Beginning Reading: Policy Decisions and Instructional Consequences

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As Australian educators and policy makers consider how best to help beginning readers, it may be useful to review similar American attempts and learn from the American experience.

Background: The National Reading Panel

For the past twenty years, American reading instruction, especially in the early grades, has been dominated by a report from the government-established National Reading Panel (NRP). The group was charged with reviewing reading research in order to determine the best way to teach reading with particular attention to beginning reading. The NRP consisted of eleven university professors, two of whom were administrators who were not familiar with reading instruction or research; one middle school teacher; one school district superintendent; and one parent who was a CPA. The panel reviewed studies that met their criteria for experimental research and focused on studies in five areas: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

When their report, *Teaching Children to Read,* was published (NRP, 2000), it included a Minority View that was written by the school superintendent, Joanne Yatvin. A professional with 40 years of experience and in-depth knowledge of elementary-school instructional programs, she noted that the panel had not answered the questions it was charged with answering, had focused too heavily on only one type of research, and had provided little useful guidance to practitioners or policy makers. Soon after, she expressed further concern about the panel not considering diverse views of the reading process and about the consequences that might ensue from the report's limited scope (Yatvin, 2002). She later enumerated key misconceptions about the report that were taking hold in the minds of educators and the public (Yatvin, 2003) and that were the foundation of the highly influential government mandate of 2001, *No Child Left Behind*. Many of these misconceptions are still held today and are the foundation of policies that continue to dictate American early reading instruction and the development of commercial literacy materials.

A major source of misconceptions stemmed from *Put Reading First* (National Institute for Literacy, 2001), a government-funded publication that was presented as a summary of the NRP report and was widely used by schools as a guide to instruction. For example, the introduction to *Put Reading First* states that the NRP considered over 100,000 studies, implying that the panel had done an extensive review of research. However, the NRP report states that: "approximately 100,000 research studies on reading have been published since 1966, with perhaps another 15,000 appearing before that time. Obviously, it was not possible for a panel of volunteers to examine critically this entire body of research literature" (p 1-1). The panel actually reviewed a total of 428 studies, not 100,000.

Put Reading First also states that "an extensive knowledge base now exists to show us the skills children must learn in order to read well" (p i) and lists the five topics on which the NRP had decided to focus. However, the original NRP Report stated that these five were not "the *only* topics of importance in learning to read" and further asserted that "the Panel's silence on

other topics should not be interpreted as indicating that other topics have no importance or that improvement in those areas would not lead to greater reading achievement. It was simply the sheer number of studies identified by Panel staff relevant to reading ... that precluded an exhaustive analysis of the research in all areas of potential interest" (NRP, p 1-3). As Yatvin (2003) noted, the panel identified 35 other topics that were worthy of consideration but that they did not have time to investigate, including early language development, balanced reading instruction, motivational factors, various practices that were commonly used in classrooms (e.g., encouragement of invented spelling, use of predictable texts, and the integration of reading and writing instruction), and many more. She stressed that what *Put Reading First* presented as the five essentials for learning to read were never presented as the essentials in the NRP report.

It is also widely assumed that the NRP demonstrated definitively that systematic, explicit phonics instruction should be the priority for children in the elementary grades, but Yatvin (2003) noted otherwise. For example, she pointed to the panel's conclusions that phonics instruction was not useful beyond Grade 1 for students who were making normal progress in reading and was not useful for students in Grades 2-6 who were low-achieving readers. She concluded her article by saying:

> So far, all that has been heard is the "official line" from individuals and groups with their own vested interests, and who, at best, were working behind the scenes while the NRP was producing its report. An honest debate between those in the know would go far to serve the public interest.

The Educational Consequences of the NRP Report

The consequences of the NRP's report rippled out in the following years, despite the cautions voiced by Yatvin and many other reading professionals (e.g., Allington, 2002). Authorities and policy makers stressed the critical importance of teaching sound-letter associations, and parents developed those same expectations. Pre-service and in-service education steered primary-grade teachers towards increasing their instruction in phonemic awareness and phonics. Commercial publishers developed skill packages that met an ever-growing demand, and measurements were devised to track children's progress.

A battery of tests for Grades K-6 known as the Dynamic Indicators of Basic Early Literacy Skills, or DIBELS (Good and Kaminski, 2002), was used extensively, despite its unpopularity among many classroom teachers. DIBELS was funded in part by the federal government in response to the NRP report, and schools nationwide required teachers to use the battery. The one-on-one tests involve asking children to recognize and produce initial sounds in words, name letters presented in random order, segment words into their individual phonemes, read nonsense words, and read a short passage aloud for one minute. The widespread use of this battery reinforced the notion that the skills measured were the essential components of beginning reading, and teachers consequently spent increasing amounts of time teaching those skills.

That phonemic awareness and phonics knowledge are the first, essential steps to reading remains the prevailing view today and is considered by many to be the final and uncontestable view. The term "settled science" is regularly used in America (e.g., Stukey, Fugnitto, Fraser and Sawyer, 2019; Finne, 2019), and the same perspective is being voiced in Australia (e.g., Buckingham and Wheldall, 2018).

Questioning "Settled Science"

If the NRP's direction had been a valid one, Americans would have seen steadily increasing rates of literacy after the issuance of the influential report, but the results of the National Assessment of Education Progress (NAEP) for grades 4 and 8 have shown very similar results, year after year, from 1992 through 2019. Students in these grades are reading no better now than before, despite billions of dollars spent on policies and programs that have made decoding the priority in the elementary grades. Representative students' scale scores, on a 500-point scale, are shown below, as reported by *The Nation's Report Card* (NAEP, 2019).

Grade 4				
1992	1998	2009	2017	2019
217	215	221	222	220
Grade 8				
1992	1998	2009	2017	2019
260	263	264	267	263

By the year 2009, students would likely have received extensive phonics instruction in the early grades, and we do see a slight uptick from 1992, but much of that very small difference can be accounted for by later accommodations for disabled students that had not been allowed in 1992. At grade 8, the 2009 score is a mere one point higher than the 1998 score, and the 2019 scores in grade 8 show no growth whatsoever between 1998 and 2019. Deeper analysis of NAEP scores shows that any minor growth that has been attained has been made by students in the highest quartile. Students in the lowest quartile have shown no significant growth in over 20 years (NAEP, 2019). The billions of dollars spent mandating phonemic awareness and intensive phonics programs in the early grades in U. S. classrooms have resulted in no real progress in reading achievement. These data provide a compelling reason to question the so-called settled science.

Taking a Closer Look at Science

Scientists in many fields often look at different aspects of an issue, use different research methodologies, interpret data differently, and offer different conclusions. The same is true among literacy researchers. Some define reading as a matter of translating written symbols into oral language and contend that learning the code is of primary importance. These researchers tend to favor *experimental studies* with control and treatment groups and specific hypotheses about decoding that can be rejected or accepted. Subjects are given carefully-controlled tasks, involving individual letters or sounds, individual words, or isolated sentences. Observing subjects' ability to decode the written symbols is the priority.

Other literacy researchers define reading as a meaning-oriented process in which the reader's knowledge of language and knowledge of the topic are as important as sounding out letters and words. These researchers may use experimental research but also value *descriptive analytic studies* in which individuals' reading behavior is observed with an eye to finding patterns or trends. Subjects are given tasks involving extended texts in natural settings, such as reading several paragraphs of a text aloud, and the researchers observe the meaning cues, language cues, and sound/letter cues that the subjects use. Observing what the subjects do to interpret the author's meaning is the priority.

Both experimental and descriptive analytic research are scientific in that they use systematic procedures that can be replicated, and both provide useful insights. Yet in America, those who favor one type of research have tended to look suspiciously at those who favor the other without fully acknowledging that the way reading is defined determines what behavior researchers observe and measure. The different definitions have led to deeply entrenched groups protecting their turfs and not always respecting or addressing other perspectives, like political factions espousing different ideologies.

To establish state or national literacy policy or to determine massive expenditures to schools on the basis of one definition of reading or one type of research is very short-sighted. And for those who hold one view to co-opt the mantle of science, proclaiming all to be settled, while dismissing other perspectives, is indefensible. Experimental studies, descriptive analytic research, case studies, factor analysis, and more are all potentially useful sources of information.

It is also important to consider the extent to which reading research is in tune with the realities of the classroom. Much of the experimental research does not easily translate into classroom practice, a point Yatvin (2000) made in her Minority Report. She maintained that teachers should have been asked to review the NRP's conclusions with an eye to determining their utility. We also note that if the NRP had included experienced primary-grade teachers, practicing reading clinicians, and reading teachers, the choice of research to review and the conclusions drawn would almost certainly have been quite different.

What Have We Been Missing?

It is time to broaden our view and consider what is being overlooked by those who claim the science is settled. Although much research was available to the NRP in the 1990s, the panel considered a very limited subset. We highlight here a few of the important considerations that need to be brought back into the minds of educators, researchers, policy makers, and parents.

Language and Reading. Over many years, research in linguists, psycholinguistics, and language development has yielded significant knowledge that is highly relevant to beginning reading. For example, we have known for decades that children entering school with the strongest facility in talking and listening turn out to be the best readers and writers (Loban, 1963). Numerous experts agree that even for beginning readers, pronouncing a word often involves uncertainty that can be resolved only by first considering the context within which the word occurs (e.g., Strauss, 2005; Smith, 2006; Fries, 2008), and we know that the ability to use context is highly dependent on the reader's command of oral language. The process of writing, too, is a critical literacy behavior rich with research findings that are highly relevant to reading (e.g., Graves, 1983).

Discoveries in Cognition and Neuroscience. Although much information was available to the NRP about cognition and neuroscience, they did not give any significant attention to these areas. Furthermore, research in these areas has advanced considerably since they published their report. For example, when the NRP report was being prepared, *The Scientist in the Crib* by Gopnik, Meltzoff, and Kuhl (1999) was published, presenting strong evidence that young children are active, inquisitive meaning makers from birth, a perspective that is directly relevant to beginning reading.

With regard to specific brain functioning, Strauss, Goodman, and Paulson (2009) have pointed out that ten times as many signals travel from the cortex to the sensory organs than travel in the other direction. They noted that the higher-level functions of the cortex are used to anticipate or predict sensory input, such as the visual information on a page. Thus, when reading, the brain does not passively receive information from the eyes and make sense of the input after the fact but rather generates predictions that actually influence what the reader perceives on the page. The predictions come from what the reader is expecting to see, given the reader's prior knowledge and language ability. For example, when reading aloud, it's not uncommon for readers to insert words that are not in the text, as when a child sees "the tiny baby" and says "the tiny little baby." Such insertions are not prompted by what is on the page. The only reasonable explanation for them is that the reader's cognitive/linguistic expectations override the visual details of the text. Thus, instruction that focuses only, or primarily, on input to the cortex (e.g., processing individual letters or words) is at odds with how children's brains work. Goodman, Fries, and Strauss (2016) make a strong case for a careful examination of the reading process from this cognitive-neurological-linguistic perspective, providing firm support for the views expressed by scholars in earlier years (e.g., Britton, 1982).

Eye-movement Research. For many years, eye-movement studies have consistently shown that readers do not look at every word when they read, with estimates of fixations (the words on which a reader's eyes pause) ranging from 50% to 80% of the words in a text (Paulson and Goodman, 2008, p 32). In recent years, technical advances in eye-movement research have led to a clearer understanding of just what readers do when they read. Consider, for example, the substitutions and omissions individuals make when reading aloud, e.g., saying *that* for *there* or not saying words that appear in the text as well as inserting words that do not appear in the text. These responses demonstrate that early reading is a far more dynamic process than a simple linear translation of letters into sounds. Some theorists claim that readers have not looked at the original words and that their inattention accounts for the anomalies. However, Paulsen (2008) has shown that readers actually fixated "a higher percentage of substituted words than the percentage of words fixated overall" and that "the average duration of fixations relative to substitutions tended to be longer than the average duration of all fixations." That is, when a reader substitutes a word in the text, the reader tends to look closely and for a longer time at the original word than at the other words they fixate. Paulson found the same to be true for words that were omitted during oral reading. Rather than skipping over these words carelessly, readers tended to fixate them "for a considerable period of time" yet still omitted them from their oral reading of the text.

Duckett (2008) made similar observations of beginning readers. He found that none fixated every word and yet all accurately read all the words they did not fixate. When the same word appeared more than once in a text, the amount of time the youngsters fixated the word varied with the context, and they sometimes did not fixate the word at all. Also, when their oral reading did not match the text, the young readers fixated the original words longer than their average fixation time. These are only a few of the observations Duckett made his young subjects. He concluded that their reading behavior did not match the prevailing view of beginning reading:

> The fact that readers in this study (and proficient adult readers) do not fixate every word as they read implies that reading is not a word-by-word identification process. If instruction focuses on having readers fixate every word in print, then the reading process

will be influenced in ways that run contrary to what proficient readers do when reading. Instructional practices that demand that readers look at every word (or every letter) will slow the reading process, making comprehension more difficult" (p 124).

The Limitations of Phonics. Steven Krashen is a researcher with decades of experience observing language acquisition and literacy development. Here are a few of his conclusions relating to research on phonemic awareness (PA) and phonics:

- "The weak impact of PA training on tests of reading comprehension casts serious doubt on the claim that PA training helps children learn to read. There is also reason to doubt the claim that PA, whether developed through training or developed without formal training, helps children learn to read. There are many recorded cases of children with low and even no PA learning to read" (Krashen, 2003).

- "Children following an intensive decoding-based curriculum do better on tests of decoding (pronouncing words out-loud) when compared to regular students but do no better on measures of reading comprehension" (Krashen, 2009).

- "Children who have been given the opportunity to do a great deal of interesting, comprehensible reading and have less decoding instruction perform as well as or better than children in decoding-emphasis classes on decoding tests, and typically score higher on tests that test what really counts in reading: comprehension" (Krashen, 2019).

A heavy emphasis on phonics does not address the issue of children having more than adequate word-identification skills while being unable to comprehend extended texts. In a particularly informative study by Valencia & Buly (2004), the researchers identified a random sample of 108 entering fifth grade students who had failed to meet the standards of the state reading assessment administered at the end of grade four. Administering a battery of assessments, they identified six profiles of students. Their evidence clearly demonstrated that students fail state reading tests for a variety of reasons. They conclude that "...placing all struggling readers in a phonics or word identification program would be inappropriate for nearly 58% of the students in this sample who (already) had adequate or strong word identification skills" (p.528). Only17% of this random sample of 108 students appeared to need more instruction in phonics or word identification skills. In addition, one profile of students, consisting of 24% of the sample, scored an average of 6th grade in word identification but were slow readers, suggesting that highly skilled word recognition does not necessarily translate to fluent reading. The research evidence is clear. A heavy emphasis on intensive systematic phonics does not represent the instructional needs of a majority of struggling readers.

Independent Reading. Independent reading, traditionally deemed to be a vital part of reading programs, has lost its former status. *Put Reading First* made that clear in a question-answer format:

What should I do about silent, independent reading in the classroom?
Reading fluency growth is greatest when students are working directly with you. Therefore, you should use most of your allocated reading instruction time for

> direct teaching of reading skills and strategies. Although silent, independent reading may be a way to increase fluency and reading achievement, it should not be used in place of direct instruction in reading (National Institute for Literacy, 2001, p 25).

This directive is especially questionable when we consider the many children who do not have a quiet place to read at home or books to read, a point that Allington and McGill-Franzen (2014) made in describing their experimental research in seventeen high poverty American schools. After three summers of being given free books (self-selected by the children, starting in first and second grade), the experimental group significantly outperformed the no-book control group on a standardized reading test with an effect size comparable to that associated with school attendance or participation in a special summer program. The authors point out that children in high-poverty situations are less likely to read during the summer, when school is not in session, in comparison to their more affluent peers, a phenomenon that they call the "summer reading setback." (American students typically have two months or more in the summer when they do not attend school.) The authors assert that "teachers in low-income schools must produce three to four months additional growth every year compared to teachers in middle class schools, just to keep academic growth even with middle class kids. This added growth is needed to wipe out the effects of summer reading setback."

Allington's and McGill-Franzen's findings confirm what Krashen (2004) found about the value of independent reading. (Krashen, 2012) further found that access to books in libraries is the best predictor of reading achievement on fourth-grade scores on the National Assessment of Educational Progress (NAEP) in multiple studies across the United States, and he found the same results when he analyzed data across 40 countries, using scores on the Progress in International Reading Literacy Study (PIRLS).

Conclusions

The glaring omissions and weaknesses of the NRP report show that the document should never have influenced American policy as it did, despite its declared focus on science, and should not have influenced educators outside of America, as it assuredly did. As Dorothy Suskind (2020) observes, "the 'science of reading' has stripped away the dynamic interplay of experiences that grow a child into a reader and a writer and centered the literacy process solely atop phonics. This narrow plotline disregards the impact of writing, comprehension, culture, play, mentor texts, family, and the power of a teacher-researcher to individualize instruction."

We agree. But we do not want to discard science. We want instead for educators, policy makers, and the public to base their decisions on a wide variety of scientific explorations that include descriptive analytic studies as well as experimental studies and other investigations. We want to see researchers consider the decades of sound research into reading as a meaning-oriented process and also attend to more recent discoveries in cognition, neurology, linguistics, and language development. We also want to see educators and policy makers have an open mind about discoveries that may result from future scholarly work in reading. And we want to see full respect and attention accorded to the observations of experienced classroom teachers who work most closely with the children we are all trying to help succeed.

We also want to see a more intelligent focus on the teacher's use of instructional time. Instructional time is finite with only so many teachable minutes. If an inordinate amount of time

is spent on phonemic awareness and phonics instruction in the earliest stages of learning to read, there is not sufficient time remaining to focus on numerous other literacy learning experiences that are critical to becoming a successful reader. This is not to argue against phonics and word study as an instructional component in the early stages of learning to read. Most beginning readers, as well as struggling readers, will profit from such instruction but only if it is balanced with other critical components of the learning to read process. Especially important is for comprehension to be seen as integral to reading from the start, not delayed until students have supposedly mastered decoding skills.

With all of the foregoing in mind, we offer these recommendations to our Australian friends and colleagues who seek to help beginning readers:

- Experienced, practicing teachers and others with considerable classroom experience at the relevant grade levels should have a prominent voice in the crafting of policy and decision making.

- Decision makers and policy writers need to consult reading researchers who represent diverse views of the reading process, not to reignite any so-called reading wars but to ensure that policies and decisions are not based on narrow perspectives. In particular, those in charge should use perspectives that include phonics as a component of reading, not as the essential component.

- Policy writers and decision makers need to consider research from the past 50 years in cognitive science, neurological science, language development, and the connections between reading and writing that help children learn both more effectively.

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