

# Putting the tract in tractor

Dragging literacy instruction  
out of the Dark Ages

THINK FORWARD EDUCATORS  
May 2023

Marshall Roberts



An aerial photograph of a rural landscape. The foreground shows rolling green hills with scattered trees. The middle ground is dominated by a dense forest of tall, thin trees. Beyond the forest, there are green fields, a winding road, and a small cluster of buildings. The background features more rolling hills and a small pond.

# Introduction

Melukerdee country

Questions, references

*Apologies in advance...*

Backstory

Summary of 'reading wars' science

Scientists actually know stuff

Intro to dyslexia

My 'hot takes' from the literature (or 'a layman speculates')

Comparison of Ed & Ag

Some resources

*There will be jargon...*

WHO AM I?

...and what qualifies  
me to talk about  
literacy instruction?

VERY LITTLE.

BUT PLEASE STAY... THERE'S SOMETHING FOR EVERYONE.

# 'Angry Farmer'



Mr Roberts' approach is turning things around for his step-daughters. (ABC News: Jordan Young)



# Merchants of Illiteracy?

*A Tasmanian kid's chance of leaving school literate is currently roughly the same as winning a coin toss (48% of Tasmanians of working age are functionally illiterate). Teachers say (and genuinely believe) that they're using evidence-based teaching methods, but scientists are saying schools are 30-40 years behind the evidence. Teachers aren't the problem, though, it's the academics who are teaching the teachers that science has nothing to offer, and now they're also advising our education department staff at the highest levels.*

 Share 447

*Something is rotten  
in the state of Tasmania*  
Podcast (18:30) summary

Read the full paper (v2)

Audiobook of the paper

WHAT WAS  
BEHIND THE  
PAPER?

Around 15 years of  
'experiences' with the  
public school system.



Age 5: adding in thousands

Age 6:

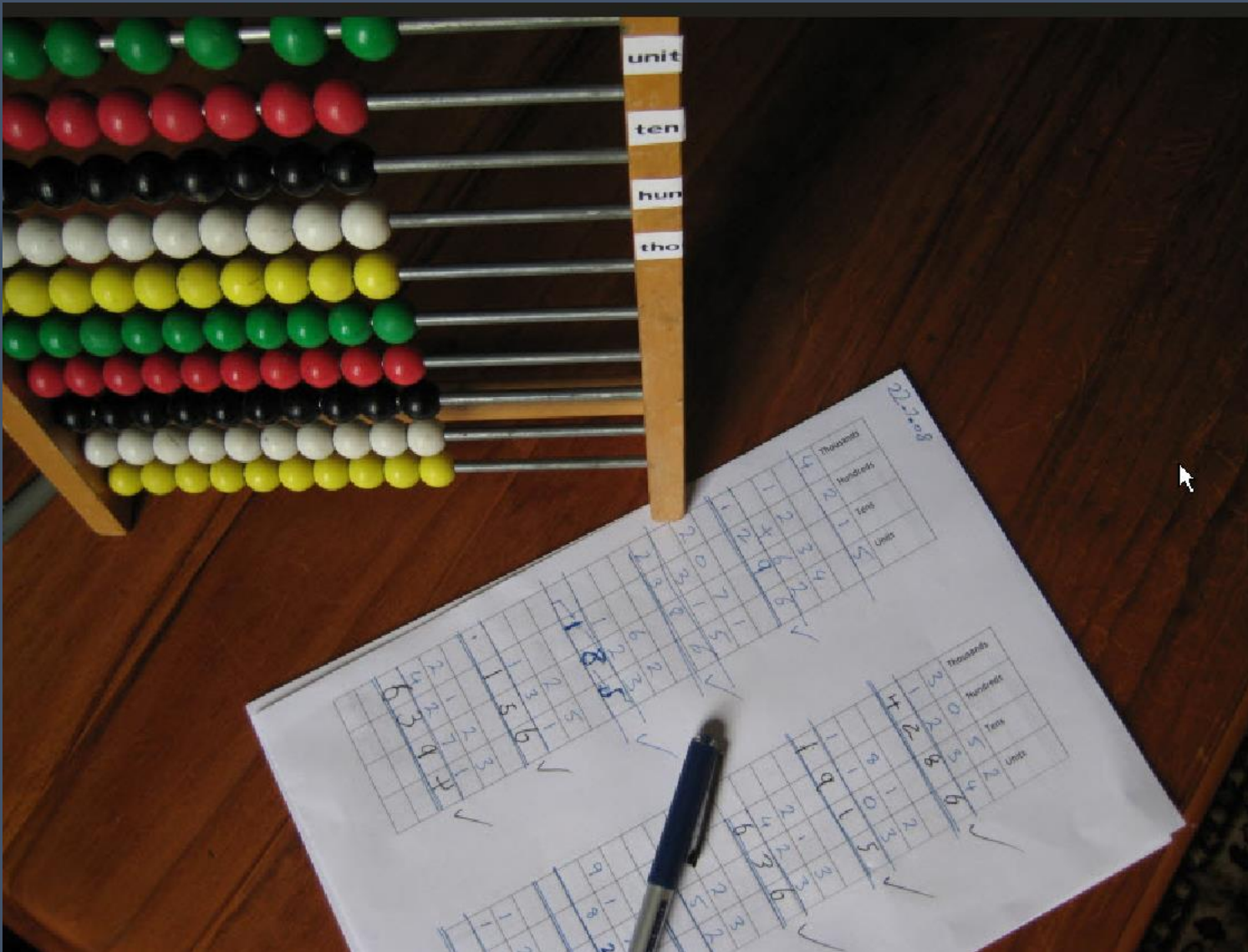
$$\begin{array}{r} 2394523 \\ +1234567 \\ \hline \end{array}$$

Or this:

$$\begin{array}{r} 5437 \\ -1229 \\ \hline \end{array}$$

Mid-primary school 52-27 too hard.  
"I hate maths"

Dyscalculia – via a friend



Meanwhile...

Son: dyscalculia, dysgraphia, ASD.

Funding?

# Fast forward 8 years to 2022

- Divorced & repartnered
- 'reparenting' – 3 & 5 y.o. when we met
- Reluctant readers
- Poor spellers
- I just assumed it wasn't their thing, unlike 1<sup>st</sup> daughter
- Mez pursued assessment in Y4 after school switch
- Dyslexia diagnoses in year 5 and (as a result) year 3

# “The dawning realisation...” / Red-pill moment a.k.a. “the same old story”

- Not many teachers know much about dyslexia
- Not many teachers are aware of how critical explicit instruction is for dyslexic kids
- The default instructional methods are 40+ years behind science
- Parents have to be their kids’ best advocates in a monolithic system.
- Square Pegs
- Meredith wasn’t going to wait any longer
- OG course



So, go ahead  
and enter 8-12 words, for  
the students to spell.

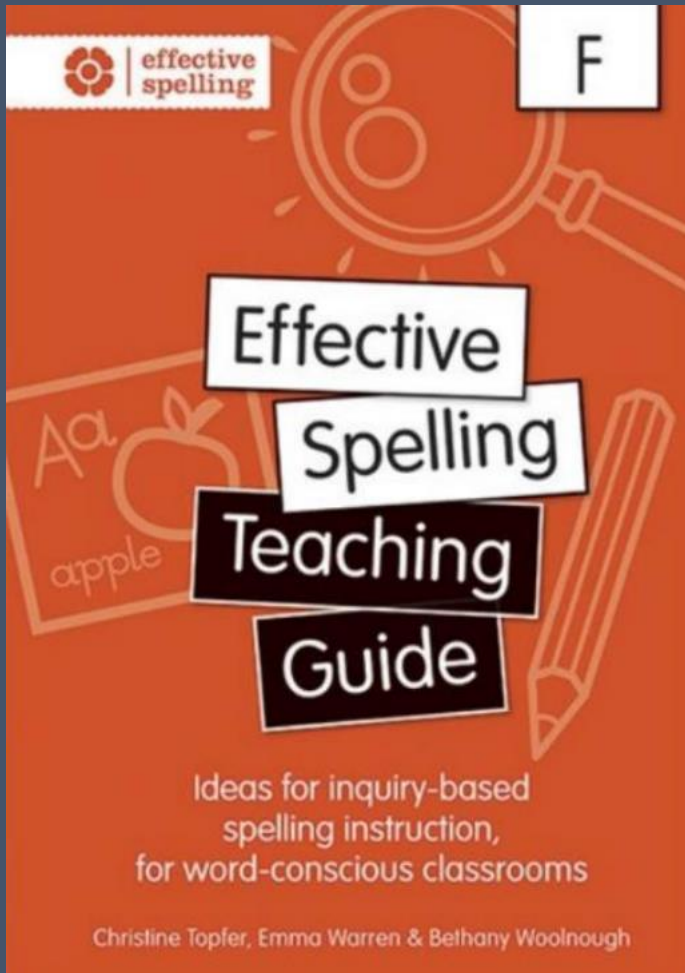
Remember the words  
*must only require  
knowledge of letter-  
sounds you've taught to  
this point.*

Oh, right!


Ohhhh!

Ohhh, ok!


Oh!



The flyer has a light beige background with a geometric pattern of blue, teal, and red triangles. A central photograph shows a person in a classroom setting. The text is arranged in a clean, professional layout.

 **DYSLEXIA**  
ORTON-GILLINGHAM  
INSTITUTE  
AUSTRALIA

In partnership with

 **speech pathology**  
TASMANIA


**Yoshimoto Orton-Gillingham  
Basic Training**

**Manual and Materials**

**Dates:**  
August 5th, 12th, 19th, 25th and 26th

**Location:** Glenorchy Primary School

Linda McKillip



# What's perpetuating this?

- What appeared to be a blatant disregard for the truth
- The more I dug...
- Moral imperative
- Negligence?
- “Merchants of Illiteracy?”
- ABC



**CODERE ! D Dyslexia  
Network**



# Short story for parents beginning their (euphemistic) 'journey of discovery':

- It's a race against time
- The jury is NOT still out on the best approach
- Learning by 'osmosis' (BL) - excludes a significant %
- Structured, direct, systematic, explicit, cumulative, repetitive instructive – for all (reality vs. marketing)
- Reading one book could potentially make you 'expert'

# What do reading researchers know about the reading wars?

- Reading brains: phonology, orthography, semantics
- Context impacts word learning negatively (three cueing 'strategies')

## Eagle Eye



Look at the picture.

Think "What is in the picture that starts with the beginning letter?"

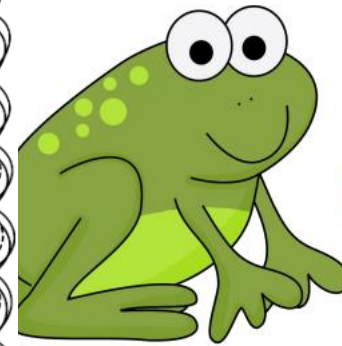
## Tryin' Lion



Try to re-read the sentence.

Think "What makes sense?"

## Skippy Frog



Skip the tricky word.

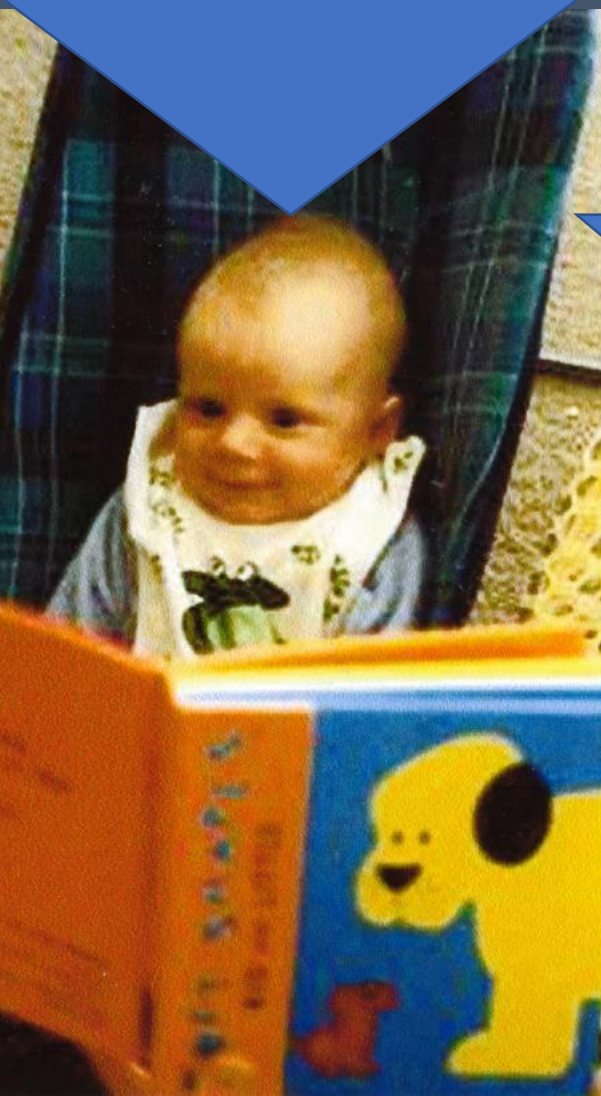
Read to the end.

Go back & try it again.

# What do reading researchers know about the reading wars?

- Context-free word ID – hallmark of good reader (1980)
- “There is wide agreement that phonological decoding plays a vital role in the computation of meaning (particularly during the initial stages of learning to read)” Rastle 2022
- Reading to children/books in the home is ideal but is NOT sufficient to guarantee reading & writing success.

Dysgraphic  
Dyscalculaic



Dyscalculaic



Dyslexic



Dyslexic



# What do reading researchers know – how granular have they gone? Some examples...

- Parafoveal processing of phonological and orthographic information – semantic still debated.
- Item level differences – e.g. ‘set for variability’.
- Texts rich in causal connections are better remembered than those with only referential, temporal and spatial connections.
- Findings suggest kids start to differentiate between drawing and writing “almost as soon as they start to make marks on paper”  
Kemp & Treiman 2022
- “Orthographic skeletons” from sublexical knowledge Wegener et al. 2018

# What do reading researchers know – how granular have they gone?

- More than one unknown word in 50 makes extensive reading become intensive reading.
- Prevention is better than intervention – accuracy vs. speed
- “A child at the ninetieth percentile of reading ability may read as many words in two days as a child at the tenth percentile reads in an entire year outside the school setting.” Torgesen 2005

In short, reading is “the most studied aspect of human learning”. Moats 2018

Meanwhile, education departments are contracting consultants who state things like: “to claim that there is some ‘The Science of Reading’ (especially with capital letters) is both ill-considered and, dare I say, unscientific.”

Reptile Words

tex • tile  
vc • cv

Tulip Words

si • lent  
v • cv  
(first choice: divide  
before consonant)

Handbooks of Developmental Psychology

Second Edition

The Science  
of Reading

A Handbook





## What is dyslexia?

Highly complex, historically contentious, largely due to limits of understanding.

- Learning **disability**
- Neurobiological
- *Typically* a result of a processing deficit in the sound\* component of language
- *Often* unexpected given other abilities and instruction
- Prevalence estimates vary in the literature from 3 to 17%. More common in boys (x bias)
- Highly heritable

## Key diagnostic features

- Phonological awareness
- Phonological memory
- Rapid Automatic Naming
- Orthographic processing
- Executive functions such as working memory
- Co-occurrence of conditions such as dyscalculia and ADHD “may be the rule rather than the exception” *Wagner et al. 2022*
- Modern brain scanning shows the dyslexic brain fires differently for text

**DEFECIT MODEL**

## How can it present?

- Difficulty in finding words ('thingy') or remembering other kids' names
- Difficulty in developing accuracy / fluency in word recognition
- Poor spelling (encoding) and decoding
- Spelling difficulties often more evident than reading difficulties
- Orthographic mapping of a word takes 5-200+ times more exposures (tuff vs. tough)
- Copying a word no guarantee of accuracy
- Abilities appear to differ from one day to the next

## What can it lead to?

- Matthew Effects – poor reading comprehension, lower vocabulary, lower fluency, all as a result of lower accuracy
- Self-esteem / shame / mental health issues
- Reluctance / disengagement / behavioural issues

## What different instruction is needed to teach reading and writing?

# NOTHING\*

\*In high quality, structured literacy instruction, dyslexic kids just need more of the same.

- More granularity
- More repetition



So, if you're a dyslexic kid in most schools today (and chances are there's at least one in every class)

- It'll take you 5-200 times more work to learn a word.
- Most of your teachers won't know a great deal about what your difficulties are and why you struggle. "I've never taught a dyslexic child before..."
- You likely won't be recognised as dyslexic until a good chunk (or all) of your brain's peak literacy learning window is closing.
- Despite the best interventions (which will only happen if you're very lucky), your reading fluency (and all its potential educational benefits) will likely never catch up to your peers.

**This could all be largely avoided by early intervention based on available identifications (even pre-K).**

English is difficult & irregular, but not random.

knee

She **k**neeled on her **k**nobbly **k**nees at the grassy **k**noll, clutching her **k**nife so hard her **k**nuckles went white, and carved her name in the **k**not on the tree while her brow **k**nitted with effort.

two

twin twice twenty twelve between (twain twixt)

# My 'hot take' from the literature...

- Morphology is shaping up to be critical, not just an add-on!
- Kids start to use morphology to help spelling as early as grade 1
- Morphology gives “islands of regularity” in an otherwise irregular orthography. Rastle 2022
- Morphemes have greater priming effects than orthographic and semantic, whether separate or combined.
- Byrne (2005) argues that kids intuitively assume print represents morphemes, not sounds.

# My 'hot take' from the literature...

“Results of the present study indicate that morphological awareness is a high-leverage skill that is important for the development of both word reading *and* listening comprehension, and therefore... ...highlight a need for explicit and systematic instruction on morphological awareness even in primary grades.”

Young-Suk Grace Kim (2023)

protracted

deconstructionism

contortionist

## Morphemes:

- Consistent meanings (though a bit 'loose')
- Often phonetically regular, and when not, usually at least consistently irregular
- Good bang for buck – a handful of morphemes makes lots of big words
- Good for student confidence. Wrestling with the difference in vowel digraphs isn't so great for self-esteem, but banging out 'deconstructionism' (and being able to deduce a loose definition) is!

vs. from, her, which, build -

...wish I'd started it sooner.



Despite the very clear need for explicit instruction,  
most learning around reading occurs implicitly.

# More 'hot takes' from the literature...

Disagreements... 'bombs' from the literature:

- DRC model vs. Connectionist
- Phase theory vs. early acquisition of morphology and patterns (e.g. hammer vs. mman)
- 'Advanced phonemic awareness' vs. opportunity costs

Seidenberg: unintuitive, at risk of repeating whole language.

# Cultural analogues between Ag & Ed

- The dominant paradigms and the judgement
- Multiple ag revolutions
- Ag arguably even more deeply entwined in social fabric than Ed
- Disconnect between early adoption and paradigm inertia





---

**I'M NOT  
USING  
FERTILIZER.**

---

**“HOW'S  
THAT  
WORKING  
FOR YOU?”**



Perfect storm: Advanced Ag agronomist Cameron Pogue says fertiliser distributors are sourcing product from countries other than China, amid uncertainty with supply.



SOARING gas prices and import challenges have put a chokehold on fertiliser availability in Victoria, as prices for urea and phosphate have nearly tripled on year-ago levels.

## Tasmanian Country Hour

with Tony Briscoe

View episodes Contact Us



Image: ABC Rural: Tony Briscoe

## No fertiliser and no hay making but still plenty of grass for the cattle

On Tasmanian Country Hour with Lachlan Bennett

**SOCIAL INERTIA & CULTURAL RESISTANCE**

Ignorant  
rant

Parents discovering parenting  
for the first time

Mansplaining

Shocking that  
children benefit  
when their parents  
actually partake in  
their education.

Well, maybe some "Angry  
Teachers" could give him some  
advice about how to run his  
farm more efficiently. I'm sure  
he'd be very receptive.

Idiot



You folks are pushing uphill.

But you know what works so, please, keep pushing.

# Parents – where to start?

- Get kids assessed if possible
- Do a placement test to see where they're actually at: free screening checks are available – e.g. phonics screening check, DIBELS 8<sup>th</sup> edn.
- Get started teaching at that level.
- Assess knowledge on an ongoing basis

That's the process regardless of whether you're getting intervention at school, home, or private tutoring.

Resources need to be based in the science, and be used with fidelity (how they're intended to be used!) – run them past a trusted advisor because nearly *everyone* says they're “evidenced-based”.

Spelfabet's (Alison Clarke) fantastic YouTube introduction to the mess: [https://youtu.be/144jc\\_jG9Gk](https://youtu.be/144jc_jG9Gk)

AUSPELD's “Understanding Learning Difficulties” – free online: <https://uldforparents.com/>

“Help is here” section on CODE REaD website: <https://codereadnetwork.org/>

Dyslexia Support Australia fb group  
<https://www.facebook.com/groups/DyslexiaSupportAustralia>

[www.merchantsofilliteracy.net](http://www.merchantsofilliteracy.net) for my paper/podcasts

Emily Hanford's “At a loss for words” & “Sold a Story” podcasts  
<https://features.apmreports.org/sold-a-story/>  
<https://www.apmreports.org/episode/2019/08/22/whats-wrong-how-schools-teach-reading>

Dyscastia podcasts: <https://dyscastia.com/>

Some resources to consider (in no particular order)...

- ‘Spelfabet’
- ‘Letters and Sounds’
- ‘PhOrMeS’
- Spelling Mastery
- Orton-Gillingham training
- Nessy
- “GraphoGame: Learn to Read” Google Play / Apple App Store
- Hansberry Word Cracker (morphology)

# Teachers – some SoR reasources

SOLAR Lab science of reading courses.

PhOrMeS resources

Orton-Gillingham Training

LETRS Training

Think Forward Educators!

