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## **Sold a Story: How teaching kids to read went so wrong**

### **Transcript**

#### **Episode 2: The Idea**

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*This episode contains curse words. If you'd like a beeped version of this episode, you can find one at [SoldaStory.org](http://SoldaStory.org).*

**Emily Hanford:** This is my big microphone.

**Dan Corcoran:** OK.

**Hanford:** All right, so will you just tell me who, who you are?

**Corcoran:** My name is Daniel Patrick Michael Corcoran. I am Irish.

Dan Corcoran grew up in a big Irish Catholic family in Michigan. There were twelve kids. He was number 11. And he struggled in school.

**Corcoran:** Didn't make it through the second grade because they held me back in the first grade. Um, I finally made it through the second grade. Went to the third grade. Same thing. Everything just kept following me.

He wasn't learning how to read. He couldn't spell. He would do everything he could to avoid reading and writing. Make up excuses. Get in fights.

**Corcoran:** People would laugh at me. Well, I'd turn around and look at 'em, like, "Don't do that or I'll kick your behind."

Dan never learned to read very well. But he got passed along. Graduated from high school. Took a job at the GM plant. Was let go after he got in a fight.

**Corcoran:** So I joined the Navy. And, um, I was boots in country in Vietnam, which means I was actually not on a ship, but I was Naval support and I worked for the chaplains. Chaplain Camfield, he knew right off the bat I couldn't read very good and I couldn't spell, so what he did is he had one of the other chaplain's assistants do all that stuff.

Dan did things like help arrange Jeeps and helicopters for the chaplains.

**Corcoran:** I got 'em where they needed to be. I had whatever they needed for their services. Like the cross – I polished that cross I don't know how many times. And um, I had to set up times where we'd go in and visit the sick and the dying.

**Hanford:** So you were like logistical support for the chaplains, kind of?

**Corcoran:** Oh yes. Yes, I was. There were some really touching moments. Um, it was the Tet Offensive of '68 and we got hit really bad that night in Saigon. Uh, there was a lot, a lot of stuff going on. And I remember chaplain Camfield says, "Well, strap up because we're, we're going to some of these different outposts." So we did. And we were out there for about three or four days. And went and helped the sick and prayed with the sick and all that stuff, and I was just kind of a tail-along. But he got the point where he was making me talk to these guys. And just listen to them. And I was a pretty good listener. I remember this one guy that, we came in and Chaplain Camfield says, "I want you to go talk to him." Well, his face and head was all wrapped up and he had one eye he was looking out of, and he had IVs all over him. And he noticed I was there and he stuck his hand out for me to hold on to his hand... Which I did. And uh, there was a nurse walking by and I, I asked her, I says, "Why aren't you taking care of him?" She just shook her head. I thought, what the hell is that all about? And then I finally realized this guy hasn't got a fighting chance. But before he died, he wanted me to write his mom a letter. I grabbed a piece of paper, a tablet that was next to his bed. And I just started writing. But I was straight (unintelligible). I didn't know what the hell to write. I couldn't spell. And he was telling me what he wanted me to write his mom. You know. He died. And I took the piece of paper and I just crumpled it up and put it in my pocket. I can't remember the guy's name. I knew he was a Marine. And uh, that just uh, that messed me up for a while. For quite a while.

(Music)

Dan Corcoran came home from Vietnam later that year. He got out of the Navy. Worked a series of odd jobs. Stocking shelves, selling cemetery lots...

**Corcoran:** Worked for a lot of construction companies because, you know it was a shovel. It was a saw. It was a hammer. Um, stuff like that. Stuff I knew I could catch on to. Stuff I didn't have to read too much. Even though I could read a blueprint fairly decent. Um, my wife, God love her, um, she was always there by the phone. 'Cause I could call her and say, "Diane, I don't know how to spell this damn word. And I can't understand this." And I'd spell it out to her, tell her what the word was, and she'd tell me. Um, there was always that, uh, always that struggle. Always that, God, will I ever learn? You know.

(Music)

It's not that Dan couldn't read at all. He knew some words.

**Corcoran:** Yeah, like “an” and “the” and “OK” and, uh, “boy” and “girl.”

Short words. Common words. Words that he saw over and over again. Eventually, some of those words would stick in his brain.

**Corcoran:** But there's so many words out there.

That was his problem. There are so many words out there. And most written words were mysteries to him. He didn't really know what to do with them, how to unlock what they said.

(Music)

This is Episode 2 of *Sold a Story*, a podcast from American Public Media. I'm Emily Hanford.

When Dan Corcoran was a little boy in the 1950s, no one really understood how people read or how little kids learn to do it. There were theories, but no one really knew for sure. Since then, there's been a huge amount of research. Thousands of studies. And what was once a big mystery is now common knowledge among cognitive scientists and psychologists and other researchers who study how people learn. But it's not common knowledge among teachers. And for the past few years, I've been trying to figure out why. What I've discovered is there's an idea about reading that runs counter to the scientific evidence. This idea is deeply entrenched in American education. Teachers learn about this idea in college. They learn about it in training they get on the job. The idea is in their curriculum materials. It's in tests they use to figure out a student's reading level. This idea is everywhere.

(Music ends)

Here's the idea.

Beginning readers don't have to sound out words. They can. But they don't have to because there are other ways to figure out what the words say.

That's it. That's the idea.

It's the idea that those word-reading strategies you heard about in the last episode are based on. Remember those? Look at the first letter. Look at the picture. Think of a word that makes sense. Those are ways for beginning readers to figure out what a word is without sounding it out.

In this episode, I'm gonna tell you where this idea comes from. I'm gonna tell you what's wrong with it. And then, I'm gonna tell you what happened with Dan Corcoran.

Our story starts on the other side of the world. In New Zealand. In the 1940s.

(Music)

A young woman named Marie Mildred Irwin was in her second year of teachers' college. In Wellington, the capital city where she'd been born. Marie and her classmates were given an assignment: find a child who is having trouble learning how to read.

**Marie Clay:** And do something about it. No guidance.

This is from a radio interview. Marie died in 2007 so all the audio you're going to hear of her was recorded years ago.

**Clay:** I found a little boy who was about 11 at one of the center city schools. And uh, did what I could for him. And, um, I don't remember what the outcome was. So I think it probably wasn't terribly spectacular. But I do remember working with him and being very interested in trying to get something working with this child.

This little boy got her thinking about a question that would come to define her career: what can be done to help struggling readers?

Marie Irwin went on to be a teacher and then worked for the New Zealand Department of Education. By the early 1960s, she had married. Her name was Marie Clay. And she was working on a doctorate at the University of Auckland. She was still interested in kids who were having a hard time reading. She'd noticed they weren't getting much help in school. She said: "We have a school system which allows the good readers to get better and the poor readers to drop further and further behind."

**Clay:** So the problems were sort of getting really ingrained. And my idea when I started my special research here in New Zealand was – could, could you see the process of learning to read going wrong?

So she designed a study to try to understand what was going on with the kids who were having a hard time learning how to read. I'm gonna tell you about that study in a minute – because in time, Marie Clay and her research would influence the way millions of children around the world are taught. But first, a little background on what was going on with reading instruction at the time.

(Music ends)

Before the 1960s, in a lot of English-speaking countries, there were basically two different approaches to teaching children to read.

**Archive tape:** This is Pat.

There was the phonics approach where beginning readers were taught how to sound out words and then practice in books like this.

**Archive tape:** Pat is a cat.

The other approach to teaching reading was known as the whole-word method.

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

Dick and Jane books were the whole-word method.

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

In a Dick and Jane book, the idea was not for children to sound out the words. The idea was for them to see the same words over and over again and memorize them. Store words kind of like pictures in their mind.

In New Zealand, Dick and Jane were known as Janet and John. Same kind of books. Same idea about how kids learn to read. But by the early 1960s, New Zealand had done away with the Janet and John books. New Zealand had gotten rid of phonics instruction too. Because there was a new idea. The new idea was that beginning readers shouldn't be focusing on learning to read words. They should be focusing on getting meaning from what they were reading.

So, the New Zealand government started distributing a new kind of beginning reading book to schools. They were known as the "little books."

**Boy reading:** The Pet Show

This is a boy reading one of those little books. It's called *The Pet Show*.

**Boy reading:** This is the day the pets come to school. A lamb comes to school. A cat comes to school...

These books sound a lot like Dick and Jane. But there's a key difference. The vocabulary in these books isn't limited to simple words like Puff and play. There are words with difficult spelling patterns – words like lamb – and calf and William.

**Boy reading:** Mary comes with the calf. Penny comes with the pig. William the goat will not come...

There are pictures in the books to help kids figure out the words. But the basic idea is that getting meaning from the story is more important than getting the words right. And that if kids focus on understanding what they're reading, they'll figure out what the words say.

**Boy reading:** "Come here, William!" they shouted.

This new approach to teaching reading was called the "book experience" approach in New Zealand. In the United States, it came to be known as "whole language." Not to be confused with the "whole word" method. Whole language was basically the idea that learning to read is easier for kids – and more interesting – if they start with whole stories, whole sentences – not individual words.

**Mark Seidenberg:** Whole language essentially said, "If we create a literacy-rich environment that is highly motivating and provides the right sort of materials, the children will figure out how reading works."

This is Mark Seidenberg. He's a cognitive neuroscientist at the University of Wisconsin who studies reading. He says the core belief in whole language is that learning to read is like learning to talk. That it happens naturally, through exposure to books.

**Seidenberg:** The essential idea is basically you learn by doing. So, children are supposed to learn by doing, not be told what to do. There'll be a minimum of instruction because kids will just figure it out as long as the environment is supportive.

But some kids were not figuring it out. Marie Clay wanted to know why. And she wanted to come up with a way to help the children who were struggling. So she began the study I mentioned earlier. It was 1963, the same year schools in New Zealand started using those little books. Clay identified 100 children in Auckland in their first year of school. And she observed them for an entire year.

**Clay:** I went into classrooms. I recorded exactly what children were saying and doing. And this gave me new insights for building, um, almost a new theory of how our children were learning to read.

Clay observed those 100 kids closely. She wanted to know: what were the good readers doing? And what were the poor readers doing that was different?

(Music)

She came away from that study and subsequent research with her theory. Her basic idea was that good readers are good problem solvers. They're like detectives, searching for clues. She wrote: "You will be familiar with the old game 'Twenty Questions.' Reading is something like that game." According to Clay's theory, when good readers come to a word they don't know, they ask themselves good questions. Like, what word would make sense here? For example, if a girl in a story is getting ready to ride a horse, and she puts something on her horse that starts with an "s"...the word must be "saddle."

Clay also noticed there are things good readers don't do. They don't laboriously sound out words. They don't get stuck on the letters. She thought good readers use the letters in words as one of their clues. But she was convinced that letters are not very good clues. Not that reliable and sometimes just kind of confusing. She concluded that good readers use the letters in words in an "incidental" way. She thought they just skim the letters to confirm they're getting the meaning of what they're reading. And their last resort when figuring out a word is to sound it out.

(Music ends)

This was Clay's theory of how good readers read. The theory she came up with while observing children trying to read those little books. She didn't think there was anything wrong with those books or with the way schools were teaching reading.

But it was clear to her that some kids needed extra help. And she wanted to come up with a way to help those kids. So in 1976 she created a program to teach poor readers the strategies that she thought good readers use.

She called her program Reading Recovery. At first, children would come to a lean-to behind an old house at the University of Auckland. Within a few years, Clay's Reading Recovery program was in schools all over New Zealand.

**Clay:** Barbara, how does a Reading Recovery lesson begin?

This is a video of Clay and one of her colleagues in 1987.

**Barbara Watson:** Well, it begins with easy reading. And we use a wide range of little books, little story books...

Clay and her colleague are sitting at a table with a box of little books. Kids haven't been taught how to sound out the words in these books – but they're considered "easy reading" because the child and teacher have read these books together many times before.

**Watson:** Can you explain why we do easy reading?

**Clay:** Well, there are lots of advantages in it...

This is Marie Clay again.

**Clay:** The easy text gives the child a chance to practice all the reading strategies that they've learnt so far. Ah, to put some of the complicated, uh, behaviors together which I sometimes call "orchestrating" the reading behavior. To do fluent reading right from the very beginning...

The idea here is to get books into children's hands. And give them strategies to deal with the words they haven't been taught how to read.

(Music)

Marie Clay's Reading Recovery program is just for the lowest readers in a class. And just for children in their second year of school – the equivalent of first grade in the United States. Each child meets with a Reading Recovery teacher every day for 30 minutes for 12 to 20 weeks. It's intensive, one-on-one tutoring. And there's intensive training for the teachers, too. They spend a year reading Clay's books and learning her theory. Sandra Iversen was trained as a Reading Recovery teacher in New Zealand in the 1980s. She says the key part of the Reading Recovery lesson is when the child reads a book out loud and the teacher marks down all the errors the child makes.

**Sandra Iversen:** And then you had to analyze the cues.

(Music ends)

The cues.

A Reading Recovery teacher is supposed to figure out what clues a student is using to figure out the words. Clay called them cues.

One cue for figuring out a word is the context – can the meaning of the sentence tell you what the word is?

Another cue for figuring out a word is the syntax – or the structure of the sentence. For example, does a noun fit here? Or a verb?

And a third cue for figuring out a word is the visual information – that is, the letters in the word.

(Music)

Here's how it works in practice. Let's say a boy is reading a book and the sentence says: "The baby is napping." But the boy says: "The baby is sleeping." According to Clay's theory, the boy was paying attention to meaning as he was reading. But he was neglecting other cues – like the letters. So the teacher might ask, "What's a word that starts with the letter 'n' that would make sense here?" But Sandra Iversen says Reading Recovery teachers were not supposed to tell kids to sound out the word.

**Iversen:** No. You could tell them to look at the first letter. And it'll pop out of your head. If you're looking at the picture as well. You know, look at the first letter and it will pop out.

Marie Clay did not believe in phonics instruction. In one of her books, she described phonics as "nonsense."

(Music ends)

Sandra says a child with a good oral vocabulary could usually come up with a word by looking at the picture in the book. Then the Reading Recovery teacher would ask the child to check the word to make sure it was right.

**Iversen:** You would say, "Does that make sense?" And then you would say, "Well, does it sound right?" And the last thing you might say was, "Well, would those letters fit?"

If these questions sound familiar, it's because you heard them in the last episode.

**Teacher:** Does it make sense?

This is the teacher who was helping Charlie and his classmates get the word "miss."

**Teacher:** Does it sound right? How about the last part of our triple check? Does it look right? Let's uncover the word and see if it looks right...

Teaching kids to read this way has become known as "three cueing." It's not a term Marie Clay used, as far as I know. But three cueing is based on her theory of how people read. An influential academic in the United States came up with the same basic theory at about the same time. The cueing theory provided justification for not teaching children how to sound out words...because the theory was that good readers don't have to know how to do that. They have other ways to figure out what the words say. This made sense to Sandra Iversen. She says she was kind of lost trying to teach kids to read. And then Marie Clay showed her a way.

**Iversen:** Marie was the goddess. You know. And, and I followed her faithfully. I loved her. Yeah.

(Music)

Marie Clay became a hero to lots of teachers. Because she was saying we can identify kids who are struggling readers – like that 11-year-old boy she worked with when she was in college – and we can help them. We can make sure they don't get left behind. Clay said that 95% of the children in Reading Recovery could get up to the average reading level of their class – if the teachers were well trained and the program was well run. She said children who were successful in Reading Recovery in first grade would never need reading help again.

**Clay:** This is like an immunization. It's, uh, something you bring in early. Or another way I look at it is I call it – it's like an insurance policy.

Her program caught the attention of people around the world. Including three professors in the United States, at Ohio State. One of them had read a newspaper article in 1982 that said 30% of first graders in the Columbus, Ohio public schools were being held back. She thought, maybe Clay's program could help. So she and her colleagues went to New Zealand. They met Marie Clay. And in 1984, they brought her to Ohio to train teachers. Reading Recovery started in Columbus and soon spread to other districts.

**Sharon Gilbert:** Wow, we have never seen anything like this. The child is learning. The teacher is learning.

This is Sharon Gilbert. She became a Reading Recovery teacher in the Marion City Schools in Ohio in 1985.

**Gilbert:** And in the early years we had lots of phone calls from school districts on the East Coast and other places and they wanted to come to Marion to visit, they wanted to come to Ohio State to visit. They wanted to see – what is this new and wonderful thing?

Reading Recovery spread quickly across the United States. The U.S. Department of Education and state legislatures provided funding for its expansion. Reading Recovery is expensive. It's one teacher with one student, every day for 30 minutes. A recent estimate put the current cost at up to \$10,300 per child. But the promise was that if schools made the investment when children were in first grade, they wouldn't have to spend money later on expensive remedial programs in the upper grades.

The Ohio State professors who brought Reading Recovery to America conducted studies of the program. Their research showed that most first graders who went into Reading Recovery were successful. We're gonna come back to that research in a later episode – to talk about how that success was measured, and whether the children ended up better off in the long run. But back in

the 1980s and '90s, a lot of people believed that Reading Recovery was the best way to help children who were struggling to learn to read. Powerful people.

(Music: "Hail to the Chief")

President Bill Clinton visited an elementary school in Virginia in 1998 and raved about Reading Recovery.

**Bill Clinton:** I'm a big fan of the Reading Recovery program. And if you look at the research, it has about the best long-term results of any strategy.

The president was joined by his education secretary, Richard Riley.

**Richard Riley:** Frankly, this reading by the end of the third grade we think is probably as important as anything in this country. And if a child is having difficulties, this, this concentration through the Reading Recovery program just makes so much sense to meet that, that national goal.

By the end of the 1990s, Reading Recovery was in more than one in five American schools. In 49 states. And it was all over the English-speaking world. Australia. Canada. Britain. The queen of England made Marie Clay a dame. The female equivalent of a knight. It's hard to overstate the influence Clay had. Listen to how she was introduced on this radio program in 1999.

**Announcer:** Now Dame Marie Clay's name often appears in select company with that of Lord Ernest Rutherford who won the Nobel Prize for his theory of the structure of the atom, or Sir William Pickering who helped put the first man on the moon. There's nothing fanciful in the comparison....

Marie Clay was being compared to famous scientists because she had not just come up with a program to help struggling first graders. She had come up with a theory to explain one of the mysteries of the human mind: how people read. But Marie Clay's theory about how people read was just that – a theory. Even Marie Clay wasn't sure it was right.

**Announcer:** And finally this evening, someone who's had a profound influence in New Zealand schools, Dr. Marie Clay, author of many books about the teaching of reading...

This is Clay on a Radio New Zealand program in 1978.

**Host:** Looking at small children it's always seemed to me that this was one of the areas where we could legitimately use the word "magic" about how they learn things. Would you agree with this?

**Clay:** I would. And I think if you really pushed some of the most, um, forward-thinking theorists in reading today, you'd see that they are saying very clearly – there is this and that area of reading about which we know nothing. We don't know what's going on behind the eyes in these particular areas. And they're also saying, as far as I can see, it's unlikely we will ever know. So that will remain magic and all we can do in these situations is to arran – um, arrange good situations for children to respond to and then just guide their responding. They have to do the learning.

(Music)

What Marie Clay didn't know when she was on that radio program back in 1978 is that scientists were about to do exactly what she thought wasn't possible. They were about to figure out what's going on behind our eyes when we're reading. They were about to figure out how people read. And it doesn't work the way Marie Clay thought.

That's coming up after a break...

**\*\* BREAK \*\***

In 1954, a boy named Reid Lyon went off to elementary school. He was going to become one of the nation's top reading scientists. But as a little kid, he couldn't do it.

**Reid Lyon:** I couldn't read worth a lick. And that was, uh, kind of a traumatic experience for me.

He remembers getting Dick and Jane books in school. And he just didn't get it. He says it was his mother who finally taught him how to read. She showed him how to decode the words. Sounding them out with him, over and over. Eventually, he became a good reader. But when he graduated from high school in 1966, he says he wasn't ready for college. So he joined the Army.

**Lyon:** That was something that landed me very quickly in Vietnam.

(Music)

He was there at the same time as Dan Corcoran, who you heard at the beginning of the episode. Reid Lyon saw heavy combat in Vietnam. He fought in the Tet Offensive. He was almost killed once when a piece of shrapnel just missed his head. He retrieved the shrapnel from the tree behind him and carried it with him for years. Some of his buddies returned home from Vietnam with horrible head injuries. And some of them had lost their ability to read.

**Lyon:** That was a tough thing to watch. But also an interesting thing – I wondered why that was?

(Music)

He wanted to understand reading and the brain. So he went to college, to study neuroscience. He got a PhD. Started doing basic research about regions of the brain that contribute to the development of skilled reading. And trying to understand why some people struggle to learn to read, like he did.

(Music)

This was the 1970s and 1980s. Scientists all over the world were getting interested in reading. They had new techniques and tools to study how people read – things like brain scans and eye-tracking technology. And they started testing out various ideas and theories. Like the idea that skilled readers use the letters in words in an incidental way – that they just skim the letters to confirm they're getting the words right. That's what Marie Clay believed. So did many other prominent academics. But was it true?

**James Kim:** There was a scholar named Keith Rayner who developed eye-tracking technology.

This is James Kim, a professor at Harvard who has written about the history of reading research.

**Kim:** And what eye-tracking technology allows us to do is it allows us to see what the human eye does when it reads text.

(Music ends)

And what Keith Rayner's studies showed is that good readers process virtually every letter in every word as they read.

**Kim:** They didn't skip, they didn't look at whole words. And that finding was replicated over and over again.

Eye-tracking studies showed that good readers rely on the letters to know what the words say.

Another part of the cueing theory scientists started testing out is whether readers *can* use meaning and context to accurately identify words. If you cover the word with a sticky note, can you guess what it is? The answer is – you can try, but you'll be wrong a lot of the time. Experiments showed that even a well-educated, skilled reader could predict only about one in four words using contextual clues. Other studies showed that it was less-skilled readers who were more dependent on context for word recognition. Skilled readers were able to recognize words without relying on context at all. They could read isolated words instantly and accurately.

It turns out that skilled word reading is *not* a detective game. It's not a game of "Twenty Questions" like Marie Clay believed. It's much more efficient than that. Skilled readers see a word and recognize it, in a split second.

By the 1990s, it was clear from the research that Clay's theory of how good reading works wasn't right.

(Music)

**Lyon:** At its core, the theory was inaccurate. It wasn't tenable.

This is Reid Lyon again. He says what Marie Clay had described with her theory is the way that many poor readers read. People who have a hard time making sense of the relationships between letters and sounds come up with other strategies to figure out what the words say. They do things like – look at the first letter of a word, think of a word that makes sense. They guess a lot. Maybe getting the gist of what they're reading. But often not enjoying reading much, because it's slow and laborious, and kind of confusing. Reid Lyon knew this because he was seeing it in studies of real children. Large, federally funded studies that he was overseeing.

**Lyon:** It was pretty clear after a while that the readers who were having difficulty – you know, young first graders and second graders who were having difficulty – were actually the children that did try to use context. And it slowed them down further.

By the 1990s, Reid Lyon had moved from doing his own research in university labs to becoming what was essentially the government's top reading scientist. He was head of a branch of the National Institute of Child Health and Human Development. The NICHD. The NICHD had established a reading research program back in 1965. By the late 90s, NICHD scientists had studied the reading development of more than 34,000 children and adults. Some of those studies were devoted to understanding skilled reading. Others were devoted to understanding reading difficulties.

**Lyon:** One question was – is reading the same as listening and speaking?

And in particular, do human beings *learn* written language the same way they learn spoken language?

**Lyon:** And the clear answer to that was no.

(Music ends)

Research shows that human beings are born with brains that are wired to acquire spoken language. No one has to teach us how to talk. We learn to talk by being talked to.

**Dad:** Is Pop by the tub?

**Son:** No

**Dad:** No.

This is my husband reading our son a story when our son was a toddler.

**Dad:** Is Pop in the cabinet?

**Son:** No.

**Dad:** No (laughing). It's just my toothbrush and toothpaste.

**Son:** Toothpaste.

**Dad:** Yeah.

I think this might be the first time my son said the word toothpaste.

But research shows that learning how to say words is different than learning how to read them. We are not born with brains that are wired to read. Human beings can get really good at reading. But our brains have to change for us to become good readers. And sounding out written words is a key part of this process.

**Kah'Marii** (sounding out words): S-a-v – saved!

This is Kah'Marii. He's in first grade. And he's on Zoom with his teacher, learning how to sound out words.

**Kah'Marii:** d-o-z-ing – dozing!

Kah'Marii is looking closely at each word.

**Kah'Marii:** s-m-i...

Trying to sound it out...

**Kah'Marii:** smi – ing

...and then suddenly realizing – it's a word he knows!

**Kah'Marii:** Smiling! Smiling. Smiling.

This process of connecting the pronunciation of a word with its spelling and its meaning is critical.

(Music)

It's how your brain stores the written form of a word in your memory. You are born with a brain that can remember the pronunciation of words and the meaning of words. And as you connect the pronunciation and meaning of words with their spelling, you create new neural pathways that allow you to remember written words. Once a typically developing reader has looked carefully at a word a few times and sounded it out and identified or figured out what the word means, the written form of that word gets mapped into their memory. And once a word has been mapped to your memory like this, about the only thing that can take it away is a brain injury. Otherwise that word is there for you, always, in an instant. You don't have to sound it out or do anything conscious to recognize the word anymore. But you know the word because at some point you sounded it out and you connected the pronunciation of that word with its spelling and its meaning.

**Kah'Marii:** Smiling! Smiling. Smiling.

(Music)

For some people, learning how to read words is pretty easy. Just a little bit of instruction and a lot of exposure to print is enough.

**Bruce McCandliss:** So some children really just have this knack.

This is Bruce McCandliss. He's a cognitive neuroscientist at Stanford.

**McCandliss:** They're really great at like, hearing all of the individual sounds within words, they play around with them a lot, and when they are exposed to reading, they start to make all of these connections sort of beautifully.

But for a lot of kids, making the connections between print and speech is pretty hard. They need someone to teach them *how* to do it. And the kind of instruction a child gets can put that child on the path to skilled reading, or not.

Bruce McCandliss did a study in 2015 to try to understand how different teaching methods affect reading development. He and his colleagues made up a new written language and brought people into their labs to learn this language. They divided their subjects into two groups. One group was taught the relationships between the symbols and sounds in this new language. The other group was told to just look at the whole words – the clusters of unfamiliar symbols – and try to remember them.

(Music)

At first, both groups were learning.

**McCandliss:** Learning occurs in both cases. Like, people can master, you know, 20, 30, 40, 50, 60 of these words.

In fact, the students who were memorizing the whole words did better at first. Learning was slower for the students focusing on letter-sound relationships. But those students were soon able to read more words than the group that hadn't been taught letters and sounds. And when Bruce and his colleagues looked at what was going on inside the brains of their study participants, they saw something interesting. People who were sounding out the words were reading differently than the other group.

**McCandliss:** By really encouraging people to think about and attend to the nuances of the print and how they relate to the pronunciation, we see this activation pattern that looks a lot like what the expert reading circuitry looks like.

In other words, the people who focused on letter-sound relationships increased activity in areas of the brain that are associated with skilled reading.

People who were not taught to focus on letters and sounds used a different neural network to read. A network that is not as efficient or effective at helping you map written words into your memory. Other experiments – with adults and children – have shown similar patterns of brain activity.

(Music)

How a person is taught affects what areas of the brain they use to read. And you want to use the parts of your brain that are going to be most efficient and effective at helping you map words into your memory. Because that's how you become a good reader. You're not using your brain power to identify the words. You're using your brain power to understand what you're reading. And that's the goal. Bruce McCandliss says teaching kids that they don't have to look carefully at words and sound them out is putting many of them at risk of never getting there. Of never becoming good readers.

**McCandliss:** I think more and more people are starting to recognize that there's a pretty significant number of kids out there that we're neglecting their needs. And the kids struggle and they suffer, and at times I've run reading clinics where the kids break down like the fourth word into a reading test and start crying and telling you that they're, they're a defective person who is stupid and doesn't belong in school and hates school and never wants to do anything with reading ever.

(Music)

When I first started doing all this reporting on reading a few years ago, I didn't realize how many people have a hard time learning how to read. I think it came pretty easily to me and to my kids, and I didn't think about it much because I didn't have to. But according to Reid Lyon, the guy who oversaw all that reading research at the NICHD, learning to read is a formidable challenge for a lot of people. He estimates that about 60% of kids need direct and explicit instruction. If they don't get it at school, they might get it at home. But if they don't get it, they're not likely to become very good readers – or spellers. And within that sixty percent of people who need good instruction, there's a group of people who need a lot of good instruction. Because learning to read is really, really hard for them. It's not about intelligence. There are very, very smart people who struggle to learn how to read. But what the research shows is that nearly everyone can learn how to do it – if they are taught.

(Music ends)

**Corcoran:** There was always that, uh, always that struggle.

Remember Dan Corcoran? The struggling reader you met at the beginning of the episode?

**Corcoran:** Always that God, will I ever learn? You know. And I did.

Dan Corcoran was taught how to read when he was 54 years old.

(Music)

Here's how it happened. Dan noticed an announcement in a local newspaper.

**Corcoran:** All I seen it was – reading, helping kids. Or something like that.

He couldn't actually read the whole article but enough to get the gist. He showed it to his wife.

**Corcoran:** And so we called and within an hour we're settin' on their front porch. That's how I remember meeting Nora.

**Nora Chahbazi:** And I can picture you on that, my doorstep.

**Corcoran:** Sitting on the front porch?

**Chahbazi:** Yeah, on the front porch, and, um...

Nora Chahbazi was getting ready to open a tutoring center in Flushing, Michigan. Dan didn't have much money. He was working as a house painter at the time.

**Corcoran:** And I'm thinking, "Man, we can barter this. We, we can do some kind of bartering." And then she said she was Irish. And I said, "Now I know we can barter!" (laughs) So, and that's what we did.

Dan painted Nora's tutoring center. And Nora taught Dan how to read.

(Music ends)

**Hanford:** What did she teach you about the way words work that unlocked 'em for you a little bit better?

**Corcoran:** Um, sounds. Um, drawing 'em out with your finger. OK. Writing 'em on the whiteboard, just over and over and over again. And the next thing you know, you can – De – duh – suh-i-m – ber. You got it. That's December.

He's looking at a calendar on the wall. It says at the top: "Calendar: Yearly Planner." I ask Dan how he would have read those words earlier in his life – before Nora taught him how to read.

**Corcoran:** Ah, maybe, "er-ah." Pshhh...I don't know what it is. And then, C-a – I got Cal – c-a-l – and the rest of it has got to be calendar. Ah, that last word. Pl. Pal – er. Shit, I don't know. Is that? Since I've learned to read much better, it's "planner."

(Music)

For Dan, reading used to be like a detective game. Most words were puzzles and he was searching for clues. He had strategies. Look at some of the letters, make a good guess. That's how Marie Clay described skilled reading. But it's not the way skilled reading works. What Clay was observing – what she could see – does not explain what's going behind our eyes as we read. It does not explain what's going on inside our brains. Clay didn't know it, but she was actually describing the way that poor readers read. "Look at the first letter." "Think of a word that makes sense." These are the strategies that struggling readers use to get by. No one has to teach them these strategies. They'll come up with them on their own if they don't know how to read the words. Which is why it's all the more shocking that in schools all over the country, kids are actually being taught these strategies.

(Music ends)

**Seidenberg:** There's no question that it's making it harder for children to succeed.

This is Mark Seidenberg again, the cognitive neuroscientist at the University of Wisconsin. He says the word-reading strategies are harming some children.

**Seidenberg:** Making it this much more difficult to acquire just the really basic foundational reading skills sets them off in a very bad direction. You know, you get reports of children who finally do succeed at reading with this kind of one-hand-tied-behind-your-back sort of approach, but they really don't like reading. Uh, some kids do finally make it. But man, it was really painful.

Little kids, in classrooms all over the country, are being taught to read the way that poor readers read. But their teachers have been taught that this is how good readers read. According to a 2019 survey, Marie Clay was the researcher most likely to be introduced to teachers when they were in college. Followed close behind by two American women who turned Marie Clay's program for struggling first graders into a popular approach for teaching all kids to read. I'm going to tell you about that in the next episode.

(Music)

But I want to tell you one more thing about Dan Corcoran before we go.

**Hanford:** A couple more questions and then we're done. But how has it changed your life to be able to read better?

**Corcoran:** Huh. Well, uh, how does it change my life? Much, much better. Um. Not scared to try things. Uh, I've, uh, started a couple of businesses since I've learned how to read.

**Hanford:** Could you have started those businesses without the reading skills you have now?

**Corcoran:** No. No way. No. You gotta read contracts, you have to read reports. You have to read, uh, you just gotta read.

(Music ends)

**Corcoran:** I mean there's so much (laughing). But I also, I question a lot. My sons, it drives 'em nuts. That I question contracts. I question words in contracts. Umm. But if we don't know what that means, we could be up for lawsuits or in trouble. So.

The company that Dan started with his sons installs ramps and doors and grab bars for disabled veterans. The men and women who made it home from war but need help with daily life.

**Corcoran:** So any way we can help a person get in and out of their home, their bathroom, their car, the living room, you name it. That's what we do.

And every month, Dan gives part of his income to support Nora Chahbazi's tutoring center. He refers to his donations as "tithing." Like tithing to a church. He says he does it because lots of kids still aren't learning to read – just like him 70 years ago.

**Corcoran:** Absolutely. Absolutely. You know. There's a lot of us out there but a lot of us cover it up really good.

**Corcoran:** Why do we have to go through that though? Why?

(Music)

Next time on *Sold a Story*...

**George W. Bush:** We will launch a new initiative called Reading First.

**Bush:** But we will only support effective programs. Effective reading strategies.

**Teacher:** What is that word?

**Kids:** Eats.

**Teacher:** Sound it out.

**Kids:** Eats.

**Teacher:** What word?

**Kids:** Eats.

**Teacher:** Start from the beginning of that sentence. Go on.

**Christine Cronin:** It felt like going back to that classroom where everyone is sitting in rows and everyone being in lock step. And that felt really bad.

**Lyon:** I'd have five teachers two inches from my face just tearing me up and down.

**Carrie Chee:** You know, the sense of war with reading wars is very true. That you just absolutely reject other pieces of evidence coming at you because you can't believe their source.

*Sold a Story* is a podcast from American Public Media. It's produced by me, Emily Hanford, with Christopher Peak. The audio editor is Catherine Winter. Dave Mann and Andy Kruse are the digital editors. Mixing and sound design are by Chris Julin and Emily Haavik. Our theme music is by Jim Brunberg and Ben Landsverk of Wonderly. We had reporting and production help from Angela Caputo, Will Callan and Chole Marie Rivera. Fact-checking by Betsy Towner Levine.

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We have a website where you can find more information about this podcast. And links to the reporting we've been doing on this topic for years. It's SoldaStory.org. There's also a new piece where I recommend ten essential things you can read if you want to know more about the science of reading. It's up now at SoldaStory.org.

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