

Why Hasn't the Science of Reading Movement Led to Greater Results?

The Rise of the Science of Reading Movement?

The science of reading movement exploded in 2020. Parents and teachers had a lot of extra time on their hands due to the lockdowns and they became increasingly aware that there was something wrong with how reading was being taught. The focus was often on learning discredited guessing strategies like three-cueing (Goodman, 1965), memorizing long word lists (Ed Center, 2020), and levelled readers not supported by research (Burns et al. 2015). I think Emily Hanford's (2022) podcast "Sold a Story") really brought this debate to the mainstream.

Since then, forty-three states have passed science of reading (SOR) laws. UFLI has sold over 500,000 manuals (Parker, 2025). Almost 700k teachers have received LETRS training (Lexia, n.d.). CKLA is being used by over 2.7 million students across more than 38,000 classrooms (Amplify, n.d.). It's unclear how much money has been spent on the SOR revolution, but it's safe to say that the cost is in the billions. For example, Ohio alone spent 164 million dollars on their SOR revolution (Dupont, 2023).

However, it appears the fruits of this endeavour have been less successful than is ideal. Several articles came out this month on the fact that NAEP (2024) scores have essentially remained stagnant, despite the investment. For example, Annie Ma and Sharon Lurye (2026) wrote for PBS, "The same recovery has not emerged for 13-year-olds, whose average scores in math and reading remain below pre-pandemic averages. In fact, the latest reading scores, from teenagers who took the test in 2024, are essentially the same level as they were when the test started in 1971."

Has the Science of Reading Movement Been a Failure?

I have been a big proponent and advocate of the science of reading movement. I have written dozens of articles on the topic, published several books and peer-reviewed articles that I felt were relevant to the movement. Moreover, I am still a believer that implementing reading instruction policy and practices supported by scientific research is a good thing. However, I also have to admit that the evidence that we can improve reading scores via policy changes appears at least for now aggressively weak. That said, I think the reports on the topic are missing some very important caveats. I also think some of the focus of this movement may have been directed at the wrong places.

What the Articles are Missing:

1. **The data is dated:** These articles are all based on 2024 data, which was only 2 years after the science of reading movement really started to snowball. So there may have actually been a large impact and it just hasn't been measured yet.
2. **Policy Research is Inherently Scientific:** The body of research that is sometimes referred to as the science of research is largely based on experimental studies. In an experimental study, one group receives a form of instruction and another group does not. The difference in learning is assumed to be caused by the teaching method given to the treatment group. In experimental studies, the researchers do their best to control for as many outside variables as possible. NAEP scores do not reflect this level of rigour. While the sample size is enormous and the test is valid, we do not know what the actual instruction looked like in each class. The assumption is often that if public policy research does not match scientific research, that the Science is likely wrong. However, it's far more likely that the public policy failed to accurately replicate the scientific findings.
3. **Younger Students Did Better:** The PBS article notes that adolescent/teenage students did far worse. However, most of the SOR focus has been on kindergarten to grade 3. School boards often focus on the primary grades, because research shows it's far easier to remediate a student before grade 3. (Hall et al. 2023). Moreover, many of the big adopted programs have been specifically aimed at younger students, like UFLI and LETRS. This is not to say that adolescent children are not also deserving of support or evidence-based education, but just that it makes some sense that the SOR movement has had less of an impact on these students.

The Truth Lies in the Middle

There is no evidence that the SOR movement has been a failure. However, there is certainly weak evidence that it is making a policy difference. Dr. Rachel Schechter and I (2025) did some exploratory research specifically comparing states with equivalent baseline test scores that adopted SOR laws to states that did not. And while we concluded that the results were likely positive, the results were weak, at best.

So Why Aren't SOR Laws Making a Bigger Impact

It's a funny thing really. It seems quite easy to run an experiment, between a small number of classes and to measure significant benefits for a teaching method. It seems quite hard to implement these findings on a mass scale. This phenomenon isn't unique to phonics initiatives or the SOR initiatives, it's consistent across all

education research, large-scale implementations yield low impacts (Kraft, 2020).

I have theories here. But they are only theories. The truth is, it's hard to know what's happening on a national scale, because nobody knows what instruction looks like in every classroom. My number one guess comes down to teacher knowledge. I think the biggest focus on a policy level has been buying new programs, curriculums, and books. I do not think the focus has been on teacher knowledge. Unfortunately, I think this is both the most difficult task and the most important one. Getting research into practice isn't a challenge just for teaching, it's a challenge in general. As humans, we tend to be resistant to change. There was a famous study by Rita Rubin (2023) that showed it took on average 17 years for new medical knowledge to reach widespread adoption with physicians. This is despite the fact that doctors are amongst the most heavily trained and regulated professions. It is also despite the fact that doctors have to worry about the literal lives and deaths of their patients.

My instruction in teacher's college (2008-2012) did not cover phonics, explicit instruction, phonemic awareness, vocabulary, or even fluency. It was entirely focused on the joy of reading, inquiry-based learning, and comprehension. I went back to school for my reading specialist qualification in (2016) and my professor's instruction was still just as steeped in the same Whole Language philosophy. When I talk to most other teachers their experiences appears to be consistent. When I talk to new younger teachers, they seem more well versed in concepts related to the science of reading. But, many universities clearly still teach whole language concepts.

Last year, I was talking to a reading coach, who was highly recommended from their school board as being a Science of Reading expert. This coach told me with great confidence that the letter <r> could only be used to make one phoneme /er/. I politely tried to suggest that this may be an oversimplification and the coach referred me to a popular teachers pay teachers influencer to explain why I was wrong. I don't bring this anecdote up to shame that person for being mistaken or to have an in depth debate on phonemes associated with the letter <r>, but rather to demonstrate that a person can be passionate about the Science of Reading, be looked up to by other teachers for their knowledge, and still have some fundamental misunderstandings about the basic orthography of the English language.

A study by Georgiou et al. (2026) found that pre-service teachers in Canada averaged 53% accuracy on a basic test of proficiency in phonics, phonemic awareness and morphology. Comparatively in-service teachers could only answer

questions with 57% accuracy. This means that most teachers could only answer roughly half of basic literacy questions correctly. This is despite the fact that the SOR movement has largely also taken hold in Canada and despite the fact that Canada has some of the highest-trained teachers in the world. These findings are also particularly disturbing, when you realize that a teacher's knowledge of language and literacy concepts is directly related to student achievement in literacy. A (2026) study by Guilbault et al. found that “teachers’ knowledge of language and literacy concepts predicted the end-of-the-year students’ reading performance even after controlling for teachers’ years of teaching experience and students’ reading performance at the beginning of the school year.”

To be clear, I don't think this knowledge gap is the teacher's fault. For decades, teaching has been treated as an art that cannot be taught, opposed to a science, in which perfection can be strived for. Moreover, I understand why it's hard to improve teacher knowledge. We all have a natural bias against knowledge that does not fit with our prior conceived model of understanding, this phenomenon is well documented and referred to as cognitive dissonance (Harmon-Jones and Mills, 2019). We also tend to accept information at face value, when we hear that information from a source we trust. Recently I was telling my daughter that octopuses had a wholly unique genetic code from other creatures, suggesting that they had a divergent genetic source from all other life on earth. My wife, who had taken biology at university and was listening, told me that was wrong. I had heard that factoid from a source I had trusted a long time ago and had always used it as an interesting anecdote in my Science classes, for the past decade. I was convinced my wife was wrong. I looked it up, in an attempt to prove her wrong, only to learn that I was wrong. My original source (a popular science blogger on social media) had likely exaggerated and sensationalized a small genetic difference into something much more interesting and I had believed them, because I viewed them as an authority. I share this anecdote not so you can laugh at my own stupidity, but just to point out, we all acquire pieces of information that we don't properly vet and which turn out to be inaccurate.

Moreover, popular social media views on the Science of Reading have not always been accurate. When I first came across the phrase the “Science of Reading” on social media, there was a tremendous focus on a popular oral phonemic awareness program. Researchers have known for decades, that phonemic awareness instruction works best when it's taught with letters and focuses on blending and segmenting. But this program taught phonemic awareness without letters and with manipulation/deletion. Both of these types of phonemic awareness drills have been shown to be ineffective for decades, (NRP, 2000). Social media posts on the Science of Reading were often focused on the use of this program and its best

implementation. A large number of well acclaimed researchers, including, but not limited to Timothy Shanahan, Susan Brady, Mat Burns, Nathan Clemens, Emily Solari, and Devin Kearns rushed to convince people that this was not in fact aligned with scientific research, with the most seminal paper on the topic being written by Clemens et al. (2021). For years influencers, authors, and teachers were resistant to changing their minds on the issue. However, I think eventually researchers were able to persuade the majority that phonemic awareness should not be taught orally, or with deletion/manipulation. But by this point, teachers had already spent years using popular phonemic awareness programs, not supported by evidence, while thinking they were using the science of reading.

This isn't the only myth that became popular in SOR social media posts, but it was perhaps the most prevalent. It's hard for teachers to improve their knowledge of reading instruction when they don't know who they can trust. Unfortunately, the loudest and most confident voices are often not the most reliable. I myself have to admit that I write far less frequently than I used to and feel far less confident when making claims. However, I probably know more about literacy instruction than I ever have before. When I first started writing about education research, I did not know how little I knew, and I was infinitely more confident—an effect commonly associated with the Dunning-Kruger effect (Kruger & Dunning, 1999). Truthfully, some of my earliest articles were also some of my most confidently written and widely circulated. While I don't think the central arguments in those articles were necessarily wrong, I can now see places where I overstated the certainty of the evidence or failed to acknowledge important nuance.

So What Is the Solution?

My best suggestion for school boards trying to improve reading outcomes, would be to offer some form of ongoing coaching, based on research outcomes. Teachers don't just need help learning about the Science of Reading. They need ongoing support on implementing it. A meta-analysis by Mathew Kraft, David Blazar, and Dylan Hogan (2018) found that ongoing coaching models produced statistically significant benefits in studies with rigorous research designs. Similarly, a meta-analysis by Williams et al. (2022) found that there was a linear relationship between coaching frequency and achievement. Ongoing coaching had an effect size of .40, infrequent ongoing training had an effect size of .36 and a one time teacher training session had an effect size of .26. These findings also matched the study that Dr. Rachel Shechter and I conducted. All but one of the states had mandated some form of coaching (West Virginia). Unfortunately, West Virginia had 6.41% less students at grade level than the mean for other states with SOR laws passed. This difference was quite large considering the SD was only 4.54.

Of course, coaching provides its own challenges. I have worked in 6 school boards in my career and provided PD for more school boards than I can count. I cannot count the number of times I have been offered Whole Language or Discovery Based Learning advice from a well meaning coach. Most school boards don't have a person deeply versed in education research making policy decisions. And the reality on the ground is that school boards tend to be more influenced by popular authors and social media personalities than scientific research. This trend is a reflection of the fact that researchers tend to write for peer-reviewed journals and influencers tend to write for teachers. If we want to see long term change, we need to see researchers who are more willing to engage with teachers outside of the peer-review process (Dr. Mat Burns and Timothy Shanahan are good examples of this). But we also need to see school boards place a greater effort into understanding the research on a deep level. You can't implement the science of reading, if you found out what it is from a podcast or social media posts.

So Where Do We Stand Now?

The truth is, I still think the SOR movement was a good thing. I think it has brought greater attention to evidence-based reading instruction and it has helped to dispel some widely popular and incorrect beliefs. But I think it will take a very long time to see meaningful results. And I do worry that people will lose interest, when they don't immediately see results or worse see this as merely a pendulum swing and go back to the Whole Language methods they were using before.

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