

## **At a Loss for Words: What's wrong with how schools teach reading**

### **APM Reports Transcript**

#### **Billboard**

**Teacher:** The power that we are going to learn today, it's called Picture Power.

**Children:** Picture Power!

**Emily Hanford:** There's a theory about reading that's deeply embedded in elementary school teaching practices.

**Molly Woodworth:** She said, if you don't know the word, just look at the first letter. Is it the fox or the bear?

This theory was disproven decades ago by cognitive scientists. But it continues to be taught.

**Erica Meltzer:** They would get to an unfamiliar word. They would look at the beginning of the word then guess the rest of it.

When kids are taught this way, it's more difficult for many of them to learn to read.

**Margaret Goldberg:** It was so hard to ever get them to slow down and sound a word out because they had had this experience of reading as being easy.

**David Kilpatrick:** The minute you ask them just to pay attention to the first letter, look at the picture, look at the context, you're drawing their attention away from the very thing that they need to read the word or to remember the word.

Coming up, an APM Reports documentary, "At a Loss for Words: What's wrong with how schools teach reading," from American Public Media.

First this news.

## **Part 1**

**Hanford:** From American Public Media, this is an APM Reports documentary.

Molly Woodworth was a kid who seemed to do well at everything. Good grades, in the gifted and talented program. But she had a secret.

**Woodworth:** I fooled everyone.

Molly couldn't read very well.

**Woodworth:** I was totally lost. There was no rhyme or reason to reading for me. When a teacher would dictate a word and say, 'Tell me how you think you can spell it?' I sat there with my mouth open while other kids gave spellings and I thought, how do they – how do they even know where to begin? You know I was totally. It didn't make sense to me.

Her classmates just seemed to know how to read. But Molly didn't, and she says no one ever taught her. So, she did the best she could.

**Woodworth:** I came up with my own way to read.

(Music)

Number one: Memorize lots of words.

**Hanford:** So, you would read along and there would just be some percentage of the words you just had memorized?

**Woodworth:** Yeah. And I didn't know that then. But, um, I had a really, really good memory.

She says words were like pictures to her. When she came across one she didn't have in her visual memory, 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? Most of the time, Molly could get the gist of what she was reading. But getting through text took forever.

**Woodworth:** I hated reading because it was taxing. My brain hurt by the end of it. And, you know, I'd get through a chapter and it was like, ugh, I was done. You know, I wasn't excited to learn, I didn't want to do any more. It took all of the wind out of my sail to get to that point.

It was clear to her that other kids could read faster and better, but she had no idea how they did it. If she was called on to read out loud in class, she'd say she had a stomachache and go to the nurse. It all worked

well enough to keep her on the honors track through high school. Molly's reading problems didn't really catch up with her until it was time to take college entrance exams.

**Woodworth:** I couldn't get through the ACT. Someone in the gifted and talented program couldn't get through the test. And it wasn't because I was not intelligent. It was because I could not get through the reading fast enough. My tools were too slow.

I'll tell you what happened with Molly and the ACT at the end of this program. But for now, we're going to fast forward about a decade. Molly gets married. She has a little girl.

(Mic Handling Noise)

**Claire Woodworth:** Hi.

That's Molly's daughter, Claire, playing with my recording equipment.

**Claire:** It's really loud!

**Hanford:** It's loud, I know. I should probably turn it down.

Claire's in first grade. Learning to read has been hard for her. So, once a week, Molly brings Claire to a reading center.

**Nora:** All right, tell me the sounds in clap.

**Claire:** /c/ /l/ /a/ /p/ clap

Claire is working on phonemic awareness. That's the understanding that spoken words are made up of individual sounds - or phonemes.

**Nora:** What's trip without the /r/?

**Claire:** /t/ /i/ /p/ tip

**Nora:** You are so good at that. (high five)

Claire first came to this reading center before she started kindergarten. Her mom wanted to make sure she got off to a good start in reading.

**Woodworth:** And I felt really comfortable with where she was at going into kindergarten. You know, she had a good base. There was no like alarming signs. You know, she was on track.

But alarm bells started going off when Molly saw how Claire was being taught to read in school. One day, Molly was volunteering in Claire's classroom. The class was reading a book and the teacher was telling the kids to practice the strategies that good readers use.

**Woodworth:** And she said, if you don't know the word, just look at this picture up here. There was a fox and a bear in the picture. And the word was bear, and she said, so look at the first letter. Ok, it's a "b." What sounds with "b," you know. Is it the fox or the bear?

Molly was stunned.

**Woodworth:** I thought, “Oh my God, those are my strategies.” Those are the things I taught myself to look like a good reader, not the things that good readers do. And I didn’t know what good readers do, but I knew it wasn’t that.

Things didn’t get better as kindergarten went on. Claire would get books that had words like “sailboat” and “butterfly.” Big words she didn’t know how to read yet. But there was a picture and she was supposed to look at the first letter and guess.

**Woodworth:** And it just continued. You know, I would see these things that (they) were doing, you know, my little dirty secrets. And they were being taught. You know, these kids were being taught to look like good readers. You know, my survival techniques, that was their bag of tricks.

Molly went to Claire’s teacher and said she was concerned about the way kids were being taught. The teacher said she was teaching reading the way the curriculum told her to.

(Music)

From APM Reports, this is “At a Loss for Words: What’s wrong with how schools teach reading.” I’m Emily Hanford.

The way Claire Woodworth was taught to read is rooted in an idea about reading that was debunked decades ago by cognitive scientists. Yet this idea remains deeply embedded in teaching practices and curriculum materials that are commonly used in elementary schools. As a result, in classrooms across the country, children are being taught to read the way that poor readers read. In other words, the strategies that people with weak reading skills use to get by are the very strategies that many beginning readers are

taught in school. This makes it harder for many kids to learn to read. And children who don't get off to a good start in reading find it difficult to ever master the process. This can lead to a downward spiral where behavior, vocabulary, knowledge and other cognitive skills are eventually affected by slow reading development. A disproportionate number of poor readers become high school dropouts In the United States, a third of fourth graders can't read on a basic level. Most students are still not proficient readers by the time they finish high school.

This hour I'm going to show you how a disproven idea about how people read is part of the problem – and how it is still widespread in curriculum materials that school districts spend hundreds of millions of dollars of taxpayer money on. We're going to begin with the idea itself. For that, we need a little history.

(Music)

People have been arguing for centuries about how children should be taught to read. There are basically two perspectives. One view is that kids need to focus first on sounds and letters.

**McGuffey Archive Tape:** McGuffey's eclectic primer, lesson 1.

The sounds and letters approach – also known as phonics – was popularized in the 1800s with the McGuffey readers. This is from a McGuffey audiobook I found on YouTube.

**McGuffey Archive Tape:** /c /r/ /t/ a rat a cat

The other view is that children shouldn't focus on sounds and letters. They should focus instead on whole words.

**Dick and Jane Archive Tape:** This is Dick and Jane, ah reading level 2.

The whole word approach was perhaps best embodied in the “Dick and Jane” books that first appeared in the 1930s. This is a guy who grew up with Dick and Jane reading one of the books on YouTube.

**Dick and Jane Archive Tape:** Come here Dick. Come and see Puff.

The Dick and Jane books rely on lots of repetition – and pictures to support the meaning of the text.

**Dick and Jane Archive Tape:** See Puff play. See Puff jump. See Puff jump and play.

In the whole word approach, the idea is that learning to read is a visual memory process. See words enough and you eventually store them in your memory as visual images. With phonics, the idea is that children learn to read words by sounding them out.

(Music)

Reading instruction was basically a series of pendulum swings between whole word and phonics until the late 1960s when a new idea came along. The basic theory was first presented in 1967 at the American Educational Research Association conference in New York. There’s no audio of the event, but here’s what happened.

An education professor named Ken Goodman presented a paper called “Reading: A Psycholinguistic Guessing Game.” In the paper, Goodman rejected the idea that reading is a precise process that involves



exact or detailed perception of letters or words. Instead, he argued that as people read, they guess the words using various kinds of information, or cues. He grouped these cues into three categories.

One cue for figuring out a word is what kind of word would work. For example, is it a noun or a verb?

Goodman called these syntactic cues.

**Actor:** The man rode his ...

The missing word must be a noun. Maybe it's bicycle? Or motorcycle? Or horse?

Another cue for figuring out a word is to look at the meaning of the sentence – what word would make sense here?

**Actor:** The cowboy rode his...

Ah, a cowboy rides a horse. Or maybe the word is pony? Goodman called these semantic cues.

A third cue to figure out a word is to look at the letters. Goodman called those graphic or graphophonemic cues.

**Actor:** The cowboy rode his /p/...

Oh, the word begins with /p/. It's probably pony!

Goodman proposed that as people become better readers, they rely less and less on graphic cues. Instead, they use context to predict the words and just sample from the letters to confirm their predictions.

This was a new idea about how people read. It helped form the theoretical basis of an approach to teaching reading known as “whole language.” In whole language, learning to read is not about memorizing words as in the whole word approach. And it isn’t about sounding out words as in phonics. Reading is coming up with words that make sense using what came to be known among educators as the “three-cueing system.” For Goodman, accurate word recognition was not necessarily the goal of reading. The goal is to comprehend text. If the sentences are making sense, the reader must be getting the words right, or right enough.

**Boy Reading:** “I wish I had a garden,” said Toad. “Here is some flower seed.”

This recording of a boy reading was part of a BBC radio program about Goodman’s work produced in 1986.

**Boy Reading:** “Plant them in your ground,” said Frog.

What the boy reads is not exactly what the text says. Here’s the announcer explaining to the radio audience.

**Announcer:** What the book said was, “Here are some flower seeds. Plant them in the ground.”

**Boy Reading:** “Here is some flower seeds. Plant them in your ground.”

When the boy read “is” instead of “are” and “your” instead of “the” he made a couple of miscues. That’s what Ken Goodman called them. Here he is in the BBC program.

**Ken Goodman:** And a miscue is, is, very simply, some place where something unexpected happens in oral reading. Where what the reader does isn't what we expected the reader to do. That's a miscue. By no means is the goal to produce miscue-free reading.

**Yetta Goodman:** In fact, I keep saying...

That's Ken's wife, Yetta Goodman. They worked together.

**Yetta Goodman:** In my teaching, I want to help kids produce more, higher quality miscues.

A high-quality miscue is one that makes sense, where the meaning of the sentence is preserved even if the exact words are not read.

**Yetta Goodman:** And what we have to let the reader know is, it's perfectly all right when you come to words you don't know. We all do that in our reading. And what we do, we have a lot of strategies as adults. Legitimate strategies. We can skip it, we can read back, we can keep reading.

The Goodmans traveled all over the world in the 1970s and 80s talking to educators about their theory of how people read. One person they met was a developmental psychologist from New Zealand.

**Marie Clay:** My name is Marie Clay.

Marie Clay created a reading intervention program for struggling first graders called Reading Recovery. It became one of the most widely used reading intervention programs in the world. This interview is from a video tribute to Clay produced after she died.

**Clay:** The work that I do is not just practical work. The work that I do is founded on pretty strong theory.

Clay's theory also relied on cueing. Her cues became widely known among teachers as M-S-V. M for using meaning to figure out what a word is, S for using sentence structure and V for using visual information – that is, the letters in the word. 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 asks - Does it look right? Does it sound right? If a word checks out on the basis of those questions, the child is getting it. She's on the path to skilled reading.

(Music)

Marie Clay and Ken and Yetta Goodman were trying to understand what goes on in people's minds as they read. They couldn't actually get inside anyone's head, so they observed people as they read out loud. The theories they developed were good guesses based on what it seems like people are doing when they read. But it turns out skilled reading doesn't quite work the way they thought.

**Hanford:** The Laboratory for the Neurodevelopment of Reading and Language. That's your lab?

**Man:** Yes.

**Hanford:** OK. Hi.

I'm at the University of Maryland to visit a reading lab. I don't know quite what I was expecting but this wasn't it. There's no fancy equipment. No lab techs working on experiments. It's just an office with a couple of desks, an old couch and a graduate student's bike up against the wall.

**Donald Bolger:** This is our kind of humble facility.

That's Donald Bolger. Also known as DJ. He studies how reading works in the brain.

**Bolger:** We have testing rooms upstairs, we might go upstairs...

We're going upstairs in a bit to watch a demonstration of one of DJ's experiments. But first I want to give you some background.

(Music)

Over the past fifty years or so, scientists in labs and classrooms all over the world have done thousands of studies about how skilled reading works and how people learn to do it. Something they were especially interested in early on is whether skilled readers use context to read words or whether they rely on the letters in the words. A couple of graduate students at the University of Michigan thought the context idea made sense. It seemed likely that as people get better at reading, they would rely more on their knowledge of vocabulary and language structure to recognize words and wouldn't need to pay as much attention to the letters. In 1975, graduate students Keith Stanovich and Richard West set out to see if this was the case in their lab.

They recruited readers of various ages and abilities and gave them a series of word-reading tasks. What they discovered surprised them: it was the less-skilled readers who were more dependent on context for word recognition. The skilled readers were able to recognize words without relying on context at all.

Other researchers have done similar experiments and it turns out the ability to read words in isolation instantly and accurately is the hallmark of being a skilled reader. This is now one of the most well-

replicated findings in all of reading research. In addition, experiments show skilled readers do not read words as visual images. Instead, they very quickly recognize a word as a sequence of letters. That's how a reader knows the difference between "house" and "horse," for example. To better understand how all this works, we're going back to the reading lab at the University of Maryland.

(Sound of door opening and walking upstairs)

We're heading up to one of the testing rooms professor DJ Bolger mentioned earlier — to see a demonstration of an experiment he first did when he was a graduate student.

Two of DJ's students have volunteered to be the guinea pigs for today's demonstration. We climb to the top floor of the building and enter a small room with low ceilings and no windows. There are two cubicles set up with computers. It feels like a tiny call center in an attic. Student Alissa Cole runs through the experiment first.

**Bolger:** Alissa, you can start and hit number one.

Alissa is going to learn how to read some English words that are spelled using Korean letters. These are simple words like "bud" and "duck." But Alissa doesn't know how to read words spelled with Korean letters. So, she's kind of like a typical kindergartner. She knows the meaning and pronunciation of these words - but she doesn't know how to read them. She's going to be taught using an approach that calls her attention to how the sounds in each word are represented by letters.

**Computer Speaking:** /b/ /u//d/ bud ...

As each sound in the word is articulated, the Korean letter that represents that sound is highlighted on the computer screen. Alissa is learning in what DJ Bolger called the “phonics condition.” The other student – Hannah Weisman – is learning the same words in a different way. DJ called it the “holistic condition.”

**Computer Speaking:** bud, duck, kin

Hannah is seeing the whole word as it’s read. There’s no sounding out, no highlights on the screen that help Hannah understand how each sound is represented by letters. This is the whole word method, the Dick and Jane approach.

**Hannah Weisman:** That was so hard. Oh my God!

When DJ first did this experiment in the early 2000s, there was already lots of research that showed phonics is more effective than whole word for teaching people to read. What DJ wanted to know is – why?

(Music)

In the real experiment, college students were trained and tested four times over four days. The students who were taught whole word did better than the phonics students at first; they were able to memorize some of the words and do better on the tests. But by day four, the students who learned in the phonics condition were doing better. Not only were they better at reading the words they’d been taught, they were better at reading words they’d never seen before. The big news of the experiment came when DJ and his colleagues got a peek inside the brains of their subjects using functional magnetic resonance imaging, or fMRI.

**Bolger:** We wanted to kind of get an inside glimpse of what these brains would look like in these two different learning methods. And I was expecting that those with holistic learning method would look like almost your run-of-the-mill dyslexic in that many children with dyslexia learn to memorize lots of whole words, but they actually don't tend to activate the areas of the brain that are associated with phonology and pronunciation.

And this is exactly what he found. His experiment – and other studies – show that people who are taught phonics learn better because focusing on letters and sounds increases activity in the area of the brain that is best wired for reading.

**Hanford:** So, if you teach people through whole word method you're teaching them to read like a dyslexic reads?

**Bolger:** That is correct.

However, just because a student is taught to read with the whole word method doesn't mean he'll end up stuck reading words that way. In DJ's study, about half the students in the whole word group were able to get beyond memorizing words. They figured out the relationships between the sounds and the letters. But half the students in the whole word group weren't able to teach themselves to read. That's in contrast to the phonics group, where everyone learned to read.

**Bolger:** Phonics worked for everybody. For all of the participants in the phonics group, they were uniformly doing well.

What does all of this have to do with the idea of using context to read? After all, in DJ's study, the students were reading isolated words. Wouldn't putting those words in the context of a sentence help? Well, think about it – if you're a beginning reader and you don't know any of the words in a sentence, context isn't



going to help you much. If you already know how to read a lot of words, it's a different story. Even expert readers need context in some cases. Take a word like "match."

**Kilpatrick:** We can't even know what "match" means unless it's in context cause it can mean a competition, it could mean something you light a fire with, you know, it could mean two things that look alike or that are the same.

This is David Kilpatrick. He's a psychology professor at SUNY Cortland in upstate New York and the author of a book about preventing reading difficulties.

**Kilpatrick:** We need context for comprehension, for understanding. Nobody questions that. But the confusion is that, when you see the word "match," the word "match" jumps out at you. You don't need context to figure out that that's the word "match." You need context to figure out the meaning.

If you're a skilled reader, you know the word match instantly – whether that word is by itself or in a sentence. In fact, your brain has gotten so good at reading words that you process the word "match" faster than you process a picture of a match. You know tens of thousands of words instantly, on sight. How did you learn to do that?

(Music)

It happens through a process called "orthographic mapping." Orthographic mapping occurs when you attend to the letters in a written word and link the word's pronunciation with its sequence of letters. Orthographic mapping requires an awareness of the speech sounds in words and an understanding of how

those sounds are represented by letters. In other words, you gotta have phonics skills. Here's David Kilpatrick.

**Kilpatrick:** It's really sequential. First, you develop a mastery of the code and then that allows you to become better at the orthographic mapping process. So, once you are good at phonics, you teach yourself new words that get anchored in your long-term memory.

By the time a typically developing reader gets to about second grade, he needs just a few exposures to a word through both its pronunciation and its spelling – and bam, the word is orthographically mapped to his memory. He doesn't recognize that word because he's memorized it as a visual image. He recognizes it because at some point he successfully sounded it out. The more words he maps to his memory like this, the more he can focus on the meaning of what he's reading. He's not using his brainpower to identify words. He's using his brainpower to comprehend what he's reading. That child is a skilled reader.

What's the process for people who are not skilled readers?

**Kilpatrick:** They only sample from the letters cause they're not good at sounding them out. And they use context.

This is David Kilpatrick again.

**Kilpatrick:** So, the three-cueing system is the way poor readers read.

And if teachers use the three-cueing system to teach reading, they're not just teaching kids the habits of poor readers. David Kilpatrick says they are actually impeding the orthographic mapping process.

**Kilpatrick:** So, the minute you to ask them just to pay attention to the first letter or look at the picture, look at the context, you're drawing their attention away from the very thing that they need to interact with in order for them to either read the word or to remember the word.

(Music)

Some kids realize pretty quickly that sounding out a word is the most efficient and reliable way to know what it is. They don't necessarily need to be taught this. They figure it out. Those kids tend to have good phonological skills. It's not difficult for them to understand the ways that sounds and letters work. But if this doesn't come easily to you – say you're Molly Woodworth, who we met at the beginning of the program – if you're Molly and the sounds and letters thing just doesn't make sense, and no one teaches it to you – you're going to come up with a bunch of other strategies to try to get by. Reading for you is kind of like being a detective, you're hunting everywhere for clues. Now consider a kid who's in the middle. OK phonological skills, not great. Maybe he could eventually figure out reading on his own. But then along comes his teacher who tells him – being a good reader is like being a detective. You need to search for clues and develop a bunch of strategies to solve all those tricky words. In the United States today, this is how many children are being taught to read. According to David Kilpatrick, the three-cueing system is “ubiquitous” in American schools.

(Music)

Coming up after the break, we're going to find out what three-cueing looks like in the classroom, why schools are still teaching it ... and how it harms children.

You're listening to "At a Loss for Words" from APM Reports. There's more at our website, [apmreports.org](http://apmreports.org). You can find an annotated version of this story with links to articles about the cognitive science research.

Support for APM Reports comes from the Spencer Foundation and Lumina Foundation.

Back in a moment. This is APM, American Public Media.

## **Part 2**

Welcome back. I'm Emily Hanford and this is "At a Loss for Words," a documentary from APM Reports. We're going to Manhattan now to meet Erica Meltzer. Until a few years ago, she was an SAT tutor. This was \$400 an hour tutoring, kids who went to schools considered among the best in New York City. Erica was startled by the way some of her students read.

**Meltzer:** They would get to an unfamiliar word. They would look at the beginning of the word and then they would just sort of guess for the rest of it.

They wouldn't even try to sound it out.

**Meltzer:** They would just plug in a word that looked like the word that was there and it wouldn't occur to them that they were misreading the word.

These were not students with diagnosed learning disabilities. She says it was hard to raise their test scores.

**Meltzer:** And I was like, what is this?

Erica started searching online and came across an article about the three-cueing system. It was written by a cognitive psychologist named Marilyn Adams. The article describes how the three-cueing system conflicts with what researchers have figured out about reading. How Marilyn came to write this article has an interesting back story.

(Music)

In 1991, Marilyn had written a book summarizing the research on how children learn to read. One big takeaway from the book is that becoming a skilled reader of English requires knowledge of sound-spelling correspondences. Another big takeaway is that many kids were not being taught this in school. Soon after the book was published, Marilyn was describing her findings to a group of teachers and state education officials in Sacramento, California. She was sensing discomfort and confusion in the room.

**Marilyn Adams:** And I just stopped and said, what is it that I'm missing? What is it that we need to talk about?

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.

**Adams:** I think I blew all of their fuses that I did not since this was so fundamental to being an elementary reading teacher.

The teachers explained the three-cueing system to her. They said readers use meaning, sentence structure and visual cues to read. Marilyn thought this made perfect sense. We absolutely use all of those things to

comprehend what we're reading. But Marilyn soon figured out the disconnect. Teachers understood these cues as the way readers identify words. In their minds, it was a reason not to do much phonics instruction.

**Adams:** The most important thing was for the children to understand and enjoy the text and from that understanding and joy 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 sound-spelling correspondence is essential to ensure all kids get off to a good start in reading. But she got tons of pushback.

**Adams:** They didn't want to teach phonics.

They told her phonics instruction kills the joy of reading.

(Music)

In the 1990s, there was a big national fight going on about how kids should be taught to read. On one side, phonics. On the other side, the whole language approach rooted in the cueing theory. Marilyn Adams wrote her article about encountering the three-cueing system in 1998. She hoped the article would help put the idea to rest. The scientific research on reading was gaining traction at this point. A national reading panel report commissioned by Congress came out in 2000. It documented overwhelming evidence that phonics instruction enhances children's success in learning to read. Many whole language supporters eventually accepted the weight of the scientific evidence about the importance of phonics instruction. They started adding phonics and renamed their approach "balanced literacy." But – they didn't get rid of the three-cueing system.

It's not hard to find classrooms where children are taught cueing.

**Teacher:** The power that we are going to learn today, it's called "Picture Power!" Can we say picture power?

**Kids:** Picture Power!

This is a video posted on a website for teachers. It's a kindergarten class in Oakland, California. The lesson is part of the "Units of Study for Teaching Reading" series – more commonly known as "reader's workshop." Here's the teacher describing the goal of the lesson.

**Teacher:** The learning goal would be that the children were able to use a picture to figure out an unknown word or that they would be able to use the picture and a first sound to determine an unknown word in their book.

**Teacher:** In the Garden...

That's the book the class is reading. On each page there's a picture of something you might find in a garden. The sentence on every page is the same except for the last word.

**Class:** Look at the caterpillar.

The kids have been taught to memorize the words "look" "at" and "the." The challenge is getting the last word in the sentence. The lesson plan tells the teacher to cover up the word with a sticky note. The wiggly kindergarteners come to a page with a picture of a butterfly.

**Class:** Butterfly, oh my gosh.

The teacher tells the kids she's guessing the word is going to be butterfly. She uncovers the word.

**Teacher:** Look at that, it starts with the /b/ /b/ /b/ So let's read it together.

**Class:** "Look at the butterfly."

As you can hear, this lesson includes some attention to sounds and letters. In fact, the lesson plan says this lesson teaches phonics.

But the students were not taught to sound out words in this lesson. They were taught the cueing system.

The author of the lesson, Lucy Calkins, refers often to cueing in her published work. Cueing is foundational to another approach to teaching reading known as Fountas and Pinnell Literacy. Irene Fountas and Gay Su Pinnell are education professors who have written many books for teachers including a bestseller called "Guided Reading." They also sell a reading assessment system to schools that uses what are called "leveled books." Children start with predictable books like "In the Garden" and they move up levels as they're able to "read" the words. But many of the words in those books – butterfly, caterpillar – those are words beginning readers haven't been taught to sound out yet. One purpose of the books is to teach kids that when they get to a word they don't know, they can use context to figure it out. Teacher Margaret Goldberg remembers a moment when she realized what a problem this was. A first grader named Rodney came to a page with a picture of a girl licking an ice cream cone and a dog licking a bone. The text said:

**Goldberg:** My little dog likes to eat with me.

But Rodney said:



**Goldberg:** My dog likes to lick his bone.

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

**Goldberg:** And that's one of the things that I started noticing with the students is that, when they were given text that they couldn't read, they would just make it up. And a lot of times the making it up looked close enough to the book that a teacher could think, "Oh, they had just miscued on a word."

Margaret Goldberg is a literacy coach in Oakland, California. She was hired a few years ago to teach something called LLI. That stands for Leveled Literacy Intervention. It's a Fountas and Pinnell approach to help struggling readers and it teaches cueing. Around the same time, Margaret went to a training in a program that uses a different approach. The program is called "Systematic Instruction in Phonological Awareness, Phonics, and Sight Words" – otherwise known as SIPPS.

**Goldberg:** And so I started teaching some groups with systematic instruction and some groups I was still doing LLI because I felt like I had been hired to do it, it was my responsibility to provide the instruction I was hired to give.

She began to notice differences in her two groups of students.

**Goldberg:** Not just in their abilities to read, but in the way that they approached their reading.

Margaret and a colleague recorded students talking about reading. This is Margaret's colleague interviewing two first graders.

**Colleague:** What makes you good readers?

Here's Mia who was in Margaret's SIPPS group learning phonics.

**Mia:** Looking at the words and sounding them out.

Mia's friend JaBrea was taught some phonics. She was also taught cueing. What makes JaBrea a good reader?

**JaBrea:** I look at the pictures and I read it.

(Music)

There is a pre-reading stage where children identify words based on visual features and context. A child who knows the word "stop" on a Stop sign, for example. But the cognitive science shows that teachers need to be moving kids away from relying on context. Margaret Goldberg didn't know this yet. What she knew is that the kids in her SIPPS phonics group were being taught that when you get to a word you don't know, you sound it out. The kids in her LLI group were being taught that when you get to a word you don't know, you have lots of strategies. You can sound it out. You can also check the first letter, look at the picture, think of a word that makes sense – and make a good guess. It was clear to Margaret after just a few months that her SIPPS phonics students were doing better. So, she stopped teaching LLI and the cueing that goes with it. Just couldn't do it anymore.

**Goldberg:** And I think one of the things that I still struggle with is a lot of guilt. It was a few months that I did it and I did lasting damage to these kids. So, the kids that I had in LLI, it was so

hard to ever get them to stop looking at a picture to guess what a word would be. It was so hard to ever get them to slow down and sound a word out because they had had this experience of reading as being easy. They had had the experience of knowing that you predict what you're going to read before you read it.

(Music)

Learning to read is not easy for many kids. That's one of the big takeaways from decades of scientific research: We're not born wired to read. But through connecting the pronunciation and meaning of words with their spelling, we rewire our brains a bit. Margaret Goldberg soon discovered this cognitive science research. She hadn't learned about this research in her teacher preparation or on the job. Once she knew about it, she wanted her colleagues to know about it too.

(Sound of coaches speaking in background)

For the past two years, Margaret and another literacy coach, Lani Mednick, have been leading a grant-funded pilot project to improve reading achievement in Oakland. Nearly half the district's third graders are below grade level in reading. Margaret and Lani want to raise questions about how kids in Oakland are being taught to read. They meet every couple of weeks with literacy coaches from the ten elementary schools in the pilot project. Today the coaches watch a video.

**Teacher:** The power that we are going to learn today, it's called "Picture Power." Can we say Picture Power?

**Kids:** Picture Power!

It's the video you heard of the kindergarten class. Lani Mednick says the point of watching this video is not to criticize the teacher.

**Lani Mednick:** So, this teacher meant well. And it seemed like she believed that this was a lesson that would ensure her students would be on the road towards reading.

Lani wants the coaches to consider the beliefs about reading that would lead to the creation of a lesson like Picture Power. The coaches see right away that the lesson was designed to get kids to use context. But coach Soraya Sajous-Brooks says until this pilot, she thought cueing was fine as long as kids were also getting some phonics instruction.

**Soraya Sajous-Brooks:** At first, I didn't see the problem if you were teaching phonics, right? And I thought it would be OK and then I realized that one negates the other.

In other words, cueing sends the message to kids that they don't need to sound out words. They can use other strategies instead. But the scientific research is clear: developing good sound-spelling knowledge is critical for figuring out unknown words and eventually storing them in your memory. Now that the coaches in the Oakland pilot project know about this research, they're in an uncomfortable position. Their jobs include observing and giving feedback to teachers who deliver the "Picture Power" lesson. Margaret Goldberg lays out the situation they're in.

**Goldberg:** This is a district-adopted curriculum. She was teaching a lesson that she was told to teach. So, she has in writing something that is telling her that this is the right thing to do. And that makes this conversation a little bit more tricky because it's not like we're asking a teacher to stop teaching something that she pulled off of Pinterest. We're having a conversation about the core curriculum adopted by our district. So, what do we do?

No one in the room has a good answer to this question. What they're doing instead is trying to show the district there's a better way to teach reading. Schools in the pilot project used grant money to buy new materials that steer clear of the three-cueing idea. Two charter school networks in Oakland are working on similar projects to move their schools away from cueing. Here's what it looks like in one first-grade classroom at a charter school in Oakland called Achieve Academy.

**Andrea Ruiz:** Here we go, ready? Isaac, ready?

Three students are sitting at a kidney-shaped table with their teacher, Andrea Ruiz.

**Ruiz:** /s/ /k/ /i/ /p/ blend

**Kids:** Skip.

**Ruiz:** Good. I'm going to say the sounds, OK, Isaac? You'll blend them together. /s/k/i//n/  
Blend.

**Kids:** Skin.

This lesson is from the SIPPS phonics program you heard Margaret Goldberg talking about earlier. Explicit phonics is one part of the reading instruction. There are also vocabulary lessons.

**Ruiz:** OK, let's think about what chameleon's prey are. (class chatter) Do you remember?

The first graders are now gathered on a rug at the front of the classroom, talking about a book Ms. Ruiz read out loud to them. One of the words in the book was "prey." P-r-e-y.

**Ruiz:** What animals are a chameleon's prey? Or we can also ask, what animals do chameleons hunt for food?

The kids turn and talk to each other.

**Child:** A chameleon's prey are a bugs and insects and other chameleons and mice and birds. That's it.

Other vocabulary words these first graders have learned are posted on cards around the classroom. They include: wander, persevere, squint and scrumptious. The kids aren't expected to be able 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 reading comprehension is the product of two things. First, a child needs to be able to sound out a word. Second, the child needs to know the meaning of the word she just sounded out. So, in a first-grade classroom that's following the research, you want to see explicit phonics instruction and also lessons that build oral vocabulary and background knowledge. And you want to see kids practicing what they've been taught.

**Belinda:** Ellen /m/ meets them at the gate.

This is Belinda and she's reading what's known as a "decodable" book. Almost all the words in this book contain spelling patterns Belinda has been taught in her phonics lessons. There are some common words she's learned to memorize as "sight words" because they don't fit the spelling patterns she's been taught – words like "is" and "have."

**Belinda:** I am a farm here

**Steven:** a farmer

**Belinda:** a farmer here

The boy you heard is Steven, another first grader. He's Belinda's reading buddy. His job is to help her if she misses a word or gets stuck. But that doesn't happen much – because Belinda's been taught how to read these words.

**Hanford:** Are you looking at the pictures when you read?

**Belinda:** No.

No, she says. Belinda doesn't need the pictures to read the words. Pictures are great to look at and talk about and they can help a child comprehend 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 is being taught to read the way that poor readers read.

(Music)

In the long-running debates about how to teach reading, the fight has mostly been about whether to teach phonics. That fight is pretty much over. You'd be hard-pressed to find a school today that doesn't do some kind of phonics instruction. The question is – what else do schools teach? The reading instruction you just heard in Oakland is not distinctive because there is phonics instruction. It's distinctive because there isn't any cueing.

**Ruiz:** The only strategy I teach my kids is, is it a sight word, is it a sound-out word?

This is the first-grade teacher you just heard, Andrea Ruiz.

**Ruiz:** And all of these other strategies are teaching them to guess. They're not teaching them to look at the entire word.

This is a big change in Andrea's approach to teaching. When she started, she knew nothing about how kids learn to read. It was a relief when she came to Oakland and the curriculum spelled out that kids use meaning, structure and visual cues to figure out words.

**Ruiz:** Because I came from not having anything, I was like, "Oh, there's a way we should teach this."

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

**Stacey Cherny:** When I got into the classroom and someone told me to use this practice, I didn't question it.

Stacey Cherny is a former teacher who's now principal of an elementary school in Pennsylvania. She says many teachers aren't taught what they need to know about the structure of the English language to be able to teach phonics well. Phonics can be intimidating; three-cueing isn't.

**Cherny:** So, a lot of times I think that these practices have popped up because teachers don't have the background knowledge and it's, 'Oh, yeah, I can do that. That's easy. I'll implement that.'

Another reason cueing holds on is that it seems to work for some children.



(Music)

But researchers estimate there's a percentage of kids – maybe around 40 percent – who will learn to read no matter how they're taught. Kids who learn to read with cueing are succeeding in spite of the instruction, not because of it. That's according to David Kilpatrick, the author of the book about preventing reading difficulties. We heard from him in the first part of the program.

**Kilpatrick:** We have to get rid of ideas about reading that are faulty because those ideas result in practices that make it harder for children to learn to read.

Margaret Goldberg – who's working on the pilot project in Oakland – thinks it's time for all schools to take a close look at everything they use to teach reading.

**Goldberg:** We should look through the materials and search for evidence of cueing. 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.

(Music)

Margaret wants the Oakland schools to get rid of all instructional materials that include cueing. I reached out to the superintendent's office to ask about this. A spokesperson said in a statement that there's not yet enough evidence from the pilot project to make curriculum changes for the entire district. The district remains committed to the curriculum materials it has invested in.

Oakland's situation is no different from many other school districts across the country that have invested millions of dollars in materials that include three-cueing. Here's Margaret Goldberg again:

**Goldberg:** It feels like everyone's trusting somebody else to have done their due diligence. So, classroom teachers are trusting that the materials that they're being handed will work. And the people who purchase the materials are trusting if they were on the market, that they will work. So, we're all trusting, and it's a system that is broken.

I wanted to talk to the authors of the curriculum materials I mentioned in this story – Lucy Calkins, Irene Fountas and Gay Su Pinnell. I wanted to know what they make of the cognitive science. And I wanted to give them a chance to explain the ideas behind their work. I wrote to them and asked for interviews, but they all declined. Their publisher, Heinemann, said in a statement that every product Heinemann sells is informed by extensive research.

I also asked for an interview with Ken Goodman – the education professor who laid out the three-cueing theory in that “guessing game” paper more than 50 years ago. He said yes.

**Hanford:** Good morning.

**Yetta Goodman:** Hi

**Hanford:** Hi...

I visited Ken and his wife Yetta at their home in Tucson, Arizona.

**Yetta Goodman:** I'm Yetta...

Ken is 91. But he's still working. Just finished a new edition of one of his books. I wanted to know what he makes of the cognitive science research. He told me he thinks cognitive scientists focus too much on word recognition.

**Ken Goodman:** Word recognition is a preoccupation. I don't teach word recognition. I teach people to make sense of language. And learning the words is incidental to that.

He brings up the example of a child who comes to the word "horse" and says "pony" instead.

**Goodman:** Well that is a beautiful example of the fact that it's not the word that's important, it's the meaning.

He says a child will still understand the meaning of the story because horse and pony are the same concept. I press him on this.

**Hanford:** Can I just stop you on pony and horse? Because they're not exactly the same thing though. A pony isn't quite the same thing as a horse.

**Yetta Goodman:** But in a kid's story, they could be.

That's Yetta Goodman.

**Hanford:** But don't you want to make sure that a child as they're learning how to read understands /p/ /o/ /n/ /y/ that that says "pony" and something else says "horse."

**Ken Goodman:** The purpose is not to learn words. The purpose is to make sense.

As far as I know, no one in the scientific community disputes the idea that the purpose of reading is to make sense of text. The question is, how does a little kid get there?

(Music)

I ended up talking with the Goodmans for nearly four hours and we could never quite agree on the terms of the debate. They rejected the idea that you can make a distinction between skilled readers and unskilled readers; they don't like the value judgment that implies. They said dyslexia does not exist – despite lots of evidence that it does. And they said the three-cueing theory is based on years of observational research. In their view, three-cueing isn't invalid; it's drawn from a different kind of evidence than what scientists collect in their labs.

**Ken Goodman:** My science is different.

In case you missed it, he said – “my science is different.”

(Music)

The idea that there are different kinds of evidence that lead to different conclusions about how reading works is one reason people continue to disagree about how children should be taught to read. It's important for educators to understand that three-cueing is based on theory and observational research. It's not based on controlled scientific experiments or fMRI brain scanning. 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. Many educators remain unaware of this evidence.

**Nora:** All right, are you ready? OK, remember, we're playing for the guessing monster sticker....

We're back at the tutoring center with first-grader Claire Woodworth. Guessing words is such a problem among the kids who come here for reading help that they earn stickers if they sound out all the words they don't know.

**Claire:** Polly flew over the /h/ houses. She /s/ saw a ...p...

Claire's mom, Molly, came to this same tutoring center when she was in high school and couldn't get through the ACT. She learned some basic things about how to sound out words – and she was able to raise her score enough to be eligible for a college honors program. Molly says she's still not a very good reader. She tears up when she talks about it. She's grateful her daughter Claire is learning a different way.

**Hanford:** What's in your pocket?

**Claire:** Guessing Monster sticker.

Claire earned her sticker today. She takes it out of her pocket and reads what it says.

**Claire:** Guess-ing. Guessing.

Claire's sticker says she slayed the guessing monster.

**Claire:** I slayed the guessing monsters.

(Music)

You've been listening to an APM Reports documentary, "At a Loss for Words." It was produced by me, Emily Hanford, and edited by Catherine Winter. Research and production assistance from John Hernandez. Our associate producer is Alex Baumhardt. Web editors are Dave Mann and Andy Kruse. The final mix was by Chris Julin and Craig Thorson. Fact-checking by Betsy Towner Levine. The APM Reports team includes Sasha Aslanian, Shelly Langford, Executive Editor Stephen Smith and Editor-in-Chief Chris Worthington.

If you go to our website, [apmreports.org](http://apmreports.org), you can find an annotated version of this story with links to research and further reading. You can also find our podcast, Educate, where we have more documentaries about how children learn to read.

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