

7. You can find this quote on page 6 of Clay's book, Becoming Literate. Her discussion of her idea (in a not supportively empirical citation) is on this article. (The full article is only available behind a paywall.)

8. See Gentilhomme's book, The Reader. Reading "is not a matter of careful attention to detail or concern for accuracy" because readers "get in the meaning without attending to all the detail of the letters and the words." (p. 92) "What you think you see is more important than what you actually pick up." (p. 97) Reading "not recognizing words, it's making sense of text." (p.97)

9. This 1995 Reader chapter discusses the growth of the whole language movement in the United States and explores its theoretical underpinnings.

10. Reading with the aunty of your be because interested in the cognitive processes involved in reading to be found Progress in Understanding Reading.

11. See the Progress in Understanding Reading, p. 8.

12. See Hanemann and Hendry and the references at the end of the essay.

13. Many of the scientific papers are technical and available only behind paywalls. If you are interested in reading more about these studies, here are some of the citations which we'd you may want to look at: Charles Perfetti, Tom Nicholson, Paula Tallal, Keith Stanovich, Dick Olson.

- There are many blogs and articles that translate the research into the three-cueing theory, including several by Kevin Kamenetz and Stephen Cowen. See, for example, Reading Wrong: Why Oral Reading and The Three-Cueing Method Aren't Good for Learning to Read.
- Rachel Gur discusses the research evidence against cueing in the Language or the Speed of Light and Neuroscience of Immersion Reading and Phonics Instruction.
- The under-science of the cueing question is cover by Tomas L. Bridges. You can find a paper by he authored on the role of context in word recognition and how this dissertation that includes the experiment described in the audio story here.

14. See the books Reading Skills, Beginning to Read and Sense and Non-Sense: Facts in Reading Instruction and its Relation to Reading Disability, Dyslexia and Other Learning Disabilities and Early Reading Development. See also the evaluation of the research on cueing by the NICHD intervention studies, tracking children to see content and predictors as strategies for word recognition resulting in greater numbers of reading disabilities than instruction that taught children to use their phonics knowledge and to use context strategies for word recognition.[23]

Sign in to post your comment.

17. You can find the video here.

18. You can find the lesson plan on page 38 (Session 6: Super Readers Put Powers Together) of the book "Super Powers: Reading with Print Strategies and Sight Word Power," part of Units of Study for Teaching Reading: Grade K.

19. This is from the Common Core State Standards (RF.K.3 K): Know and apply grade-level phonics and word analysis skills in decoding words.

20. See, for example, A Guide to the Reading Workshop: Primary Grades, Word Detectives: Strategies for Using High-Frequency Words and for Decoding, and The Art of Teaching Reading. You can find references to cueing on the website of the Reading and Writing Project, founded by Calkins. For example, here and here.

21. See Guided Reading (1996 and 2017) and When Readers Struggle. You can also find references to cueing on the Fountas and Pinnell Literacy website, for example here and here.

22. See Fountas & Pinnell Benchmark Assessment System.

23. See Leveled Literacy Intervention, in particular Prompting Guide Part 1 that is included as part of LLI kits.

24. Goldberg found unopened materials for the SIPPS program at the school where she worked. "It was just sitting on the shelves collecting dust," she said. She didn't know anything about SIPPS, but she recognized the nonprofit that publishes it, Center for the Collaborative Classroom. Goldberg had worked for Collaborative Classroom as a materials developer for two years before starting her job with the Oakland Unified School District.

25. The first article Goldberg came across that referred to the problems with cueing was Whole Language Lives On: The Illusion of 'Balanced' Reading Instruction. She also read The Three-Cueing System: Trojan Horse?, Ten Myths of Reading Instruction, and this book.

26. The quotes collected here provide background on whole language beliefs about phonics.

27. In the cueing theory of how reading works, just a bit of phonics knowledge is enough because readers have other ways to identify words. See this piece, for example: "Some knowledge of phonics can restrict the possibilities of what the unknown words are."

28. Beginning to Read: Thinking and Learning about Print.

29. Recent research using Functional Magnetic Resonance Imaging (fMRI) provides further evidence of the critical role of phonology in learning to read. See this study and this one.

30. Adams' piece about the three-cueing system was originally published in the book Literacy for All. There are also versions of it published as an article online. (The online versions don't include the appendices.)

31. The National Reading Panel Report (NRP) can be found here. A 2011 report summarizing research on the efficacy of phonics instruction since the NRP can be found here.

32. National Inquiry into the Teaching of Literacy (Australia) 2005; Independent Review of the Teaching of Early Reading Final Report (United Kingdom) 2006.

33. See this 1980 article from Keith Stanovich and also this more recent overview of the research.

34. This was established in the late 19th century by a researcher named James Cattell who compared reaction times to words and images using a newly developed timing mechanism that could measure reactions to within 1/1,000th of a second. See this book, p. 30.

35. Linnea Ehri first described the process of orthographic mapping in the 1970s. Another prominent researcher in this area is David Share.

36. Here's a blog post that describes the basics of orthographic mapping.

37. See this article and this article by Ehri.

38. See How Does Orthographic Learning Happen?, Orthographic Learning During Reading: Examining the Role of Self-Teaching and this book, p. 34.

39. See What Reading Does for the Mind.

40. David Kilpatrick is author of the Essentials book cited previously as well as Equipped for Reading Success. He was a school psychologist for 28 years.

41. Teachers might be especially interested in these articles. Decoding Before Context: "We have had many conversations with teachers about the fact that the system is not only void of research and evidence, but — equally important — it is also teaching children habits that are difficult to change. Worse yet, this approach sets children up for frustration and failure." The Three Cueing System: "Are you using the three cueing system? You will know if you are using a three cueing approach to reading if you have posters or prompts in your classroom that encourage the following ..."

42. See the Matthew Effect and the Self-Teaching Hypothesis. Also see this article, which notes that "decoding problems underlie the difficulties of most primary grade students who struggle with reading."

43. The project is funded by the Kenneth Rainin Foundation.

44. "If children are taught systematic phonics in one part of the reading program but are encouraged to use context to guess at words when reading passages, they may not apply their phonics skills consistently. Thus, the phonics component of the reading program may be undermined." -- from The Use of Context Cues in Reading.

45. Achieve Academy is part of the Education for Change charter school network. The other charter school network is Aspire Public Schools.

46. Andrea Ruiz uses two different phonics programs. For her lowest-level readers, she uses SIPPS. For other students, she uses Being a Reader.

47. Vocabulary lessons come from a program called Making Meaning.

48. See "The Simple View of Reading." The 1986 article that first proposed this model is here. The model has been upheld by decades of research on reading. See this 2018 article by the original researchers. Some blog posts that explain the Simple View are here, here and here. Another helpful way to understand the relationship between word recognition and skilled reading is Scarborough's Rope.

49. There's a large body of research that shows teachers are not being taught what they need to know about how children learn to read. Teacher's Knowledge about Beginning Reading Development and Instruction provides an overview. R. Malatesha Joshi at Texas A&M has done a lot of research on this topic; see this and this. The U.S. Department of Education published a study back in 2020. A report on educator preparation to teach reading in Australia cites research from the United States. There are reports on teacher prep in North Carolina and Mississippi. The National Council on Teacher Quality has produced several reports (see here and this article here). There is also this article on what teachers aren't being taught about dyslexia.

50. This infographic compiles estimates from several studies and experts.

51. Heinemann is a division of Houghton Mifflin Harcourt. In 2018, HMH extensions businesses (which consist primarily of the "Heinemann brand, intervention and supplemental products as well as professional services") earned $284 million. Extensions businesses earnings increases in 2018 were driven primarily by higher Heinemann net sales and "the primary driver" of those sales increases were Fountas & Pinnell products.

52. There is an overwhelming amount of evidence in the research literature about the existence of dyslexia. There are many articles and other resources available at The Yale Center for Dyslexia and Creativity and on the Haskins Labs website, including this overview of the neurobiology of dyslexia. APM Reports did this "What is dyslexia?" interview in 2017 with neuroscientist Guinevere Eden. A summary of dyslexia with many citations to research is here.

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