

# ADDITIONAL RESOURCES

accompanying Dr Susan Galletly's poster:

## The High Cost of Orthographic Disadvantage

**The High Cost of Orthographic Disadvantage**

**What's an orthography?**  
The spelling system a nation uses.

Orthographic complexity dictates how hard it is to learn to read and write. English is one of the world's hardest orthographies - it's damaging for at-risk children. Most nations use highly regular spelling - their at-risk children have strong success.

**Kid in regular orthography nations take just months to read and spell well.**  
+ Many have adult-level accuracy from Grade 1.

**Kids in Anglophone nations take ≥ 6-9 years to read and spell well.**  
+ Many children & adults have major difficulties.

Orthographic impacts	Awesome Foursome	Awful Foursome
EARLY LITERACY DEVELOPMENT	• Easy & Rapid • Low Cognitive Load	• Difficult & Slow • Massive Cognitive Load
TEACHING AND LEARNING	• Minimal Difficulties • Maximised Literacy	• Maximised Difficulties • Impeded Literacy
SCHOOL EFFECTIVENESS	• Time-Rich Schools • Low Support Needs	• Very Time-Poor Schools • Very High Support Needs
ACADEMIC LEARNING	• Empowered Subject Learning	• Impeded Subject Learning

**How can Australia fix this?**

Do as Taiwan, Japan and China do and implement a 'beginners' orthography! They changed to 2-stage early literacy in the 1940-50s with overwhelming success!

It's research time! We need to explore English beginner orthographies, e.g. IIA and Reixspel.

For more information visit [www.susangalletly.com.au](http://www.susangalletly.com.au)

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# The High Cost of Orthographic Disadvantage

**What's an orthography?**  
The spelling system a nation uses.

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**+** Many have adult-level accuracy from Grade 1.



**Kids in Anglophone nations take ≥ 6-9 years to read and spell well.**

**+** Many children & adults have major difficulties.

Orthographic Impacts	Awesome Foursome <b>Them!</b> 😊	Awful Foursome <b>Us!</b> 😞
<b>EARLY LITERACY DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>• Easy &amp; Rapid</li> <li>• Low Cognitive Load</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult &amp; Slow</li> <li>• Massive Cognitive Load</li> </ul>
<b>TEACHING AND LEARNING</b>	<ul style="list-style-type: none"> <li>• Minimal Difficulties</li> <li>• Maximised Literacy</li> </ul>	<ul style="list-style-type: none"> <li>• Maximised Difficulties</li> <li>• Impeded Literacy</li> </ul>
<b>SCHOOL EFFECTIVENESS</b>	<ul style="list-style-type: none"> <li>• Time-Rich Schools</li> <li>• Low Support Needs</li> </ul>	<ul style="list-style-type: none"> <li>• Very Time-Poor Schools</li> <li>• Very High Support Needs</li> </ul>
<b>ACADEMIC LEARNING</b>	<ul style="list-style-type: none"> <li>• Empowered Subject Learning</li> </ul>	<ul style="list-style-type: none"> <li>• Impeded Subject Learning</li> </ul>

## How can Australia fix this?



Do as Taiwan, Japan and China do and implement a beginners' orthography! They changed to 2-Stage early literacy in the 1940-50s with overwhelming success!



**It's research time!**  
We need to explore English beginner orthographies, e.g. ITA and Flexispel.

For more information visit [www.susangalletly.com.au](http://www.susangalletly.com.au)

## Summary

English orthography (26 letters, >40 sounds, >560 spelling patterns) is so very complex that it's considered an outlier to the continuum of orthographic complexity (Seymour et al., 2003; Aro, 2017). Few widely-used orthographies are as complex for beginning and developing readers: Thai is harder, and Thailand too has many struggling readers.

Regular-orthographies are used by many European, Asian and African nations, e.g., Finland, Estonia, Spain, Italy, Greece.

They're also used in 2-Stage early-literacy by nations with highly complex orthographies, including Taiwan, Japan and China (Galletly, 2022, 2023b, In press; Taylor & Taylor, 2014).

- Children first learn to read and write the nation's fully-regular beginners' orthography, which develops word-reading, spelling, confidence and skill reading and writing, self-teaching and cognitive-processing and learning skills.
- Empowered by these skills, children then transition to reading and writing their nation's complex orthography, with the regular orthography used to both scaffold learning, and empower self-teaching.

Taiwan, Japan and China moved in the 1940s-50s to 2-Stage early-literacy development, with this precipitating impressive educational and economic progress (Downing, 1972a, 1972b).

Anglophone nations' 1960s exploration of the Initial Teaching Alphabet (ITA) similarly found impressive effectiveness of 2-Stage early-literacy development, with it easing and speeding learning to read and write words, and independent reading and writing; and greatly reducing numbers of struggling readers and their extent of difficulties (Downing, 1969a, 1969b, 1972a, 1972b, Galletly, 2023b; Knight et al., 2017a; Mazurkiewicz, 1965; 1971; Warburton & Southgate, 1969).

In regular-orthography nations, word-reading and spelling, and independent reading and writing, develop very rapidly, with most children of many nations having adult-level accuracy early in Year 1 (Seymour et al., 2003; Torppa et al., 2016). Early intervention is highly effective, with most children caught up to their peers in Grade 2, and children with severest difficulties caught up by Year 4 (Lyytinen, 2023; Lyytinen et al., 2021).

In contrast, English word-reading and spelling development are extremely slow, taking at least 6 to 9 years on average, as test norms show.

Orthographic advantage and disadvantage are thus a reality across nations, impacting children, schools, families, adults and national educational and economic achievement (Galletly, 2022, 2023a, In press; Knight et al., 2019).

## EASE vs struggles

Children in many nations take just a few months to learn to read and spell, and read and write with adult-level accuracy from early in Grade 1. Few have difficulties and these are effectively remediated.

Those nations use highly regular orthographies (spelling systems).

With learning simple and soon mastered, children have low cognitive load across learning to read and write, and when reading and writing to learn.

Their schools are time-rich, as children are so quickly independent literate learners, and so little time is needed to develop reading and writing skills.

*(Aro, 2004, 2017a, 2017b; Cossu et al., 1993; Galletly, 2023b; Knight et al., 2017a; Lyytinen, 2023; Lyytinen et al., 2021; Poskiparta et al., 1999; Seymour et al., 2003; Torppa et al., 2016)*

## Ease vs STRUGGLES

English readers take  $\geq 6$  to 9 years to read and spell well in Anglophone nations, as our test norms show.

Many have ongoing major difficulties:

- Using English test norms, at least one third have appreciably weak reading and spelling.
- Using regular-orthography norms, of adult-level skills for word-reading and spelling of unfamiliar words from early primary school, the majority of English readers in all primary school year-levels are significantly weak readers and spellers.

With learning being complicated and extensive, and word-reading and spelling taking so many years to become proficient, Anglophone children have high cognitive load across learning to read and write, and when reading and writing to learn.

Intervention is often insufficiently effective, thus many children have ongoing difficulties across primary school and high school and many adults struggle with word-reading and spelling.

Studies exemplifying the contrast of ease vs struggles, discussed in Galletly (2023a) *The Research Tours: The Impacts of Orthographic Disadvantage*: Caravolas, 2018; Cossu et al., 1993 vs Groen et al., 2006; Frith et al., 1998; Landerl et al., 1997; Torgesen et al., 1997 vs Poskiparta et al., 1999; Seymour et al., 2003)

*(Al Otaiba & Fuchs, 2006; Caravolas, 2018; Compton et al., 2014; Cossu et al., 1993; Frith et al., 1998; Groen et al., 2006; Galletly, 2005, 2008, 2023b; Galletly & Knight, 2011a, 2011b, 2013; Galletly et al., 2009; Landerl et al., 1997; O'Connor, 2000; Poskiparta et al., 1999; Torgesen et al., 1997, 1999; Wanzek et al., 2018)*

# Research Studies Show Regular-Orthography Ease vs Standard-English Struggles

Studies explored in *The Research Tours* (Galletly, 2023) show the contrast of high regular-orthography vs low Standard-English word-readers, and indicate the ease vs challenges of word-reading development in regular-orthography vs Anglophone nations, and the low vs high workload involved.

	REGULAR-ORTHOGRAPHY COHORTS	STANDARD ENGLISH COHORTS	
WORD-READING	<b>Word-Reading in 14 European Nations (Seymour et al., 2003) [Tour 1]</b>	Children in 10 nations: 90-98% accuracy at End-Grade-1 (and probably much earlier)	UK cohorts: Only 31% accuracy End-Grade-1 Only 69% accuracy End-Grade-2
	<b>Italian Vs English Readers with Down Syndrome (Cossu et al., 1993; Groen et al., 2006) [Tour 4]</b>	High word-reading accuracy: 94% real words, 88% unfamiliar words. Difficulty finding subjects who weren't already highly accurate	One child reading well. Most at low level, and 30% of control group omitted, as unable to score on tests. Lists other studies showing similarly.
	<b>Welsh Vs English Readers (Hanley et al., 2004; Spencer &amp; Hanley, 2003, 2004) [Tour 2]</b>	High accuracy from Grade 1 & 2 Much higher phonemic awareness. Strong reading of all words.	Many struggling readers. Still weak on phonemic awareness and reading unfamiliar words in Grade 5.
	<b>German Vs English 8yr &amp; 12yr Healthy-Progress Readers (Frith, Wimmer &amp; Landerl, 1998) [Tour 13]</b>	Highly accurate reading of both real words and unfamiliar words. Few vowel errors.	Much weaker word-reading, particularly for unfamiliar words 44 times more vowel errors.
	<b>German Vs English Weak (Dyslexic) Readers (Landerl, Wimmer &amp; Frith, 1997) [Tour 13]</b>	Highly accurate reading of both real words and unfamiliar words. Few vowel errors.	Severely weak word-reading, with many at very low levels. 16 times more vowel errors.
	<b>Czech &amp; Slovak Vs English Readers (Caravolas, 2018) [Tour 13]</b>	Highly accurate reading of both real words and unfamiliar words from Grade 1.	Much weaker word-reading, despite an extra year's teaching & learning. Many struggling readers.
	<b>14,000 children Initial Teaching Alphabet (ITA) vs Standard English Readers (Mazurkiewicz, 1971)* [Tour 5]</b>	75% of the Grade 1 cohort read > grade-level (Grade 2 and 3 materials), having transitioned easily to Standard English. Very few had difficulties, needing intervention only for reading comprehension not word-reading.	Only 6% of the Grade 1 cohort read > grade-level (Grade 2 and 3 materials), Three times more repeated a year due to low achievement. Twice as many needed intervention, including word-reading intervention.
	<b>Word-Reading Interventions Finnish Vs English Readers (Lyytinen, 2023, Lyytinen et al., 2021; Torgesen et al., 1997) [Tour 14]</b>	Most children highly accurate by Grade 2, those with more severe difficulties by Grade 4-5.	With intensive ongoing intervention, most children make gains, but not to age-level, while some make little to no progress.
SPELLING	<b>Italian Vs English (Marinelli et al., 2015) [Tour 1]</b>	Highly accurate in Grade 2	Still significantly weak in Grade 5
	<b>Czech Vs English (Caravolas, 2004) [Tour 1]</b>	Strong spelling by End-Grade 1	Very weak spelling at End-Grade 1

\* This is but one ITA example. Many other studies could have been used here, as the ITA research is considerable.

# It's Orthographic Advantage vs Disadvantage

Ease versus complexity of learning to read gives regular-orthography nations strong advantage and Anglophone nations strong disadvantage. This impacts children, schools, families, adult success and the nation (Knight, Galletly & Gargett, 2019).

Low vs high cognitive load for learning to read and write, and easy, rapid vs slow, impeded early-literacy development precipitates expanding advantage vs disadvantage.

Quite likely, our young starting age (4.5 to 5 years) exacerbates our struggles, through

- Young children having significantly weaker cognitive-processing, executive-function and learning skills.
- High cognitive load being more likely to activate risk factors.
- Immaturity meaning boredom, disengagement and acquired helplessness are likely to decrease learning.

# Useful models: Orthographic Advantage Theory and Transition from Early to Sophisticated Literacy (TESL)

Orthographic Advantage Theory is a tool for exploring orthographic impacts and crosslinguistic differences:

Knight, Galletly & Gargett (2019) Orthographic Advantage Theory National advantage and disadvantage due to orthographic differences. *Asia Pacific Journal of Developmental Differences*, 6(1), 5-29.  
 (Appendix of tables: Key features of Orthographic Advantage Theory: National advantage and disadvantage due to orthographic differences. [www.literacyplus.com.au](http://www.literacyplus.com.au) and ResearchGate).

**Orthographic Advantage Theory** (Knight et al. 2019) proposes that, because of orthographic complexity, nations experience advantage and disadvantage in, e.g., early-literacy development, teaching and learning, intervention effectiveness, adult life, and Generational Advantage (impacts of parent literacy).

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graph TD
    subgraph Major_Impacting_Factors [MAJOR IMPACTING FACTORS]
        A[Extent of Orthographic Complexity]
    end
    subgraph Secondary_Impacting_Factors [SECONDARY IMPACTING FACTORS]
        B[Children's Processing Capacity]
        C[Excellence of Instruction]
    end
    A --> D[Extent of Cognitive Load of Learning to Read & Write Words]
    B --> E[Extent of EARLY EDUCATION ADVANTAGE:  
1. Extent of difficulties learning to read & write words  
2. Extent of cognitive load of literacy tasks]
    C --> E
    D --> E
    E --> F[Extent of LATER EDUCATION ADVANTAGE]
    E --> G[Extent of OPTIMISING EDUCATION ADVANTAGE]
    F --> H[Extent of GENERATIONAL ADVANTAGE]
    G --> I[Extent of WORKPLACE & ECONOMIC ADVANTAGE]
    G --> J[Extent of ADULT LIFE ADVANTAGE]
            
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The **Transition from Early to Sophisticated Literacy (TESL)** model (Galletly & Knight, 2011b) intimates the ease vs difficulty, and low vs high workload of teaching and learning across all school years, in regular-orthography and Anglophone nations.

**TESL in Anglophone Nations**

STAGE 1 Home Literacy (0-5 years)  
 STAGE 2 Early Literacy (5-8 years)  
 STAGE 3 Sophisticated Literacy (8-15 years)

INSTRUCTIONAL EMPHASES: 100%, 50%

Chronological Age: 0-15  
 Literacy Skill Age: 0-15

**TESL in Regular-Orthography Nations**

STAGE 1 Home Literacy (0-5 years)  
 STAGE 2 Early Literacy (5-8 years)  
 STAGE 3 Sophisticated Literacy (8-16 years)

INSTRUCTIONAL EMPHASES: 100%, 50%

Chronological Age: 0-16

Figures from *The Research Tours: The Impacts of Orthographic Disadvantage* (Galletly, 2023b) (Galletly, 2023b, Galletly & Knight, 2011a; Knight, Galletly & Gargett, 2019)

## We've Wide Differences in Cognitive Load and Needs for Effective Cognitive Processing

In learning to read and write, and when using reading and writing in learning,

- Regular orthographies create very low cognitive load & learning complexity
- English creates very high cognitive load & learning complexity

Low vs high cognitive load for learning to read and write precipitates expanding advantage vs disadvantage, e.g., English readers have much higher cognitive load when reading and writing.

Healthy working-memory and executive-function skills, much needed for successful English word-reading and spelling development, do not play that crucial role in regular-orthography nations.

This is seen in how effectively regular-orthography children with intellectual disability master word-reading and writing.

(Cossu et al., 1993; Galletly, 2023b; Groen et al., 2006; Poskiparta et al., 1999)

## Orthographic Disadvantage Is a Major Time and Workload Issue

In education, orthographic advantage vs disadvantage is a very major time and workload issue:

With little vs massive amounts to teach and learn to be proficient at word-reading and writing, yet the same amount of subject-area learning to cover,

- Schools in regular-orthography nations are time-rich, as independent, highly accurate reading and writing develop so quickly, making more time available for other learning, and teachers and children have far more manageable workload.
- Schools in Anglophone nations such as Australia are chronically time poor, with an everpresent *Find the Learning Time Challenge* (too much to teach in too little time).
- Anglophone teachers and children have far higher workload, and subject-area learning is often more difficult due to our 'nasty, ubiquitous, Standard-English pause' (Galletly, 2023b): the high cognitive load of so often pausing to think on how to read and write less familiar words.

(Galletly, 2022, 2023b, In Press; Galletly & Knight, 2004; Knight & Galletly, 2017, 2020; Knight et al., 2017a, 2017b, 2019)

## Young Starting Age Exacerbates Disadvantage

Younger children have

- Significantly weaker executive-function and learning skills, maturity and work-habits, and
- Increased likelihood of boredom and disengagement.

Our young starting age (4.5 to 5yrs) for learning to read exacerbates our struggles:

- Young children are more likely to experience low success, and need high levels of support, at levels schools may not be able to provide.
- More risk factors are likely to be activated.

Children start older in many European regular-orthography nations, being 7-8 years in Grade 1.

Anglophone nations need to explore the costs and benefits of younger vs older starting age.

(Galletly, 2023b; Galletly & Knight, 2004; Knight & Galletly, 2017, 2020; Knight et al., 2017a, 2017b, 2019; Seymour et al., 2003)

## The Impacts Fall Hardest on At-Risk and Struggling Readers

Anglophone nations have a 'long sad tail' of struggling readers that regular-orthography nations don't have (Galletly, 2022, 2023b, In print).

Early intervention is highly successful in regular-orthography nations, with children catching up to their peers and remaining at a healthy level.

English early intervention often has relatively low success, with it being common for children to improve but still be reading and writing below age-level, and studies show a sizeable minority make negligible progress, with researchers using the terms 'treatment resisters' and 'non-responders'.

Studies comparing average achievement of English and regular-orthography children show very large Standard Deviations for the English cohort, and discuss the lower quarter and half of English readers having major struggles.

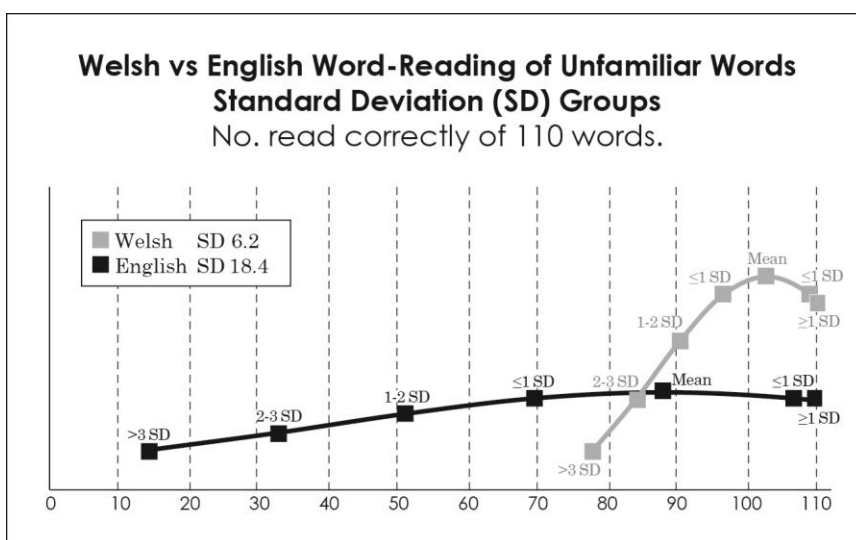


Figure 9c. Word-reading levels for unfamiliar-words of Standard Deviation (SD) groups in Hanley et al.'s (2004) Grade 5 Welsh and English readers (from Galletly, 2023b, *The Research Tours: The Impacts of Orthographic Disadvantage*)

(Caravolas, 2018; Compton et al., 2014; Frith et al., 1998; Galletly, 2023b; Galletly et al., 2009; Hanley et al., 2004; Landerl et al., 1997; O'Connor, 2000; Spencer & Hanley, 2003, 2004; Torgesen et al., 1997)

## Children with Language Difficulties Are Differentially Disadvantaged

Most school children who Speech Language Pathologists work with experience major disadvantage:

- Extreme disadvantage relative to regular-orthography children plus
- Major disadvantage relative to their peers.

Starting school with weak language skills sets children up for ongoing reading, literacy and communication struggles, especially when their weak language skills include weak cognitive-processing, executive-function and phonological-awareness.

Galletly and Knight's Differential Disadvantage model explores this area. *The Research Tours* (Galletly, 2023b) discusses a revised, updated version of this model.

(Galletly, 2023b; Galletly & Knight, 2011a)



## **It's an Acquired Helplessness vs Success Inoculation Issue**

Maier & Seligman's (2016) revised Learned Helplessness theory corrects their earlier (1976) proposal that helplessness is learned when success is limited.

Instead, from considerable research, they've established that

- Acquired Helplessness is guaranteed, a default pathway, entered when low success and discouragement are experienced.
- It is resilience for learning which is learned (Success Inoculation).

In learning to read and write, Success Inoculation through ongoing success in learning is extremely important: it needs to be a dominant aim of instruction, if Acquired Helplessness and its damaging effects are to be avoided.

*(Galletly, 2023b, Tour 3; Knight & Galletly, 2020; Knight et al., 2017a; Maier & Seligman, 1976, 2016)*

## **Research Is Needed on Motivation and Engagement**

There seems minimal research on the occurrence and impacts of Acquired Helplessness and Success Inoculation in word-reading development.

Regular-orthography nations, e.g., Finland, find Acquired Helplessness a major detrimental issue, despite children being older (7-8 years) and the needed learning being very simple. Teachers and intervention researchers find they have to work hard to encourage children, in order to prevent disengagement, and the weaker learning which then occurs.

With Anglophone children so much younger and learning to read and write English being so very much harder, Acquired Helplessness may be playing a significant role in why word-reading and spelling intervention is so often insufficiently effective, so often not catching children up to age level.

*(Galletly, 2023b, Tour 3; Lyytinen, 2023; Lyytinen et al., 2021)*

## **Two Orthographies Can Work Better than One in Complex-Orthography Nations!**

For nations with complex orthographies, including Anglophone nations, China, Japan, Taiwan, and Thailand, beginning and developing readers are hugely strengthened by first learning to read and write a fully-regular beginners' orthography.

Nations with complex orthographies win orthographic advantage via 2-Stage early literacy – children initially reading and writing a fully-regular orthography, and thus soon being empowered literate learners with strong self-teaching skills, who then transition smoothly to reading and writing their complex orthography.

Taiwan, Japan & China implemented 2-Stage early literacy in the 1940-50s, precipitating massive educational and economic progress. Two-Stage early literacy using a fully-regular beginners' orthography is inexpensive, works extremely well, and very few children struggle.

*(Downing, 1972a, 1972b; Galletly, 2005; 2023a, 2023b; Knight et al., 2017a; Makita, 1968; Papadopoulos, 2001, Taylor & Taylor, 2014; Uno et al., 2009)*

## **We Do 2-Stage Literacy for Handwriting. Let's Explore It for Reading and Writing Too**

Anglophone nations do 2-stage literacy for handwriting: our children first print, to have lower cognitive load and eased learning while mastering writing conventions. They develop confident writing skills using printing, then, with empowered skills, transition to writing using cursive script. There's very strong value in Anglophone nations now also exploring 2-Stage reading and writing. Regular-orthography role model nations, e.g., Japan, Taiwan and China show Anglophone nations' potential for massive improvement.

## **Opportunity Missed: The Initial Teaching Alphabet (ITA), An English Beginners' Orthography**

English beginner's orthographies are available, e.g., Galletly's (2005, 2023a) Fleksispiel, and the Initial Teaching Alphabet (ITA, used in many studies of 2-Stage early literacy in the 1960s).

Research and wide school use of The Initial Teaching Alphabet (ITA) in Anglophone nations in the 1960s built from awareness of the strong positive effects that children and schools in China, Japan, Taiwan and Korea experienced.

A multitude of ITA studies found easy, rapid, independent literacy and learning, vastly reduced numbers of struggling readers, with few difficulties with word-reading and writing, and impressively effortless transitioning – findings that align very strongly with recent crosslinguistic research.

*(Downing, 1969a, 1969b, 1972a, 1972b; Galletly, 2005; 2023a, 2023b; Knight et al., 2017a; Mazurkiewicz, 1971, 1973a, 1973b; Warburton & Southgate, 1969)*

## **Opportunity Missed Again: ITA + Whole Language**

Unfortunately, ITA use & research ceased when nations adopted Whole Language, and word-reading was increasingly considered of lesser importance.

It's likely that a pivotal opportunity for massive improvement in early literacy and education across Anglophone nations was missed through Whole Language not adopting use of ITA:

- Whole Language crashed on the rocks of continuing high numbers of struggling readers, and teachers being too busy to effectively achieve widespread enrichment literacy.
- Whole Language + 2-Stage early literacy might well have been an unbeatable combination: literacy enrichment enabled through easy, rapid, independent literacy, and schools being time-rich through time saved in early-literacy development.

That opportunity is still there!

**'The Power of Beginners' Orthographies'** is **Tour 5** of **The Research Tours: The Impacts of Orthographic Disadvantage** (Galletly, 2023b). The following is text from that tour:

'Mazurkiewicz's discussion of the advantages of ITA shows definite indicators of robust Success Inoculation, strong executive-function skill development, and ITA children being confident independent readers, writers and learners (Mazurkiewicz, 1965):

*The most dramatic flowering of all is evident in the large numbers of free, self-expressive, six-year-old writers. They write more abundantly and about many more subjects than do children learning the traditional alphabet. They write alone, without help or editing from teachers, sounding-out their own spellings and using any words they feel like using in any sentence pattern that occurs to them.*

Teacher workload also seemed significantly reduced, with teaching much empowered, creating opportunities for learning to be tailored to individual children's interests and needs (Mazurkiewicz, 1965):

*Other observations indicate that the first grade teacher's complaint about "what to do with the other children when working with one group" seems no longer to be a problem in ITA classes. ... While learning may start with whole class activity, this disappears in a short time in favour of individualised activity based on the rates of learning of individual children.*

*The range of ability begins to show itself and the teacher finds himself working with individuals within groups. It is noted that the teacher with many years' experience in first grade feels that an ITA approach answers the first-grade teacher's cry [that] there must be an easier way of teaching reading.*

Mazurkiewicz lists seven conclusions from the Grade 1 ITA results:

- Traditional spelling of English is a significant source of difficulty in beginning reading.
- Children can learn to read more rapidly with ITA and experience markedly less frustration.
- ITA children wrote easily and expressively, with ITA having a releasing effect on ability to communicate using writing.
- ITA Grade 1 classrooms ran more smoothly, with fewer behaviour and organisational problems, as the ITA children were confident, independent and markedly self-motivated.
- Reading materials could be at individual ability levels, with children pursuing individual interests.
- Post-transition reading of ITA children continued strongly.
- Post-transition spelling achievement was equal to non-ITA children, with indicators of greater gains made in Grade 2.'

(Galletly, 2022, 2023a, 2023b, In press; Knight et al., 2017a; Mazurkiewicz, 1971, 1973a, 1973b; Warburton & Southgate, 1969)

## **Is Orthographic Disadvantage an Ethical Issue? Orthographic disadvantage seems an issue with ethical considerations:**

- Anglophone children are far from being on a level playing field with regular-orthography children.
- Risk factors that cumulatively decimate Anglophone at-risk readers aren't activated in regular-orthography children, plus we've many risk factors, while they have few.
- Most Anglophone primary-school children have severely delayed word-reading and spelling development by regular-orthography standards.
- Anglophone children have far greater likelihood of developing ongoing reading and writing difficulties.
- Anglophone children's subject-area learning is likely weaker due to them lacking proficiency for reading and writing, with higher cognitive load often present, for so many years.
- Anglophone children and teachers have much higher workload, e.g., teachers must teach the subject-area learning all nations do, plus fit in the many hours needed to develop reading and spelling, plus support children's weak literacy skills, while also providing remediation.
- Anglophone nations thus have a much more crowded curriculum: subject-area learning plus extensive word-reading and spelling instruction.

Quite likely, being born in an Anglophone nation is currently our children's greatest risk factor for slow, impeded literacy development and high likelihood of major difficulties, relative to the world's millions of regular-orthography children.

In that sense, our children's rights to an effective education seem impacted in multiple ways.

(Galletly, 2022, 2023b, In press; Frith et al., 1998; Knight & Galletly, 2017; Knight et al., 2017a; Landerl et al., 1998; Seymour et al., 2003)

## It's RESEARCH time! Much Research Is Needed on Orthographic Impacts and Crosslinguistic Differences

Using regular-orthography role models, Anglophone nations have enormous potential for massive improvement.

They will benefit greatly by researching orthographic impacts and crosslinguistic differences.

(Galletly, 2022, 2023b, In press; Knight et al., 2017a, b; Knight & Galletly, 2017, 2020)

## A Great Place to Start – The Research Tours: The Impacts of Orthographic Disadvantage (Galletly, 2023b)

Easy reading of research on crosslinguistic differences and orthographic impacts.

Exploration of current and needed research, e.g., its final chapter is *100 Research Questions*

[www.susangalletly.com.au](http://www.susangalletly.com.au)

(Galletly, 2023b)



## The Research Tours Includes 14 Research Tours Exploring Pertinent Research Findings and Implications

### TOURS 1 TO 5:

#### THE IMPACTS OF ORTHOGRAPHIC COMPLEXITY

- Tour 1. Too Slow Standard-English Word-Reading Development.
- Tour 2. Orthography Is the Key Factor.
- Tour 3. Success Inoculation Vs Acquired Helplessness.
- Tour 4. Regular Orthographies and Intellectual Disability.
- Tour 5. The Power of Beginners' Orthographies.

### TOURS 6 TO 9:

#### LANGUAGE AND READING SKILLS IN LITERACY

- Tour 6. Our Epidemic of Language Weakness.
- Tour 7. Literacy Components and Quadrants.

- Tour 8. Our Too Many Low Literacy Achievers.
- Tour 9. Needs for Workload Research.

### TOURS 10 & 11:

#### KEY COGNITIVE-PROCESSING SKILLS

- Tour 10. A Multiple Deficits Vs Phonological Basis.
- Tour 11. Executive-Function Skills Empower Word-Reading.

### TOURS 12 TO 14:

#### OUR WORD-READING STRUGGLES

- Tour 12. Our Impeded Statistical Learning.
- Tour 13. Unfamiliar Words: Our Standard-English Nemesis.
- Tour 14. Our Insufficiently Effective Word-Reading Intervention.

## Available Research Shows Logical Improvement Directions: The 10 Changes

Galletly (2022, 2023b, In Press) proposes the 10 Changes, ABCs for improvement, a 2035 goal, and a thesis statement explaining the Anglosphere's current difficulties, and directions towards improvement, from considering research and practice, investigating crosslinguistic differences and orthographic impacts at Central Queensland University (CQU) with Prof Bruce Knight, and observing and discussing education in many nations.

They're suggestions that encourage knowledge building for improvement.

They're explored and explained in the books of the Aussie Reading Woes trilogy:

1. *Bunyips in the Classroom: The 10 Changes*  
(A brief, easy-read introduction to the area)
2. *The Research Tours: The Impacts of Orthographic Disadvantage*  
(A longer, easy-read exploration of research on orthographic impacts and its implications)
3. *The 10 Changes: The Nitty Gritty*  
(Useful detail on many areas e.g., orthographies, education, literacy development and difficulties)

The books have no set order: each is an independent read.

(Galletly, 2022, 2023b, In press)

## Let's Use the 10 Changes: Key Improvement Directions

Let's build knowledge in key priority areas:

**Change 1.** Understand how orthographies matter: English spelling is dragging us down.

**Change 2.** Own our struggling reader woes: End hypocrisy and pretence.

**Change 3.** Weigh workload: Our children and teachers are working far too hard.

**Change 4.** One-size education does not fit all: Teach to the decidedly different instructional needs of upper-third and lower-third readers.

**Change 5.** End our data deficiency: Build strong knowledge on word-reading levels.

**Change 6.** Enrich every child: Ensure effective, supportive, tailored education.

**Change 7.** Insist on easier early-literacy development: Reach regular-orthography nations' achievement levels.

**Change 8.** Investigate the potential of fully-regular beginners' orthographies: Research shows they're key.

**Change 9.** First, play to learn: Start Standard English word-reading instruction from mid-Year 2.

**Change 10.** Build needed research knowledge as quickly as possible: Use collaborative school-based research.

(Galletly, 2022, 2023b, In press)

## **Let's Be Aware of the Bunyips in our Classrooms: Impacts of Orthographic Disadvantage**

While elephants in the room are obvious, bunyips have been all too easy to overlook, e.g.,

1. Our English Orthographic Complexity Bunyip.
2. Our Too High Cognitive Load Bunyip.
3. Our Widespread Language Weakness Bunyip.
4. Our Too Young Starting Age Bunyip.
5. Our Activated Risk Factors Bunyip.
6. Our Too Much to Teach in Too Little Time Bunyip.
7. Our Too Low Resourcing Bunyip.
8. Our Deficit of Word-Reading Data Bunyip.
9. Our Lack of Needed Research Bunyip.
10. Our Attribution Error Bunyip.

*(Galletly, 2022, 2023b, In press)*

## **The Thesis Statement: Our Problems and Solutions**

Australian education is currently insufficiently effective for most students, and grossly ineffective for our lower-third students – our at-risk and struggling readers. Causal factors include English orthographic complexity and its impacts, our beginners' very young age, many children starting school highly at risk of difficulties, insufficient school resourcing, too high child and teacher workload, and our having too many struggling readers with major difficulties.

Our struggling readers' major instructional needs add additional teacher workload to what is already extremely high workload, making it excessive. This in turn reduces effectiveness of education for all our children, because our teachers are too busy to effectively meet all children's instructional needs.

This complex struggling-education problem can be resolved, and powerful positive changes are possible at relatively low expense, if we explore and implement effective methods used in other nations.

Possible changes include using a fully-regular beginners' orthography when children first learn to read and write, raising our starting age for formal reading instruction, adding in strong play-based language enrichment and allied-health intervention supports prior to formal reading instruction, reducing teacher workload, and providing ample, effective school supports.

These changes have powerful potential to expedite early-literacy development and mastering of Standard-English literacy, plus reduce early-literacy difficulties, time pressure and our significantly high child and teacher workload.

These, in turn, can make Australian education both far more effective and considerably less expensive.

*(Galletly, 2022, 2023b, In press)*

## The ABCs of Improvement

- A. **ACT** locally while looking globally.
- B. **BOOST** the lower-third to benefit everyone.
- C. **CHANGE** effectively to work less and achieve more.

(Galletly, 2022, 2023b, In press)

## The 2035 Goal

A practical, useful, 2035 goal to work towards:

*By 2035, Australian education will be routinely, efficiently, gently and easily achieving highly effective, rapid development of children's word-reading, spelling, writing and early-literacy skills, in GENTLE\* manner, in every early-years classroom, in all schools across our nation, as efficiently as is achieved routinely across schools in regular-orthography nations such as Taiwan, Japan and China, with at least 98% of Australian school children being confident, independent readers and writers, able to read 90% of the 10,000 most-frequent words, by age 8.5 years, or within 18 months of starting formal word-reading instruction.*

\*GENTLE: the Gentle, Engaging, Never-Tiring, Learning Enrichment that, e.g., Finland and Estonia achieve

(Galletly, 2022, 2023b, In press)

## Useful Models for Exploring Orthographic Impacts and Crosslinguistic Differences

Galletly, Knight and colleagues' models, explained in peer-reviewed articles and chapters, are useful tools for considering orthographic impacts and crosslinguistic differences:

- *Transition from Early to Sophisticated Literacy (TESL) model*, (Galletly & Knight, 2011b)
- *The Differential Disadvantage model*, (Galletly & Knight, 2011a)
- *Orthographic Advantage Theory*, (Knight, Galletly & Gargett, 2019)
- *The Literacy Component Model*. (Knight, Galletly & Aprile, 2021)

They are tools to empower research and exploration of theory and practice, with useful potential to inspire new research directions and knowledge-building, and strategic changes improving communication and literacy development. They build from research showing vastly easier literacy development and education in regular-orthography nations and the challenges Anglophone nations currently struggle with.

(Galletly, 2022, 2023b, In press)

## Thank You!

Thanks for reading this information.

Do share the poster and this file with friends and colleagues.

Available at [www.susangalletly.com.au/poster](http://www.susangalletly.com.au/poster).

Let's build wider awareness of orthographic impacts. Do keep the conversation happening.

The future is bright. Let's move there.

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