

## DISTINGUISHED SCHOLAR SERIES

# The Science of Reading Era: Seeking the “Science” in Yet Another Anti-Teacher Movement

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## About the Author

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If you are paying attention to traditional or social media, you are aware of the following stories being told about U.S. public school teachers in 2023:

- Elementary teachers are failing to teach reading effectively to U.S. students.
- That failure is “because many deans and faculty in colleges of education either don’t know the science or dismiss it,” according to Hanford (2018).
- Elementary, literature/ELA teachers, and history teachers are brainwashing students with Critical Race Theory (Pollock & Rogers et al., 2022).
- Elementary and literature/ELA teachers are grooming children to be gay or transgender by allowing them to read diverse books and stories.

Except for teachers themselves and some education scholars, these new bad teacher myths are both extremely compelling and almost entirely false.

Although the “science of reading” (SOR) movement has been continually and uncritically perpetuated by mainstream media since 2018, beneath the call for “science” is both the myth of the bad teacher and the missionary zeal that has driven education reform throughout the 2000s and 2010s. Below, I unpack the bad teacher myth and the flaws in missionary zeal fueling education reform in order to build to a critical examination of the SOR movement, which falls apart when the central claims of SOR advocates are weighed against the full research base currently available on teaching reading.

Finally, we must face the lessons we have failed to learn from decades of education reform that targets exclusively in-school policy and practices while ignoring the more substantial impact of out-of-school factors on both teacher effectiveness and student achievement.

## The Myth of the Bad Teacher: 2023

Writing during a peak bad teacher movement in the U.S., Adam Bessie (2010) explains about the bad teacher stories represented by

Michelle Rhee and perpetuated by the Obama administration and Bill Gates:

The myth is now the truth.

The Bad Teacher myth, [Bill] Ayers admits, is appealing, which is why it's spread so far and become so commonly accepted. Who can, after all, disagree that we "need to get the lazy, incompetent teachers out of the classroom?" Even Ayers agrees that he, like all of us, "nods stupidly" along with this notion. As a professor at a community college and former high school teacher, I nod stupidly as well; I don't want my students held back, alienated, or abused by these Bad Teachers.

This myth is also seductive in its simplicity. It's much easier to have a concrete villain to blame for problems school systems face. The fix seems easy, as well; all we need to do is fire the Bad Teachers, as controversial Washington, DC, school chancellor superstar Michelle Rhee has, and hire good ones, and students will learn. In this light, Gates' effort to "fix" the bug-riddled public-school operating system by focusing on teacher development makes perfect sense. The logic feels hard to argue with: who would argue against making teachers better? And if, as a teacher, you do dare to, you must be "anti-student," a Bad Teacher who is resistant to "reforms," who is resistant to improvements and, thus, must be out for himself, rather than the students. (n.p.)

Bessie (2010) concludes, "The only problem with the Bad Teacher myth, as anyone involved with education is intimately aware of, is that problems in education are anything but simple," (n.p.) and ultimately, in 2023, these myths are not supported by the evidence.

For example, as the authors of a report out of UCLA assert about anti-Critical Race Theory (CRT) attacks on teachers:

We put 'CRT' in quotation marks throughout this report because so often the conflict campaign's definition of 'CRT' (like its description of actual K-12 practice) is a caricatured distortion by loud opponents as self-appointed 'experts.' The conflict campaign thrives on caricature — on often distorting altogether both scholarship and K-12 educators' efforts at accurate and inclusive education, deeming it (and particularly K-12 efforts to discuss the full scope of racism in our nation) wholly inappropriate for school. (Pollock & Rogers et al., 2022, p. vi)

The bad teacher myth in 2023 "thrives on caricature" and anecdotes (Hoffman et al., 2020) that, as noted above, are very compelling but ultimately not only lack credible evidence (Valcarcel et al., 2021) and logic, but also cause far more harm than good in terms of reforming education, serving student needs, or recruiting and retaining high quality teachers.

The bad teacher myth in 2023 is targeting K-12 educators who are 70-90% women, and those teachers under the most intense attacks

tend to be elementary teachers who are even more disproportionately women—all K-12 teachers/76% women versus elementary teachers/89% women and the lowest paid educators—elementary/\$58,700 versus high school/\$64,300 (USAFacts, 2020).

Further, there is little evidence that *students today are uniquely underperforming in reading achievement*, yet the bad reading teacher myth is perpetuated by misrepresenting reading achievement through incomplete messages around National Assessment of Educational Progress (NAEP) reading data. Hanford (2018), for example, cites NAEP data as evidence of a reading crisis without explaining that NAEP proficiency is far higher than grade-level reading, as Loveless (2016) explains:

NAEP does not report the percentage of students performing at grade level. NAEP reports the percentage of students reaching a 'proficient' level of performance. Here's the problem. That's not grade level. ...

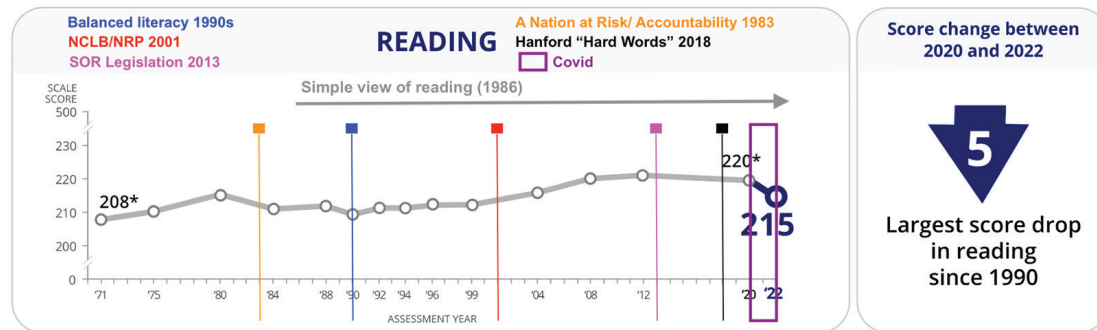
1. Proficient on NAEP does not mean grade level performance. It's significantly above that.
2. Using NAEP's proficient level as a basis for education policy is a bad idea. (n.p.)

And the so-called low levels of reading proficiency are historical, not a recent set of data that constitutes a reading crisis (National Center for Education Statistics, n.d.)

If we want to rely on NAEP reading scores, however flawed that metric, the historical patterns shown in

**Figure 1. Long-Term Trends of NAEP Grade 4 Reading Scale Scores and Key Historical Events, 1971–2022**

Average reading and mathematics scale scores on the long-term trend National Assessment of Educational Progress (NAEP): Selected years, 1971 through 2022



SOURCE: National Center for Education Statistics trends chart with historical events added by author

Figure 1 with key events suggest a relatively flat state of reading achievement with some trends of improvement in the 1970s (which was followed by the manufactured myth of schools failing with “A Nation at Risk”) and flat to improving from about 1990 until 2012 (an era demonized as a failure due to reliance on balanced literacy). Notably, the SOR movement tends to be connected to legislation starting around 2013 and Hanford’s journalism beginning in 2018, and that NAEP data has remained relatively flat except for the COVID drop (National Center for Education Statistics, n.d).

Again, as Bessie (2010) acknowledged over a decade ago, the real problems with education, teaching, and learning are very complex and far larger than pointing fingers at teachers as “villains.” For most of the history of U.S. education, student reading achievement has been described as “failing,” and vulnerable student populations (minoritized races, impoverished students, students with special needs such as dyslexia, and multilingual learners) *have always been underserved*.

The ignored issues with teacher quality (see the final section) related to student reading proficiency is that those vulnerable students are disproportionately sitting in classes with early-career and uncertified teachers who are struggling with high student/teacher ratios. Are too many students being underserved? Yes, but this is a historical fact of U.S. public education, not a current crisis. Are low student achievement and reading proficiency the result of bad teachers? No, but these outcomes are definitely correlated with bad *teaching/learning conditions* and bad living conditions for far too many students (Benson, 2022).

In 2023, just as in 2010, the myth of the bad teacher is a lie, a political and marketing lie that will never serve the needs of students, teachers, or society. Teacher and school bashing, shouting “crisis” — these have been our responses to education over and over, these are not how we create a powerful teacher workforce, and these will never serve the needs of our students who deserve great teachers and public education the most. The myth of the bad teacher

is a Great American Tradition that needs to end.

Along with setting aside the myth of the bad teacher, if we are seeking authentic and effective education reform, we should also be skeptical of missionary zeal driving advocacy for that reform, especially in the current SOR movement.

### The Return of Missionary Zeal in Education Reform: “Science of Reading” Edition

A teacher who contacted me has been a literacy educator well over a decade and also has earned a doctorate. A few years ago, this teacher had a first experience with Language Essentials for Teachers of Reading and Spelling (LETRS) training being required for university faculty where they were on 1-year contracts. After asking why LETRS was being required and noting that the research base doesn’t support that training as effective (Hoffman et al., 2020), the teacher was shunned by their administrator and then their contract wasn’t renewed.

Before leaving that school, they noticed some faculty had simply stopped attending the training, but the administrator sought other faculty to log in to complete that training. The teacher grew concerned that there seemed to be some incentive for simply having many faculty trained. At a new school, that teacher was immediately required to go through LETRS training. They described the

And that new policy is often unscientific and harmful, such as the pervasive implementation of grade retention (Thomas, 2022a). Further the SOR movement fails to ground the narrative in the history of the field of reading and education reform. For example, during the “miracle” school/teacher era spanning from George W. Bush through Barack Obama, missionary zeal drove Teach For America

the media story (Aukerman, 2022a, 2022b, 2022c) and the political reaction to that false narrative (Thomas, 2022c). Reading proficiency in the U.S. is about the same now as well before anyone implemented balanced literacy or current popular (and demonized) reading programs (see Figure 1 in the previous section). And persistently over the last 80 years, scholars have lamented the “considerable gap” (LaBrant, 1947) between research and practice in all aspects of K–12 education.

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### However, the media-driven SOR movement and the political consequences of that advocacy resulting in SOR-labeled policy are oversimplified and misguided versions of that research base.

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Throughout those 80-plus years, no one has ever been satisfied with student reading achievement regardless of the reading theory being implemented or the reading programs being adopted. And teacher preparation has been significantly hampered for the past 40 years by top-down accountability mandates that have reduced most teacher education and certification to more bureaucracy than preparation. Something that SOR advocates ignore is that how teachers are prepared to teach reading matters little because most teachers are bound to reading programs and reading standards (or more pointedly, raising reading test scores) once they enter the classroom. A huge gap exists between how teachers are prepared and how they are *required* to teach.

training as a “cult” experience in which professional educators were handed pipe cleaners and asked to make models of the “simple view” of reading (Scarborough’s rope).

While I have repeatedly documented along with several other scholars that the SOR movement is primarily over-simplified narratives and misinformation (Thomas, 2022b), I want here to address that the central flaw in the movement is one we have seen in recent history regarding education reform: missionary zeal. It is important to emphasize that I am aware of no one who rejects that a body of reading science/research exists, and that should be a significant part of what informs classroom practice. However, the media-driven SOR movement and the political consequences of that advocacy resulting in SOR-labeled policy are oversimplified and misguided versions of that research base.

(TFA), charter schools, “miracle” school claims, and value-added methods (VAM) for evaluating teachers. At the core of these connected elements of education reform is a missionary zeal that ultimately failed to produce what was guaranteed, primarily because the reformers misidentified the problems and offered misguided solutions. In the case of the SOR movement, the same mistake is being made by claiming that reading science is simple and settled.

Currently, the SOR movement has fallen into the missionary zeal trap as represented by The Reading League (n.d.), which advocates people to “Join the Movement” and identifies “Our Mission.” Therefore, the zealotry in these two recent movements are important and damning (see Table 1).

The criticisms I have raised are directly targeting the missionary zeal and misinformation found in

But manufacturing a crisis, perpetuating melodramatic stories, and casting simplistic blame are doing the same things we have done in education reform for decades without ever truly supporting teachers or better serving all students. Just like the TFA and charter/“miracle” school era immediately behind us, the SOR movement is anti-teacher and anti-schools. The public and political leaders have been well

primed since the 1980s to believe that schools are failing and that teachers are incompetent. Regardless of what SOR advocates intend, that is what most people hear.

SOR advocates have falsely attacked teacher expertise, both that of K–12 teachers and that of teacher educators (many of whom had long careers as K–12 teachers); these attacks are often grounded in agendas and reports that are not themselves scientific (such as reports from the National Council on Teacher Quality), and solutions offered (LETRS) lack scientific grounding as well. Just as there is a robust and deep body of reading

science, there are sincere educators who are engaged with that research base but also recognize that the SOR movement and SOR policy are not aligned with the complex and still developing reading science.

The SOR movement and much of SOR implementation are *corrupted* by missionary zeal that creates a veneer for the essentially anti-teacher elements—scripted curriculum (structured literacy), mandated retraining (LETRS), and *caricatures* of teacher educators, teacher education, balanced literacy, three cueing, and reading programs (Hoffman et al., 2020). An authentic embracing of reading science would

acknowledge that current research is complex and evolving; that the causes of students struggling to read are also complex and include influences *beyond* and *in* the classroom (not just teacher practice but teaching/learning conditions such as class size and education funding); that professionals engaging with research should raise questions and challenge conventional wisdom and traditional assumptions in order to serve the individual needs of students; that one-size-fits-all solutions for students and teachers don’t exist; and that educational practices should be grounded in teacher expertise — not journalists, parents, and politicians (Thomas, 2022c).

**Table 1. “Missionary Zeal” and Education Reform**

	TFA/Charter Schools/ “Miracle”Schools/VAM	Science of Reading
“Crisis” Narrative of Educational Failure	U.S. public education a failure; international comparisons	Student reading proficiency a failure due to ill-equipped teachers and negligent teacher education
Non-Educational Reform Leaders	Wendy Kopp (TFA), Michelle Rhee	Emily Hanford, Natalie Wexler
Media Misinformation, Endorsement	David Brooks (NYT), Jay Matthews (WPo)	APM, NYT, Forbes, etc.; Hanford, Wexler, Goldstein
Melodramatic Messaging, Popular Media	Waiting for “Superman”	Sold a Story, The Truth About Reading
Teacher Blame, Teacher Reform	Value-added methods of teacher evaluation, stack ranking dismissal of teachers, replacing TPS with charter schools/restaffing with TFA (New Orleans)	LETRS; scripted curriculum
Teacher Education Bashing	NCTQ	NCTQ
Missionary Zeal	TFA	The Reading League (“join the movement”)
Veneer of Social Justice/Equity	“No excuses” charter schools	Structured literacy (scripted programs)
Market Element	Common Core-aligned education materials	SOR/SL-aligned reading programs



Missionary zeal creates tunnel vision and arrogance while casting blame and judgment toward anyone or anything that dare raise a valid question or concern. Just as TFA lured thousands into the program and thousands more to champion the idealistic (and unrealistic) blame-game as well as promises of miracles only to collapse under the weight of its own propaganda, SOR is following the same guaranteed-to-fail strategy. And, yes, many good people jump on bandwagons with good intentions (I have several people I greatly admire who came through TFA), but eventually, we must all come to terms with the deeply flawed elements of this SOR movement. We must remain committed to individual student needs and teacher autonomy — not movements, slogans, and marketing campaigns. From the TFA/“miracle” school era to today’s SOR movement, these false narratives are compelling because they are simple (simplistic), but they are destined to cause far more harm than good to students, teachers, and schools.

The reasons students have struggled for decades to acquire reading as well or as soon as we’d like are multifaceted and mostly grounded outside of schools; therefore, the solutions are also complex and quite large. We should beware of missionary zeal — especially when dealing with why our schools and students struggle and what solutions advocates offer with passionate certainty. Once we move beyond the myth of the bad teacher and the compelling advocacy driven by missionary zeal, however, we need to confront the actual “science” in the SOR movement.

## Which is Valid, SOR Story or Scholarly Criticism? Checking for the “Science” in the “Science of Reading”

From November of 2022 through February 2023, I presented at six major literacy conferences, both national and state level. Two dominant literacy issues have been curriculum/book bans and the SOR movement. A few important patterns occurred with the latter. Many teachers are overwhelmed and discouraged about the negative messaging around SOR, but I also interacted with teachers not fully aware of the magnitude of this movement and who are puzzled by the controversy. Further, the media, public, and political story around reading and teaching reading is the primary message reaching both educators and the public. The robust scholarly criticism of SOR (Aukerman 2022a, 2022b, 2022c, for example) is often welcomed by teachers and administrators, but unless they are attending conferences, these critiques go unnoticed.

Scholars and educators have been backed into a corner since the SOR story is grounded in a great deal of blame, hyperbole, misinformation, and melodrama. The media SOR story is simple to the point of being false, but simple in a way that is very compelling for people outside the field of literacy. Here, I want to put some pieces together, and offer a place to hold the SOR movement/story to the same standards demanded by advocates of SOR (specifically The Reading League). First, let’s start with the core of the scholarly critiques of mainstream media’s story:

It is clear that the repeated critiques of literacy teacher preparation expressed by the SOR community do not employ the same standards for scientific research that they claimed as the basis for their critiques. However, to dismiss these critiques as unimportant would ignore the reality of consequences, both current and foreseen, for literacy teacher preparation. Consider the initiatives underway despite the fact that there is almost no scientific evidence offered in support of these claims or actions. (Hoffman et al., 2020, p. S259)

While scholarly critiques are far more nuanced and substantive than the central point above, this is a manageable way to interrogate whether or not the SOR story is valid based on the standards the movement itself established.

The debate, then, is well represented by conflicting evaluations of SOR and SOR criticism on social media. A literacy scholar and co-author of an SOR reading program called the scholarly criticism “stupid,” and a policy scholar not in literacy noted that the media story is “facile.”

To determine which is valid—the SOR story or the scholarly criticism—that story must be checked against the standards for science established by the movement itself; for example, The Reading League (n.d.) argues that scientifically based research must be experimental/quasiexperimental, generalizable, and published in peer-reviewed journals (p. 11).

Next, the components of the SOR story must be identified in order to

check the science behind the claims and the anecdotes; consider this overview:

From how much of the media tells it, a war rages in the field of early literacy instruction. The story is frequently some version of a conflict narrative relying on the following problematic suppositions:

- science has proved that there is just one way of teaching reading effectively to all kids – using a systematic, highly structured approach to teaching phonics;
- most teachers rely instead on an approach called *balanced literacy*, spurred on by shoddy teacher education programs;
- therefore, teachers incorporate very little phonics and encourage kids to guess at words;
- balanced literacy and teacher education are thus at fault for large numbers of children not learning to read well. (Aukerman, 2022a, n.p.)

And my analysis:

An article titled *Hard Words* by Hanford is ground zero of the current science of reading movement. Based on the example of a Pennsylvania school that implemented reading science and raised test scores, the article offered an extended analysis and criticism of reading instruction across the U.S. The analysis established several points of debate about the teaching of reading.

Reading science, Hanford claimed, is limited to the

simple view of reading (detailed above) and is characterized as settled science. Other claims in her coverage are that “science” is restricted to the field of cognitive psychology and experimental/quasiexperimental research (like the scope of the National Reading Panel). The sources of low student reading achievement are that teachers do not know or fail to implement reading science and that teacher educators either do not understand or “dismiss” reading science. The movement’s advocacy also blames low reading achievement on popular commercial reading programs, notably those by Lucy Calkins (Units of Study) and Fountas and Pinnell.

Advocates in this science of reading movement include journalists (including Hanford, Goldstein, and Natalie Wexler), cognitive scientists (including Seidenberg and Daniel Willingham), and literacy scholars (including Louisa Moates). However, many literacy scholars and researchers have challenged the media-based movement for exaggerating and oversimplifying claims about reading, science, and research; for depending on anecdotes and misleading think-tank claims about successful implementation of reading research; and for fostering a hostile social media climate around reading debates. (Thomas, 2022c, p. 15)

Below, I outline the SOR story and identify current scientific research, or lack thereof, limiting the evidence to The Reading League’s guidelines

(experimental/quasiexperimental, published in peer-reviewed journals).

For the rest of the SOR story to meet scientific scrutiny, we must establish whether or not there is a *unique reading crisis* in the last 10–20 years in which students are failing to learn to read at acceptable rates; this must be true for the blame aspects of the SOR movement to be true. What is the status of scientific research supporting this claim? There is *no current scientific research to support this claim*; most scholars have identified that NAEP (Loveless, 2016) and other measures of reading achievement have remained flat (see Figure 1 in the first section) and achievement gaps have remained steady as well for many decades predating the key elements blamed for reading failures.

The SOR story also claims teachers are not well prepared to teach reading and teacher educators either fail to teach evidence-based methods or willfully ignore the science. What is the status of scientific research supporting this claim? There is *no current scientific research to support this claim* although scholars have demonstrated that credible research is available on teacher knowledge of reading and teacher education, including identified needs for reform (Hoffman et al., 2020).

The media story asserts the current settled reading science is the “simple view” of reading (SVR). What is the status of scientific research supporting this claim? Scientific research *challenges* this claim since several literacy scholars have proposed that the active view of reading is more comprehensive than SVR (Duke & Cartwright, 2021;

Burns et al., 2023) and that SVR is inadequate for teaching reading comprehensively (Barber et al., 2021; Cervetti et al., 2020; Compton-Lilly et al., 2020; Filderman et al., 2022).

The SOR story centers a claim that systematic phonics instruction is superior to all other approaches for teaching beginning readers and thus necessary for all students. What is the status of scientific research supporting this claim? Current scientific research *challenges* this claim, showing that systematic phonics is no more effective than other approaches (balanced literacy, whole language) and confirming that systematic phonics can increase early pronunciation advantages but without any gains in comprehension and with that advantage disappearing over time (Bowers, 2020a, 2020b; Burns et al., 2023; Education Endowment Foundation, 2022; Wyse & Bradbury, 2022).

Mississippi has been heralded in the SOR story as a key example of the success of SOR reading policy, based on 2019 Grade 4 reading scores. What is the status of scientific research supporting this claim? There is *no current scientific research to support this claim*, and the SOR story omits that Mississippi has had steady Grade 4 reading improvement since the early 1990s (well before SOR) and that Mississippi Grade 8 scores have remained low, suggesting the Grade 4 gains are inflated (Thomas, 2019, 2023).

The source of low reading proficiency, the SOR story claims, is the dominance of balanced literacy and popular reading programs. What is the status of scientific research

supporting this claim? There is *no current scientific research to support this claim*. In fact, some of the most criticized programs are only adopted in about one in four schools suggesting that the variety of programs and practices make these claims overly simplistic at best. Journalists also often misidentify reading programs as balanced literacy that explicitly do not claim that label (Aukerman, 2022b).

Often the SOR story includes a focus on dyslexia, claiming that multisensory approaches (such as Orton Gillingham) are necessary for all students identified as dyslexic (and often that all students would benefit from that approach). What is the status of scientific research supporting this claim? Current scientific research *challenges* this claim and cautions against universal screening (Hall et al., 2022; ILA, 2016; Johnston & Scanlon, 2021; Romeo et al., 2022; Stevens et al., 2021).

Thus, the claims made in the SOR story are not supported by scientific research, and the criticisms offered by scholars appear valid. The media story is overstated and oversimplified even though nearly all literacy educators and scholars agree that too many marginalized students (minoritized students, special needs students, impoverished students, multilingual learners) are being underserved (which is a historical fact of U.S. education).

The SOR movement has created a predicament for the media story in that the standards being required for teachers and reading policy is an incredibly high and narrow threshold that (as I have shown above) the movement itself has not reached.

Again, scholarly criticism of the SOR story is nuanced and substantive, but at its core, that criticism is best represented by demonstrating that SOR advocates—especially the media—cannot meet the standard they propose for the field of teaching reading. Simply put, U.S. reading achievement is not uniquely worse now than at nearly any point in the last 80 years, and therefore, blaming balanced literacy, teachers, and teacher educators as well as popular reading programs proves to be a straw man fallacy. Reading instruction and achievement, of course, can and should be better. But the current SOR story is mostly anecdote, oversimplified and unsupported claims, and a lever for the education marketplace. Journalists and politicians are failing students far more so than educators by perpetuating a simplistic blame-game that fuels the education marketplace.

We are left, then, with needing to find a different story and a different way to reform education, specifically how we teach and understand reading. A first step would be to learn lessons from the very recent value-added methods (VAM).

## Lessons Never Learned From VAM to SOR

The U.S. is in its fifth decade of high-stakes accountability education reform. A cycle of education crisis has repeated itself within those decades, exposing a very clear message: We are never satisfied with the quality of our public schools regardless of the standards, tests, or policies in place. The 16 years of the George W. Bush and Barack Obama administrations were a peak era



of education reform, culminating with a shift from holding students (grade-level testing and exit exams) and schools (school report cards) accountable to holding teachers accountable (VAM).

The Obama years increased education reform based on choice and so-called innovation (charter schools) and doubled-down on Michelle Rhee’s attack on “bad” teachers (see the first section) and Bill Gates’s jumbled reform-of-the-moment approaches (in part driven

paralleled by the recent culture war fought in schools with curriculum gag orders and book bans stretching from K–12 into higher education.

Education crisis, teacher bashing, public school criticism, and school-based culture wars have a very long and tired history, but this version is certainly one of the most intense — likely because of the power of social media. The SOR movement, however, exposes once again that narratives and myths have far more influence in the U.S. than data and

but likely pertain to income/poverty). Observable and unobservable schooling factors explain roughly 20 percent, most of this (10–15 percent) being teacher effects. The rest of the variation (about 20 percent) is unexplained (error). In other words, though precise estimates vary, the preponderance of evidence shows that achievement differences between students are overwhelmingly attributable to factors outside of schools and classrooms. (Di Carlo, 2010)

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by stack ranking to eliminate the “bad” teachers and make room for paying great teachers extra to teach higher class sizes). Like Rhee and Gates, Secretary of Education Arne Duncan built a sort of celebrity status (including playing in the NBA all-star celebrity games) on the momentum of the myth of the bad teacher, charter schools, and arguing that education reform would transform society. None the less, by the 2010s, the U.S. was right back in the cycle of shouting education crisis, pointing fingers at bad teachers, and calling for science-based reform, specifically the SOR movement. Reading legislation reform began around 2013 and then the media stoked the reading crisis fire starting in 2018 (Thomas, 2022c). However, this new education crisis is now

evidence. In this final section, let’s look at a lesson we have failed to learn for nearly a century.

Secretary Duncan was noted for using “game changer” repeatedly in his talks and comments (Farmer, 2013), but Duncan also perpetuated a distorted myth that the teacher is the most important element in a child’s learning. As a teacher for almost 40 years, I have to confirm that this sounds compelling, and I certainly believe that teachers are incredibly important. Yet decades of research reveal a counter-intuitive fact:

But in the big picture, roughly 60 percent of achievement outcomes is explained by student and family background characteristics (most are unobserved,

Measurable student achievement is by far more a reflection of out-of-school such as poverty, parental education, etc., than of teacher quality, school quality, or even authentic achievement by students. Historically, for example, SAT data confirm this dynamic:

Test-score disparities have grown significantly in the past 25 years. Together, family income, education, and race now account for over 40% of the variance in SAT/ACT scores among UC applicants, up from 25% in 1994. (By comparison, family background accounted for less than 10% of the variance in high school grades during this entire time) The growing effect of family background on SAT/ACT scores makes it difficult to rationalize treating scores purely as a measure of individual merit or ability, without regard to differences in socioeconomic circumstance. (Geiser, 2020).

Let’s come back to this, but I want to frame this body of scientific research (what SOR advocates demand) with the SOR movement

claims that teachers do not teach SOR (because teacher educators failed to teach that) and student reading achievement is directly linked to poor teacher knowledge and instruction, specifically the reliance on reading programs grounded in balanced literacy (Aukerman, 2022a, 2022b, 2022c).

This media and politically driven SOR narrative is often grounded in a misrepresentation of test-based data, NAEP, as examined above (Loveless, 2016). Again, SOR claims do not match Grade 4 data on NAEP in terms of claiming we have a reading crisis (NAEP scores immediately preceding the 2013 shift in reading legislation were improving), that SOR reading policies and practices are essential (NAEP data have been flat since 2013 with a COVID drop in recent scores), and that 65% of students aren't proficient at reading (NAEP proficiency is higher than grade-level reading).

Now if we connect the SOR narrative with NAEP data and the research noted above about what standardized test scores are causally linked to, we are faced with a very jumbled and false story. Teacher prep, instructional practices, and reading programs would all fit into that relatively small impact of teachers (10–15%), and there simply is no scientific research that shows a causal relationship between balanced literacy and low student reading proficiency. Added to the problem is that balanced literacy and SVR have been central to how reading is taught for the exact same era (yet SOR only blames balanced literacy and aggressively embraces SVR as “settled science,” which it isn't).

One of the worst aspects of the SOR movement has been policy shifts in states that allocate massive amounts of public funds for retraining teachers, usually linked to one professional development model, LETRS (which isn't a scientifically proven model). Once again, we are mired in a myth of the bad teacher movement that perpetuates the compelling counter myth that the teacher is the most important element in a child's education. However, the VAM era ultimately failed, leaving in its ashes a lesson that we are determined to ignore:

VAMs should be viewed within the context of quality improvement, which distinguishes aspects of quality that can be attributed to the system from those that can be attributed to individual teachers, teacher preparation programs, or schools. Most VAM studies find that teachers account for about 1% to 14% of the variability in test scores, and that the majority of opportunities for quality improvement are found in the system-level conditions. Ranking teachers by their VAM scores can have unintended consequences that reduce quality. (American Statistical Association, 2014)

Let me emphasize: “[T]he majority of opportunities for quality improvement are found in the system-level conditions,” and not through blaming and retraining teachers shown to have only “about 1% to 14% of the variability in test scores.”

The counterintuitive part in all this is that teachers are incredibly

important at the practical level, but isolating teaching impact at the single-teacher or single-moment level through standardized testing proves elusive. The VAM movement failed to transform teacher quality and student achievement because, as the evidence from that era proves, in-school only education reform is failing to address the much larger forces at the systemic level that impact measurable student achievement. Spurred by the misguided rhetoric and policies under Obama, I began advocating for social context reform as an alternative to accountability reform (Thomas et al., 2014).

The failure of accountability, the evidence proves, is that in-school only reform never achieves the promises of the reformers or the reforms. Social context reform calls for proportionally appropriate and equity-based reforms that partner systemic reform (healthcare, well-paying work, access to quality and abundant food, housing, etc.) with a new approach to in-school reform that is driven by equity metrics (teacher assignment, elimination of tracking, eliminating punitive policies such as grade retention, fully funded meals for all students, class size reduction, etc.).

The SOR movement is repeating the same narrative and myth-based approach to blaming teachers and schools, demanding more (and earlier) from students, and once again neglecting to learn the lessons right in front of us because the data do not conform to our beliefs. I have repeated this from Martin Luther King Jr. (1967) so often I worry that there is no space for most of the U.S. to listen, but simply put: “We are likely to find that the

problems of housing and education, instead of preceding the elimination of poverty, will themselves be affected if poverty is first abolished.” Ultimately, as Gore (2023) concludes: “Blaming [teachers] means governments do not have to try and rectify the larger societal and systemic problems at play” (see Gore et al., 2023).

While it is false or at least hyperbolic messaging to state that 65% of U.S. students are not proficient readers, if we are genuinely concerned about the reading achievement of our students, we must first recognize that reading test scores are by far a greater reflection of societal failures — not school failures, not teacher failures, not teacher education failures.

And while we certainly need some significant reform in all those areas, we will never see the sort of outcomes we claim to want if we continue to ignore the central lesson of the VAM movement; again: “the majority of opportunities for quality improvement are found in the system-level conditions” (American Statistical Association, 2014). The SOR movement is yet another harmful example of the failures of in-school only education reform that blames teachers and makes unrealistic and hurtful demands of children and students. The science from the VAM era contradicts, again, the narratives and myths we seem fatally attracted to; if we care about students and reading, we’ll set aside false stories, learn our evidence-based lessons, and do something different.

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## NEPC's Guiding Principles for "Science of Reading" Legislation

According to their website, The National Education Policy Center (NEPC), a university research center housed at the University of Colorado Boulder School of Education, provides high-quality information in support of democratic deliberation about education policy. NEPC publications are written in accessible language and are intended for a broad audience that includes academic experts, policymakers, the media, and the general public. The following is an excerpt from the *Policy Statement on the Science of Reading* (2020). This joint statement from NEPC and the Education Deans for Justice and Equity provides guiding principles for what any federal or state legislation directly or indirectly impacting reading should and should not do (see page 18).

*It's time for the media and political distortions to end, and for the literacy community and policymakers to fully support the literacy needs of all children. Much of the legislation beginning to emerge is harmful, especially to students living inequitable lives and attending underfunded, inequitable schools. ...*

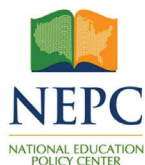
*... At the very least, federal and state legislation should not continue to do the same things over and over while expecting different outcomes. The disheartening era of NCLB provides an important lesson and overarching guiding principle: Education legislation should address guiding concepts while avoiding prescriptions that will tie the hands of professional educators. All students deserve equitable access to high-quality literacy and reading instruction and opportunities in their schools. This will only be accomplished when policymakers pay heed to an overall body of high-quality research evidence and then make available the resources necessary for schools to provide our children with the needed supports and opportunities to learn.*

Since several states have passed or are rushing to pass education legislation targeting reading practices and policies, here are guiding principles for what any federal or state legislation directly or indirectly impacting reading **should** and **should not** do:

- **Should not** fund or endorse unproven private-vendor comprehensive reading programs or materials.
- **Should not** adopt “ends justify the means” policies aimed at raising reading test scores in the short term that have longer-term harms (for example, third-grade retention policies).
- **Should not** prescribe a narrow definition of “scientific” or “evidence-based” that elevates one part of the research base while ignoring contradictory high-quality research.
- **Should not** prescribe a “one-size-fits-all” approach to teaching reading, addressing struggling readers or English language learners (Emergent Bilinguals), or identifying and serving special needs students.
- **Should not** prescribe such a “one-size-fits-all” approach to preparing teachers for reading instruction, since teachers need a full set of tools to help their students.
- **Should not** ignore the limited impact on measurable student outcomes (e.g., test scores) of in-school opportunities to learn, as compared to the opportunity gaps that arise outside of school tied to racism, poverty, and concentrated poverty.
- **Should not** prioritize test scores measuring reading, particularly lower-level reading tasks, over a wide range of types of evidence (e.g., literacy portfolios and teacher assessments), or over other equity-based targets (e.g., access to courses and access to certified, experienced teachers), always prioritizing the goal of ensuring that all students have access to high-quality reading instruction.
- **Should not** teacher-proof reading instruction or de-professionalize teachers of reading or teacher educators through narrow prescriptions of how to teach reading and serve struggling readers, Emergent Bilinguals, or students with special needs.
- **Should not** prioritize advocacy by a small group of non-educators over the expertise and experiences of K–12 educators and scholars of reading and literacy.
- **Should not** conflate general reading instruction policy with the unique needs of struggling readers, Emergent Bilinguals, and special needs students.

And therefore:

- **Should** guarantee that all students are served based on their identifiable needs in the highest quality teaching and learning conditions possible across all schools:
  - Full funding to support all students’ reading needs;
  - Low student/teacher ratios;
  - Professionally prepared teachers with expertise in supporting all students with the most beneficial reading instruction, balancing systematic skills instruction with authentic texts and activities;
  - Full and supported instructional materials for learning to read, chosen by teachers to fit the needs of their unique group of students;
  - Intensive, research-based early interventions for struggling readers; and
  - Guaranteed and extensive time to read and learn to read daily.
- **Should** support the professionalism of K-12 teachers and teacher educators, and should acknowledge the teacher as the reading expert in the care of unique populations of students.
- **Should** adopt a complex and robust definition of “scientific” and “evidence-based.”
- **Should** embrace a philosophy of “first, do no harm,” avoiding detrimental policies like grade retention and tracking.
- **Should** acknowledge that reading needs across the general population, struggling readers, Emergent Bilinguals, and special needs students are varied and complex.
- **Should** adopt a wide range of types of evidence of student learning.
- **Should** prioritize, when using standardized test scores, longitudinal data on reading achievement as guiding evidence among a diversity of evidence for supporting instruction and the conditions of teaching and learning.
- **Should** establish equity (input) standards as a balance to accountability (output) standards, including the need to provide funding and oversight to guarantee all students access to high-quality, certified teachers; to address inequitable access to experienced teachers; and to ensure supported, challenging and engaging reading and literacy experiences regardless of student background or geographical setting.
- **Should** recognize that there is no settled science of reading and that the research base and evidence base on reading and teaching reading is diverse and always in a state of change.
- **Should** acknowledge and support that the greatest avenue to reading for all students is access to books and reading in their homes, their schools, and their access to libraries (school and community).



National Education Policy Center & Education Deans for Justice and Equity (2020, updated Jan. 26, 2022). *Policy statement on the “science of reading.”* (pp. 4–10). CC-BY 4.0 license. <http://nepc.colorado.edu/publication/fyi-reading-wars> [See online document for notations and references.]