

## **My Research Journey With Reading Recovery**

Reading Recovery stands at the center of a contentious debate within the realm of education. Viewed by some as the quintessential model for reading intervention, it is lauded for its purported effectiveness and constructivist teaching model. However, amidst the accolades, Reading Recovery fosters an equally potent sentiment of skepticism and discord. For a significant faction, it embodies not just a pedagogical approach, but a divisive symbol of “balanced literacy instruction”. In particular, dyslexia advocates have been strongly opposed to Reading Recovery, claiming that it does not work for their students. Indeed, as the “Science of Reading” movement has increased in popularity, Reading Recovery has become a frequent target for aggressive criticism.

I have reviewed Reading Recovery many times, and my opinion of it has changed multiple times, over the years dramatically. The first time I reviewed Reading Recovery was in 2018, right after a large debate between Dyslexia advocates and Reading Recovery. I invited Dr. Donna Scanlon and Dr. Steve Dykstra on the podcast to discuss the issue, Dr. Dykstra to represent the negative and Dr. Scanlon to represent the affirmative. At the time, only Dr. Scanlon agreed. I remember thinking that she sounded quite reasonable and agreeing with most of what she had to say. Indeed, I even let her host a guest blog on my website, since then I have removed the episode from my podcast catalog, because many of the comments made no longer reflect my current beliefs.

The main criticism of the time seemed to be that Reading Recovery did not include phonics instruction. However, Dr. Scanlon claimed that Reading Recovery was not anti-phonics. Moverover, the company website listed phonics as being a core part of Reading Recovery. I reviewed the research on the topic, and found a 2016 meta-analysis by Jerome D'Agostino Sinéad J. Harmey. The meta-study showed a mean effect size of .59 for Reading Recovery and I concluded Reading Recovery is an effective approach/evidence based.

The issue nagged at me though. So many, in what used to be referred to as the evidence based literacy instruction movement, (what is now referred to as the Science of Reading) movement, seemed very against Reading Recovery. Yet, at the time, the research seemed to be very clearly positive to me. Indeed, not only was there a meta-analysis showing strong positive results and dozens of experimental studies, but the US government, via What Works ClearingHouse had also concluded that Reading Recovery was evidence based. Indeed their analysis rates Reading Recovery research as strong and shows a mean effect size of .84, across domains. Similarly, Evidence for Essa (John Hopkins) also reviewed Reading Recovery and rated their research as strong. They found a mean effect size of .43.

On the contrary, the NRP meta-analysis (2000) seemed to suggest Reading Recovery was ineffective. On page 52, of the report, it lists Reading Recovery as a whole language program. The report also concluded on page 137 that systematic phonics out performed whole-language by an effect size of .31. In 2020, I decided to dip my toe into meta-analysis and examine the issue. I searched for studies in the Education Source Data-base and the

company website. I found a small number of studies and evaluated their effectiveness, using Cohen's average. I forget the exact effect size, I found, but it was roughly .35. This effect size is a little bit below the mean overall effect size found by the NRP for phonics of (.41) and I concluded that Reading Recovery was slightly less effective than equivalent phonics approaches.

It was a pretty unrigorous attempt. (But it was one of my first attempts at meta-analysis and I have no formal training). My systematic search was not nearly wide enough and I used Cohen's average, which although the easiest effect size formula to use, is not the most rigorous. In 2021, I tried again. I switched to Cohen's  $d$ , which is more rigorous. I widened my search slightly. And I found a mean effect size of .38. It was roughly the same finding. However, I must admit the Reading Recovery effect size of .38 and the NRP phonics effect size of .41 are not that far off! Again, I concluded that Reading Recovery did benefit students, but that it was less effective than other phonics approaches.

In 2022, *The Sold a Story* podcast came out. The author Emily Hanford (no relation, despite hilarious gossip, about are similarly spelled names), suggested that Reading Recovery might produce negative longitudinal outcomes, due to the use of "three cueing". She based this theory on the recently shared finding of a longitudinal study by Henry May, Philip Sirinides, Abigail Gray and Heather Goldsworthy (2022). This study showed that Reading Recovery produced strong positive findings over the short term, but that in the long term, students who received one on one Reading Recovery instruction did worse than students who received no additional instruction. The podcast was explosive, it inspired hundreds of thousands of teachers to give up "balanced literacy". States and countries began passing so-called "science of reading" laws, that banned practices like three cueing and mandated systematic phonics instruction.

Reading Recovery advocates were also very upset. There were many rebuttals written. In 2022, Reading Recovery claimed that the assertion that their program over the long term led to worse results than no instruction was not supported by research and provided a bibliography of longitudinal studies, as evidence. I went through their bibliography one study at a time and much to my surprise, while some studies did indeed show positive results over the long term, many of the studies they cited actually showed the same negative findings of (May, 2022). I updated my non peer-reviewed Reading Recovery meta-analysis and blog article with the help of Joshua King, Sky McGlynn, and Dr. Kathryn Garforth, accordingly. The new results suggested that Reading Recovery showed positive benefits over the short term and negative benefits of the long term (2 or more years). I was shocked by this finding. However, it seemed to support the (May, 2022) finding and Emily Hanford's hypothesis.

However, again there were limitations with my methods. Most importantly, I weighted effect sizes purely based on the sample size of studies, and I used the pre-test sample sizes to do so. Not only does this overly weight effect sizes towards the results of larger studies, it also ignores the impact of attrition. A better method would have been to weight effect sizes, based on the standard error (otherwise referred to as the inverse variance method). The largest study

by far in the study at pre-test was (May, 2022) with over 70 000 participants. However, the study also had over 70% attrition levels (students who dropped out of the study). In other words, my analysis reflected the same findings of the (May, 2022) study, because my weighting methods, biased my results to do so!

In January of 2023, I realized that I had learned a lot about meta-analysis, and decided to try one more time at conducting a meta-analysis on Reading Recovery. I partnered with Dr. Scott Dueker, and his research assistant Jill Grande. We took the initial research that I did with Joshua King, Sky McGlynn and Dr. Kathryn Garforth and expanded our search. Together we screened 813 Reading Recovery studies and articles. We included any studies that were experimental, had sample sizes above 10, and included sufficient data reporting for us to calculate a Cohen's d effect size. Studies were excluded, if they reported effect sizes, without stating their calculation method or did not have a control group. In total we found 19 studies. We calculated effect sizes by subtracting the mean difference in post-test scores between the treatment group and control group and by dividing this difference with the pooled standard deviation.  $[d=(m1-m2)/((\sqrt{SD1^2+SD2^2})/2)]$ . All effect size calculations and coding decisions were done independently and then consensus meetings were held. In the event of a dispute, we both re-read the study and discussed until we reached 100% consensus.

**The Result:**

Our meta-analysis showed a mean overall effect size of .07, a weighted mean effect size of -.13, 95% CI = [-.21, .35]. These results suggest that the average Reading Recovery study shows a negligible to negative benefit. Seven of the reviewed studies were longitudinal. Across these 7 longitudinal studies we found a mean weighted effect size of negative .26. These results suggest that over the long term, students who receive Reading Recovery instruction do worse than students who do not. However, many Reading Recovery studies used non-equivalent groups, in which the treatment group was composed of struggling readers and the control group was composed of average readers or in which the treatment group received one on one instruction and the control group did not. These study designs likely lead to more random effect size results. The following table shows the effect sizes that we found for individual outcomes.

Moderator Variable	Number of Studies	Unweighted Mean Effect Size	Weighted Mean Effect Size	95% Confidence Intervals
Design Variables				
Longitudinal	7	-.18	-.26	[-.73, .35]
Short Term	13	.30	-.06	[-.04, .66]
Equivalent	8	.27	.43	[-.18, .72]

Design				
Non-Equivalent Design	14	-.04	-.19	[-.43, .34]
RCT	14	.20	-.21	[-.13, .55]
Quasi-Experimental	8	-.17	.14	[-.73, .39]
Assessment Measurements				
Standardized Assessments	17	.03	-.10	[-.28, .35]
Proximal Assessments	5	.18	-.23	[-.74, 1.11]
Reading	12	.50	-.06	[-.03, 1.04]
Comprehension	3	.05	-.85	[-2.01, 2.12]
Spelling	5	.15	-.50	[-.84, 1.15]
Decoding	2	-.22	.04	[-4.41, 3.97]
Phonemic Awareness	4	.05	-.08	[-.06, .17]
Fluency	7	-.64	-.33	[-1.21, -.06]

There are hundreds of papers and dozens of experimental studies on Reading Recovery, making it one of the most well studied reading programs in existence. To date, the only peer-reviewed meta-analysis of Reading Recovery that we are aware of shows a large positive effect size, of .59. Moreover, both Evidence for ESSA and WWC have found large positive effects as well. That said, we believe that the analyses conducted by previous scholars are incomplete, as they did not account for the longitudinal impacts of Reading Recovery, which in our interpretation are negative. In our opinion, this finding is especially relevant, when you consider the high cost of the Reading Recovery program. Our analysis suggests that Reading Recovery is not currently an effective method for teaching struggling readers and we intend to submit this meta-analysis for peer-review over the next upcoming weeks.

While our study found negative findings for Reading Recovery, the program is not without its merits. It is an intensive, one on one reading intervention, with large amounts of fluency and comprehension instruction. Users of the approach cite many hours of training and collective self-efficacy as being among the benefits. Moreover, we are convinced that Reading Recovery teachers are strongly committed to helping their students. It is impossible to know

from this research, why exactly Reading Recovery shows such low effect sizes. However, we do think that the program could better align to existing research. Specifically, we would suggest that the program include:

- A scope and sequence indicating an order for specific letter sound grapheme correlations to be taught.
- More explicit instruction on phonics and phonemic awareness.
- More explicit instruction on morphology.

While we look forward to going through the peer-review process with this research; we also want to acknowledge that this research is not yet peer-reviewed and that these findings are in direct contrast with previous peer-reviewed syntheses and literature reviews. \*On a side note, Pedagogy Non Grata, has received some criticism for doing a large amount of original research without peer-reviewing it. We recognize that this is a valid criticism. With this paper, we have 9 manuscripts somewhere along the peer-review process and we will be conducting no more new large-scale research, until we have finished peer-reviewing some of those 9 manuscripts!

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