

Exploding **SOME** of the myths about learning to read:

A review of research on the role
of phonics



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*The way of words, of knowing and loving words, is a way to
the essence of things, and to the essence of knowing.*

— **John Dunne**

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Abstract

This review of research about the role of teaching phonics in learning to read initially briefly considers some of the most powerful and well established predictors for success in learning to read. These predictors include the development of oral language with parents and caregivers, shared reading and access to a range of reading in the home and preschool. It then focuses on developing an understanding of the background to and rationale for the focus on synthetic phonics in early reading in England, and more recently the suggestion that Australia might introduce a synthetic phonics check for all six-year-olds. Contemporary research about phonics – synthetic and analytic – and the role it plays in learning to read is then considered alongside other strategies. It appears that actions already taken in England by the government to change the national curriculum in line with the recommendations of the Rose Report (2006) were premature and this change in reading pedagogy has not yet been validated by research.

This review concludes that the costly introduction of a "phonics check" for all Australian six-year-old children is not supported by research.

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Executive summary

Controversial discussions about the best way to teach reading have ebbed and flowed for well over a century (Ewing, 2006) but they sometimes fail to consider how individual differences shape the process. Learning to read is a critically important part of learning to be literate. It is a given that 21st century literacies are highly complex processes that continue to develop to meet the growing needs of readers. While definitions of literacy vary from those emphasising skills (Wheldall and Wheldall, 2014) to those including social and cultural perspectives (Luke, 2007) this review sees literacies as social practices, their purposes and uses are socially and culturally constructed. This review focuses on reading defined as a sociocultural meaning-making process that must be underpinned by sound pedagogical reading practices and strategies.

Initially, this paper briefly considers the factors identified as significant in children learning to read and raises the question of what we mean when we talk about "reading". *The Australian Curriculum: English* (2018) defines reading as:

"processing words, symbols or actions to derive and/or construct meaning. Reading includes interpreting, critically analysing and reflecting upon the meaning of a wide range of written and visual, print and non-print texts."

Therefore, meaning-making is not only based on the text itself, but on the text type, the purpose of the text, the background of both the reader and the writer, and the wider cultural context where the text and reader are situated (Luke & Freebody, 1999; Freebody & Luke, 1990).

Many people continue to search for a reading recipe for all children. The arguments that continue to rage over the teaching of reading — and how children can be best assisted in learning to read — have much to do with the way different theorists understand the reading process. In addition, they relate to differing ideologies and differing understandings of pedagogies. As Moss and Huxford (2007) assert, it is essential that literacy issues are not addressed using a single paradigm's field of reference. Rather, policymakers in educational systems need to carefully consider evidence from different paradigms before making critical decisions.

In order to understand current reading research, there are a number of technical concepts that require definition and these are provided. The paper briefly considers the research that explores the best way to teach reading alongside the powerful predictors of reading success. Therefore, there is an important interrelationship between a reader's thinking, language and reading. It must also be understood from the outset that parents' education and socioeconomic status (Mullis et al, 2007; OECD, 2010a) and cultural orientations to reading (Williams, 2000; Heath, 1983) have a significant impact on the likelihood of children's success in learning to read. Children from disadvantaged or at-risk backgrounds require a higher level of support in early childhood contexts and at school. The schools that have higher enrolments of disadvantaged children subsequently require the best resources.

Other predictors of reading include the centrality of:

- a language and story-rich home environment, where reading and writing for different purposes is modelled and shared (Heath, 1983);
- frequent and diverse linguistically-rich parent/child oral interactions;
- the provision of a range of books in the home;
- quality, literacy-rich preschool experiences; and
- access to libraries (Krashen, et al, 2012).

The review then turns to the central purpose of this paper: an examination of the current debate concerning synthetic phonics. It provides the background to and timeline of the introduction of a synthetic phonics check for all Grade 1 children in England in 2012. The research that claims to support this policy decision is reviewed alongside subsequent critiques of its outcomes to date. As this section demonstrates, there is little evidence to support one form of phonics teaching in isolation from other strategies children need when learning to read. This must be considered in light of the proposed introduction of a synthetic phonics check for all Australian six-year-olds. This emphasis on isolated phonics in the early stages of reading, together with the trend towards pseudo words, will influence young children's understanding of the nature of literacy and impact their attitude to reading. It will also affect parents' ideas about how to help their young children.

The next section of the paper reviews research evidence about the best way to use phonics in the teaching of reading. It demonstrates that systematic phonics instruction is a valuable strategy in helping children learn to read, especially when tailored to meet individual students' needs and used with other strategies in a broad and rich literacy curriculum. Studies including Loudon et al (2005), and Hayes et al (2018), consistently conclude that highly effective teachers of reading achieve more success because they are knowledgeable about the needs and abilities of the children they teach. They are able to engage students in the reading process, challenging them to develop new skills and understandings by responding from a repertoire of reading strategies and experience. Additionally, teachers need to understand the interrelationship of morphology, etymology and phonology in the English language so they can embed this understanding in their reading pedagogy. The relationships between morphology, etymology and phonology is also highlighted through emerging work around word-structured inquiry (for example, Bowers and Bowers, 2017).

This review has documented the advantage for systematic teaching of phonics alongside other clearly established known strategies that foster the development of children's reading

In summary, this review of the current policy prospects around the teaching of synthetic phonics — together with other reading research over the last two decades — has found no clear advantage for either of the two main psychological models of phonics acquisition: analytic or synthetic phonics. However, it has documented the advantage for **systematic** teaching of phonics **alongside other clearly established known strategies** that foster the development of children's reading.

To improve reading for all Australian children, it is not constructive to assert undue pressure on educators (and teacher educators) to adopt only one way of teaching reading, as if it must and will answer all the difficulties that some students face

To improve reading for all Australian children, it is not constructive to assert undue pressure on educators (and teacher educators) to adopt only one way of teaching reading, as if it must and will answer all the difficulties that some students face in learning to read. Teachers must be trusted with the responsibility of reflecting on and adjusting professional practice in the light of research evidence and theirs and other practitioners' knowledge and experiences.

Appendix 1 makes some suggestions about new directions for research in this area. Appendix 2 provides some examples of the contradictions of a synthetic phonics approach with the content descriptions in *The Australian Curriculum: English*. Appendix 3 reprints a recent blog written by the author in this area.



Introduction

Learning to read is a critically important part of learning to be literate. It is a given that 21st century literacies are highly complex processes that continue to develop to meet the growing needs of readers. While definitions of literacy vary from those that emphasise skills (Wheldall and Wheldall, 2014) to those which include social and cultural perspectives (Luke, 2007), this review sees literacies as social practices with their purposes and uses being socially and culturally constructed.

This review focuses on reading defined as a sociocultural process that must be underpinned by sound pedagogical reading practices and strategies. Each learner brings their social and cultural understandings and orientation to literacy processes to the early childhood context and then to the school classroom. Each of these early childhood centres and school communities also has a unique context and history. Reading is defined as a process of bringing meaning to and constructing meaning from texts (and text is defined in its broadest sense to include visual and digital). Meaning-making is thus not only based on the text itself, but on the text type, the purpose of the text, the background of both the reader and the writer, and the wider cultural context of where the text and reader are situated (Freebody and Luke, 1990, 1999).

This paper briefly considers the factors identified as significant in children learning to read and raises the question of what we mean when we talk about “reading”. In order to understand the current reading research, there are a number of technical concepts that require definition and these are provided. The paper then considers the research that explores the best way to teach reading alongside the powerful predictors of reading success.

There is little evidence to support one form of phonics teaching

The review then turns to the central purpose of this paper: an examination of the current debate concerning synthetic phonics and the research that supports and critiques the proposed introduction of a synthetic phonics check for all Australian six-year-olds. This section demonstrates there is little evidence to support one form of phonics teaching.

The next section of the paper reviews research evidence about the best way to use phonics in the teaching of reading. The role of teacher education and ongoing teacher professional learning is also briefly discussed.

Finally, concluding comments consider the implications of this review. Appendix 1 makes suggestions about new directions for research in this area. Appendix 2 provides examples of the contradictions of a synthetic phonics approach with the content descriptions in *The Australian Curriculum: English*. Appendix 3 reprints a recent blog written by the author in this area.

How should reading be defined?

Controversial discussions about the best way to teach reading have ebbed and flowed for well over a century (Ewing, 2006) and sometimes fail to consider how individual differences shape the process. In an early consideration of the reading research, Huey (1908) concluded that “human variation” must always be considered and that learning to read defied a prescriptive recipe for all children.

Nevertheless, many continue to search for a reading recipe for all children. The arguments that continue to rage over the teaching of reading — and how children can be best assisted in learning to read — have much to do with the way different theorists understand the reading process (Davis, 2012, 2013). In addition, they relate to differing ideologies and understandings of pedagogies. As Moss and Huxford (2007) assert, it is essential that literacy issues are not addressed using a single paradigm’s field of reference. Rather, before making critical decisions, policymakers in educational systems need to carefully consider evidence from different paradigms and disciplines.

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The process of learning to read has often been conceptualised as developing a set of cognitive skills to crack the print code. Learning to read has thus been seen as involving the development proficiency in a hierarchical set of simple and discrete skills, then moving to more complex skills through a range of activities, including recognition of sound-symbol relationships about letters or groups of letters, at the same time encouraging students to memorise most commonly used sight words. Once competency in these skills has been achieved, students would then also answer questions about what they read to check their comprehension. In fact, Gough and Tunmer’s (1986) “simple view of reading” advocated a clear differentiation between word recognition processes and language comprehension processes because they asserted this allowed teachers to assess word recognition and comprehension performance separately, and then plan different kinds of teaching for each. Reading tests over the years have often consisted of merely asking children to read lists of words (see examples, Daniels and Diack, 1983; Schonell, 1971).

However, the Language and Reading Research Consortium (2015) has suggested that too often these simple models of reading are problematic and conflated when defining what it means to read, and when assessing reading ability.

For the purposes of this review, a far more expansive understanding of reading has been adopted. Reading is defined as a process of bringing meaning to and constructing meaning from texts (text is defined in its broadest sense to include visual and digital). It is not merely about deciphering a written code: it is about understanding the world and opening up new possibilities for being in the world. In Australia, the *Early Years Learning Framework (EYLF)* (2009) asserts that reading development is part of children’s social, emotional and physical growth and that it is

essential to acknowledge that children develop at different rates and stages and that different learning experiences will also impact when children will be ready to read.

The Australian Curriculum: English (2018) defines reading as:

"Processing words, symbols or actions to derive and/or construct meaning. Reading includes interpreting, critically analysing and reflecting upon the meaning of a wide range of written and visual, print and non-print texts."

Some definitions

Etymology: The study of the origin and history of words and how their form and meaning changes over time.

Decoding: Working out the meaning of words in text.

In decoding, readers draw on contextual, vocabulary, grammatical and phonic knowledge. Readers who decode effectively combine these forms of knowledge fluently and automatically, and self-correct using meaning to recognise when they make an error (The Australian Curriculum: English).

Grapheme: A single letter or combination of letters that represent a phoneme. Graphemes occur within morphemes and can represent more than one phoneme. In English, 44 sounds and 26 letters offer more than 120 grapheme choices.

Graphophonic knowledge: The knowledge of how letters relate to the sounds of spoken language.

Morphemes: The smallest units of meaning-bearing structures of words (bases or affixes — prefixes, suffixes and connecting vowel letters).

Morphology: The system-enabling morphemes that combine to represent the meaning of words. Every word is either a base, or a base with another morpheme fixed to it.

The morphophonemic principle: Refers to the fact that morphemes can vary widely in their phonological representation across related words. English orthography has evolved to favour consistent representation of morphology over phonology to mark connections in meaning across words.

Onset and rime: Children learn to identify the sound of the letter or letters before the first vowel (the onset) in a one-syllable word, and the sound of the remaining part of the word (the rime).

Orthography: The writing system that represents the meaning of a language.

Phonemes: The smallest units of a spoken language which can be combined to form syllables and words. In English, there are 44 phonemes but only 26 letters (although accent can play a role here).

Phonemic awareness: An auditory skill, the ability to focus on and manipulate individual sounds in spoken words.

Phonics: Matching letters — the symbols of the written language (graphemes) to the sounds (phonemes). In the classroom, there may be an overlap; teachers may use various aspects of these approaches based on the children's needs rather than a one-size-fits-all recipe.

Synthetic phonics: A part-to-whole approach that begins with focus on individual letters and emphasises teaching students to convert letters (graphemes) into sounds (phonemes).

Analogy-based phonics: Teaches children to use similar parts of known words (word families) to identify and decode words with similar parts. Onset and rime also used (for example, once "meat" is recognised, this can be used to identify beat, feat, heat, neat, seat, treat, etc).

Analytic phonics: Refers to larger-unit phonics programs that tend to start with children's known language and introduce shared reading. An explicit focus on words from these sources follows, including teaching children letter-sound correspondences and analysis of words into their component parts. The emphasis is on the larger sub-parts of words (i.e. onsets and rimes, spelling patterns) and phonemes.

Embedded phonics: Children are taught letter-sound relationships during the reading of connected text. Since children encounter different letter-sound relationships as they read, this approach will not be a preconceived sequence, but can still be thorough and explicit.

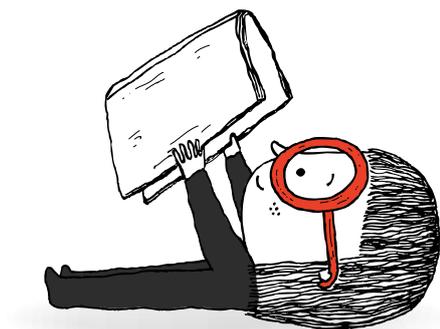
Phonology: The system by which speech sounds of a language represent meaning.

Phonological awareness: A broad understanding of the sounds around us that provide the basis for understanding phonics. Includes awareness of spoken words and syllables; rhymes; sounds; and phonemes.

Recoding: Translating sound to print, with no associated meaning. Compare with decoding, defined above, which includes meaning.

Semantic information: Refers to meanings used when reading. Includes a reader's prior knowledge, as well as the meanings embedded in text. Semantic meaning assists in decoding a text.

Syntactic knowledge: The way sentences are created using words, phrases and clauses.



What factors are most important in helping children learn to read successfully?

There are many factors that contribute to learning to read successfully, beginning with the opportunities young children have to talk and listen to their parents, older siblings and other caregivers, and also to engage in storying (Lowe, 2004).

Oral language development and shared reading

As Wolf (2007, page 85) cogently reminds us:

Each aspect of oral language makes an essential contribution to the child's evolving understanding of words and their multiple uses in speech and written texts.

From birth, children develop strong associations between talking, hearing stories and being loved. During these opportunities, and as their early language develops, they learn names for things. Children delight in making discoveries about language. Time for children and their loved ones to engage in serious play with sounds and words is critical (Ewing, Callow and Rushton, 2016).

However, this is not always the young child's experience. Many researchers suggest huge differences in the vocabularies and language processing of children who are linguistically advantaged by more opportunities to talk with their parents and caregivers rather than just overhearing talking (for example, Fernald and Weisleder, 2015). Research led by Hirsch-Pasek (for example, 2015) concludes the quality and diversity of one-on-one interactions between parent and child is critical. How much children are read to and read themselves is also an important predictor for success in reading. Wolf (2007, page 82) asserts:

Decade after decade of research shows the amount of time a child spends listening to parents and other loved ones is a good predictor of the level of reading attained later.

This is discussed in more detail below.

Social and economic factors

Closely related to opportunities for the development of linguistically rich oral, and shared opportunities for young children, other well established predictors of children's reading success include parents' education and socioeconomic status (Mullis et al, 2007; OECD, 2010a) and cultural orientations to reading (Williams, 2000; Bernstein, 1990; Heath, 1983). Bernstein's (1990) work on restricted and elaborated codes is critical to our understanding of the socially constructed language barriers that can impede disadvantaged children's success in learning. These factors are strongly connected to how language is used at home and how — or perhaps if — reading for different purposes is valued in the home and immediate community. Bernstein's research concluded that children from more advantaged social backgrounds were more likely to use elaborated language codes. Williams's (2000)

study of mothers reading to four-year-old children identified huge differences in the use of language across different socioeconomic areas in Sydney, NSW.

Ensuring young children have easy access to a range of books in the home can be extremely difficult for those at risk or living in poverty. Given that one in six Australian children are living in poverty (Australian Council of Social Services, 2016), this is a very real issue. PISA (2009) indicates that almost 70 per cent of the gender gap and 30 per cent of the socioeconomic gap in reading attainment is associated with disparities in the breadth and depth of reading (OECD, 2010a). Therefore, ready access to libraries is important (Krashen et al, 2012).

Purcell-Gates's (2007) research reported profound differences between five-year-old children who were frequently read to at least five times a week compared to children who were not. Those who were read to often were more capable storytellers and used more sophisticated language and syntax, enabling the transition to reading.

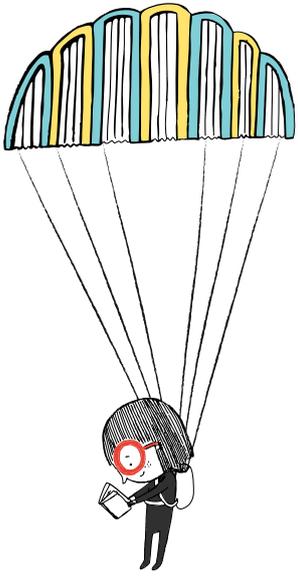
Children from disadvantaged or vulnerable backgrounds require a much higher level of support in early childhood contexts and at school. At times, diversity of language use in the home is not realised or addressed sufficiently when a child begins preschool or school. Therefore, schools that have higher enrolments of disadvantaged children need the best resources and teachers, and require access to the most up-to-date research and professional learning to understand the challenges some children face.

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How do children learn to read?

Three important sources of information in text are meaning, grammar and letter sound relationships — often referred to as semantics, syntax and graphophonic relationships respectively (Emmitt, Hornsby and Wilson, 2013, page 3).

Meaningful use of spoken and written language in a range of play-based and child-centred activities in different contexts lays a firm foundation for learning to read and write (Campbell, 2015, page 13). Sharing stories with young children helps lay the foundation for them to become good readers. Listening and responding to stories builds vocabulary and grammar knowledge and encourages children to read regularly, which is by far the best way of developing reading ability, writing competence, grammar, vocabulary, and spelling (Meek, 1988). What children attend to in reading lessons depends on what they and those around them think reading is for and how it can be used. Children will have a very different view of reading if it is mainly used as a quiet or settling time before bedtime rather than if a child is actively engaged in making meaning, asking questions and sharing related experiences (Williams, 2000; Meek, 1988; Chambers, 1985; Brice Heath, 1983).



The interaction between a child's oral language and learning-to-read process has been emphasised by many researchers, including Holdaway (1979), Ashton-Warner (1986), Clay (1979) and Cambourne (1988). Reading with young children should involve much discussion about images and context as well as sounds and symbols. Children delight in making their own discoveries about words and images on a page. Building a strong oral base around storybook language (Fox, 1993) and vocabulary, exploring the ideas in stories, relating them to personal experiences and asking questions are part of what Scott Paris (2006) has described as the development of unconstrained reading skills. Singing, exploring rhymes, chants and all sorts of oral language play also help establish reading as an enjoyable and creative learning experience, as well as establishing the foundations for phonological awareness.

When children focus on letters and sounds as they engage in shared reading experiences, associated writing activities enable them to demonstrate their developing knowledge and skills — they begin to write their name, see the relationships between letters and sounds, make short lists, create labels and re-tell events. Paris's (2005) constrained skills theory is an important reconceptualisation of how children learn to read. He proposes a continuum of skills, some highly constrained and more easily measured (such as writing your name, letter knowledge, phonic knowledge), some moderately constrained (phonological awareness, reading fluency), and others unconstrained (vocabulary development, comprehension) that are learned over many years, and perhaps even a lifetime. While constrained skills are necessary, they are insufficient for the development of complex reading (Stahl, 2011).

Stahl also points out that if highly constrained skills are overemphasised, unconstrained skills can be compromised.

Emerging findings from *Transforming Literacy Outcomes* (TRANSLIT), a major research project at the University of Wollongong (Jones, Kervin, Mantei, 2018), explore Stahl's continuum of constrained to unconstrained literacy practices students encounter as they transition from early childhood settings to primary school and then to secondary school. At a recent symposium at the University of Sydney, Jones, Kervin and Mantei shared their emerging findings. The project is investigating the nature of students' literacy experiences at key points in schooling, from foundation to senior secondary (preschool to school, primary to secondary school).

In particular, the research examines how teachers teach "constrained skills" (Paris, 2005), including alphabet knowledge, word lists and phonics, and how they allow for "unconstrained skills" to develop. One aspect of their research highlights increasing parental pressure on early childhood educators to introduce more constrained skills and code-based practices, including phonics, in preschool curriculum in readiness for school. These demands can threaten to overshadow broader literacy repertoires that are so important for emergent readers. Further findings will be valuable for all teachers of literacy and for schools in developing their literacy programs and policies, and will also help those outside the teaching profession understand how isolated instructional experiences can be integrated into rich, engaging and meaningful literacy programs.

Becoming a fluent and accurate reader means learning to use all the cue systems: semantic, graphophonic and syntactic cues, as well as having an understanding of Freebody and Luke's (1990, 1999) reader roles (code breaker, participant, user and analyst). Developing graphophonic knowledge is part of an approach to reading that focuses on meaning, purpose and enjoyment (Ewing, Callow and Rushton, 2016). Graphological and phonological aspects of decoding print are a part of the reading process, not the first or the most or least important.

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Therefore, there is an important interrelationship between a reader's thinking, language and reading. The role of any of the cues in learning to read must be understood with other predictors of reading success. These include the centrality of:

- a language and story-rich home environment where reading and writing for different purposes is modelled and shared (Heath, 1983);
- frequent and diverse linguistically-rich parent/child oral interactions;
- the provision of a range of books; and
- quality, literacy-rich preschool experiences.

It must also be emphasised that readers of different languages use different pathways for reading different scripts (for example, Chinese and English), and these different pathways are used in the same brain. Children learning straightforward alphabets, such as German or Greek, gain fluency more quickly than those learning more challenging codes, such as English (Wolf, 2007).

It is within this complex context, with its inter-related set of factors, that the current debate about synthetic-versus-analytic phonics and a phonics check for all six-year-old Australian children must be considered.

What is the background in the current debate around the role of phonics in learning to read?

Initial, intensive and isolated phonics instruction has long been proposed as a starting point in the reading process. Over the years many commercial programmes have argued that intensive phonics taught first is the key to helping all children learn to read (for example, *Hay Wingo*, *Open Court*, *Jolly Phonics*, *Ants in the Apple*, *Words in Colour*). In the past, such intensive phonics programmes have been promoted against "look-say", whole word and language experience approaches, as well as other programmes such as *The Initial Teaching Alphabet* and *Breakthrough to Literacy*, as well as the whole language approach based on research from psycholinguists such as Frank Smith, Ken and Yetta Goodman, and Stephen Krashen.

Currently in western education systems, including those in the United Kingdom, the United States of America and Australia, there is an on-going academic debate about whether synthetic phonics or analytic phonics are more effective. This has been influenced by the government policy in England that has mandated since 2010 that *the* method of teaching reading should be synthetic phonics.

When learning to read using a synthetic phonics approach, students start with the smallest units and incrementally learn to blend or synthesise the sounds to form words as well as to sound out or segment a word. Proponents including Stuart (2006) suggest learning individual letter sound correspondences as early as possible is the key to success in reading and that rhyming words, etc, are distracting. The sequence starts from teaching small groups of letter-sound relationships in short sessions and moves to blending and segmenting words with consonant-vowel-consonant patterns. Initially, the meaning of the words are regarded as irrelevant and inconsequential – hence the use of nonsense words in the UK phonics check. The theory is that

A synthetic phonics test has been in place for Year 1 students in England since 2012. All Year 1 children are asked to “read” 40 words on a computer screen with no context. The words are not put in a sentence, or given any meaning and 20 are pseudo words

children should master letter/sound matches first before trying to attend to meaning. Often no texts are initially used although sometimes texts with a contrived vocabulary (only words which the students can decipher at this point) are introduced. In England, a range of commercial programs that use this approach are recommended by the government.

Government education ministers in England have asserted that this approach is supported by rigorous research, although the section below suggests this assertion is problematic. A synthetic phonics test has been in place for Year 1 students in England since 2012.

All Year 1 children are asked to “read” 40 words on a computer screen with no context. The words are not put in a sentence, or given any meaning and 20 are pseudo words. This is a deliberate, important feature of a synthetic phonics approach, as children must show they are not relying on word meaning or prior experience with the word in order to successfully recode it. Nonsense words, such as “thrand”, “poth” and “froom” ensure the children are not using meaning to decode the words.

The claim that this test has been important in improving children's reading has been supported by an expert panel (Buckingham, 2017) recommending its introduction in Australian schools. This has resulted in the Australian Federal Minister for Education, the Hon Simon Birmingham, requesting state and territory education ministers in Australia agree to a synthetic phonics check for all six-year-olds. In 2018, the United Kingdom's synthetic phonics check is being trialled in South Australia. The NSW Department of Education's Centre for Education Statistics and Evaluation (2017) has also released a new document, *Effective reading instruction in the early years of school*, which endorses synthetic phonics. Many NSW teachers are currently being offered training in synthetic phonics.

The following section considers the timeline in recent highlighting of the role of synthetic phonics in learning to read.

Tracing the recent emphasis on synthetic phonics: A timeline

1997/98–2004

A seven-year longitudinal study about synthetic phonics conducted for the Scottish government attracted huge media attention in the United Kingdom (Department for Education and Skills [DfES], 2006; National Inquiry into the Teaching of Literacy [NITL], 2005) and became known as the “Clackmannanshire phonics intervention.” Conducted by Johnston and Watson (2005), it was jointly funded by Clackmannanshire Council and the Scottish Executive and involved 300 children. It followed two earlier related studies. All three studies were concerned with the knowledge and skills needed by children to learn to connect letters at the optimal pace and sequence. However, the third study is the main focus because it followed participant children until the end of primary school.

Clackmannanshire is the smallest Scottish local education authority and manages three secondary schools and 19 primary schools. Some of the primary schools are very small and, in 2004, 24 per cent of the students were entitled to free school meals (compared to the national average of 21 per cent) although this percentage varied quite markedly from one school to another. This suggests children participating in the study were from diverse backgrounds.

Essentially the study was a comparison of two competing models of processing phonemes. It involved two treatments and one control group. In the first phase of the project (16 weeks) across eight schools:

- Five “synthetic phonics” classes had 20 minutes of whole-class synthetic phonics instruction each day, learning six-letter sounds in eight days in initial, middle and final positions of words, together with the formation of the letters. They were taught to sound and blend letters and were shown how to use this to both read and spell words.
- Four “phonemic awareness/analytic phonics” classes did phonemic awareness training for 10 minutes each day without reference to print and a separate 10 minutes of analytic phonics, covering just one sound per week.
- A control “analytic phonics” group of four classes had 20 minutes each day consisting of analytic phonics, also covering one sound per week.

After 16 weeks, tests on word reading showed the analytic and phonemic awareness/analytic groups were reading one month behind their chronological age. The synthetic phonics group were seven months ahead of their chronological age, and seven months ahead of the other two groups. In spelling, the synthetic phonics group was eight months ahead of the analytic phonics group and nine months ahead of the analytic phonics/phonemic awareness group. Watson and Johnston (1998: pages 7–8) concluded that synthetic phonics was a more effective teaching method than analytic phonics.

In the second phase, those classes initially not given synthetic phonics followed the synthetic phonics programme, completing it by the end of their first year at

school. Towards the end of their second year, all 13 classes were re-tested. The reading and spelling averages for all groups were well above their chronological age and there was no significant difference in word reading or comprehension between the three original groups, although there was significant difference in favour of the original synthetic phonics group for spelling.

At the end of their seventh year in primary school, the children were re-tested and reported to be an average of three years and six months ahead of their chronological age in decoding words; one year and nine months ahead in spelling; and three-and-a-half months ahead in comprehension (Johnston and Watson, 2005). Johnston and Watson concluded that synthetic phonics was a highly effective teaching method that produced long-lasting effects.

Yet the participant children did not perform any better than any other school in Scotland's national standardised reading test in Year 7. Reading comprehension was also not significantly improved by the synthetic phonics approach.

A close look at the study raises serious concerns and suggests there are a number of limitations in its design and the analysis of findings, and therefore limitations in the conclusions (for example, Wyse and Styles, 2007; Wyse and Goswami, 2008). There is little information provided about the participating schools. Further, the participant children's socioeconomic backgrounds were not assessed, nor was their prior development and achievements before the study carefully recorded. Each class teacher taught the programmes and there were differences in their experiences and effectiveness and therefore differences in the way they were implemented. **Phases one and two of the intervention were not valid comparisons of the synthetic phonics teaching method versus the analytic phonics teaching method because the different groups were taught different amounts. These limitations are classic problems of control when attempting to apply a simplistic experimental methodology to complicated educational issues with many variables.**

To further complicate matters, some of the schools involved were also involved in parallel interventions, including library renewal, homework clubs and home-school links. The research design failed to isolate the impact of the range of these other factors that may also have affected the participant children's reading development over their primary career (including teacher effectiveness, access to resources, other programmes running in these schools, or remedial help).

The study did not undergo peer review, largely because it was not possible to distinguish the impact of the intervention from the other programmes running alongside it (Ellis, 2007).



In view of these limitations, it is very difficult to understand why this study, as opposed to any of the other studies covered in the two meta-analyses, was singled out by the Rose Review other than because of its high media profile and because it was politically expedient to do so.

The Scottish education policymakers did not proceed with a synthetic-phonics-first approach to literacy following the study

It is of particular note that the Scottish education policymakers did not proceed with a synthetic-phonics-first approach to literacy following the study. In fact, the Scottish School Inspectorate commented:

*"While this programme had made a strong impact on pupils' ability to sound out, spell and recognise words, **further work is required to link these skills to other aspects of reading, such as comprehension**" (HMIE, 2006, page 4).*

Yet it is this study that has become the central reference point in the debate about the role of synthetic phonics in teaching reading in English schools and now potentially in Australia.

2006

The Rose Review, commissioned by the Secretary of State for Education for England, recommended a systematic synthetic phonics approach to teaching early reading. The Rose Report recommended that an adaptation of the "simple view of reading" be adopted, separating out word recognition skills from comprehension (Rose, 2006, Appendix by Stuart and Stainthorp). It asserted that teaching early reading to children aged five or younger should focus on the ability to decode, with this shifting to comprehension only when children had mastered the alphabetic code:

"There is ample evidence to support the recommendation of the interim report that, for most children, it is highly worthwhile and appropriate to begin a systematic programme of phonic work by the age of five – if not before for some children – the way having been paved by related activities designed, for example, to build phonological awareness" (page 29).

The idea that children younger than five will benefit from a systematic synthetic phonics programme is arguably one of the most controversial recommendations of the Rose Report. It is worth noting that many children in other European countries, including Finland, do not start formal reading instruction until they are seven or eight.

England's Department for Education and Skills (DfES) commissioned a systematic review of approaches to the teaching of reading (Torgerson et al, 2006). The methodology of the NRP was refined to produce a meta-analysis that included 20 randomised controlled trials (RCTs) concerned with the initial teaching of reading. On the basis of their work, Torgerson et al conclude, once again in direct contrast to the Rose Report, that:

*"There is currently **no strong RCT evidence that any one form of systematic phonics is more effective than any other**" (2006, page 49).*

Systematic phonics teaching was associated with better progress in reading accuracy across all ability levels and the report recommended that:

*"Since there is evidence that systematic phonics teaching benefits children's reading accuracy, it should be **part of every literacy teacher's repertoire and a routine part of literacy teaching, in a judicious balance with other elements**" (page 49, emphasis added).*

It is essential to note this plea for "judicious balance" with other important strategies is often omitted when this report is used to support a particular political and/or policy stance.

2010

Wyse and Goswami's (2008) analysis of a range of English studies led them to conclude it was premature to state that reliable empirical evidence supports the claim that synthetic phonics instruction is the best early reading instruction for most children.

They pointed out that the data support approaches are based on *systematic* tuition in phonics and that contextualised systematic phonics instruction is effective. They underline that more research is needed, particularly with emergent readers, in order to determine whether contextualised systematic phonics is more effective than discrete systematic phonics.

2011

A phonics catalogue was published containing details of phonics programmes that were defined by the DfE as "meeting key features of an effective systematic synthetic phonic programme" (DfE, 2010b, page 1).

2012

The statutory Phonics Screening Check (PSC) was introduced in England in 2012 by Education Minister Nick Gibbs to "encourage schools to pursue a rigorous phonics programme" with the hope that specifically "promoting systematic synthetic phonics" would result in "an increase in the number of children able to read" by the end of Key Stages 1 and 2 (DfE, 2012a, page 5).

This screening check reflects the privileging of teaching early reading through systematic synthetic phonics. It is intended to assess children's phonic abilities and their knowledge of 85 grapheme-phoneme correspondences (GPCs) through decoding 20 real words and 20 pseudo words. It is argued that the use of pseudo words works against or confuses the small number of children who are already reading in Year 1.

Since the national rollout, the PSC has been strongly criticised by many teachers who assert the check provides them with little further information about their students' reading and is therefore an unnecessary expense (for example, A Davis, 2012).

2015

The final report from the National Foundation for Educational Research (NFER), funded by the Department for Education (DfE) and undertaken by Walker, Sainsbury, Worth, Bamforth and Betts (2015). Entitled *Phonics Screening Check Evaluation: Final Report*, it revealed:

“There were no improvements in attainment or in progress that could be clearly attributed to the introduction of the check, nor any identifiable impact on pupil progress in literacy for learners with different levels of prior attainment” (page 67).

The synthetic phonics check in England has not delivered improvements in long-term reading capabilities. The report also noted concern about the amount of class time now devoted to learning to read nonsense words rather than real words. It is also important to note here that an Urbis evaluation of MULTILIT, commissioned by the NSW Department of Education and Communities in 2012, recommended the use of nonsense words were not helpful for some children.

2016

Other research in England (for example, Ellis, 2016) suggested that although Year 1 children had improved their ability to pass the phonics test/check by 23 per cent since it was introduced in 2012, to date it had not significantly improved comprehension.

Howard Gibson and Jennifer England (2016) highlighted problems surrounding the Year 1 Phonics Screening Check that has accompanied the legislative framework for synthetic phonics in English primary schools.

They investigated the inclusion of pseudo-words and raised questions regarding their generation and categorisation, as well as the rationale for their inclusion, challenging the assumption that the early ability to read pseudo-words is associated with later success in reading. They found no evidence that the ability to read nonsense words, such as “yune” and “thrand”, is a reliable predictor of later reading success.

A well known and interdisciplinary team, Goodman, Fries and Strauss (2016), address common misconceptions about reading and accurate word recognition. Using a range of research evidence, they challenge the basis for current government policy in England and, potentially, Australia, with its emphasis on phonics.

To date, the administration of the phonics test has not improved reading comprehension scores (Department for Education, 2016).

Margaret Clarke's (2016, 2017) *Reading the Evidence: Synthetic phonics and literacy learning* documents how synthetic phonics has come to dominate literacy instruction in England — from the Rose Report to the Phonics Screening Check. Her research and writing shows how a normalised public measure of “pass” and “fail” in the phonics check does not take into account different starting points for young children's

The phonics check in England has not delivered improvements in long-term reading capabilities. The report also noted concern about the amount of class time now devoted to learning to read nonsense words rather than real words

journeys in becoming readers. She re-calibrates the data of "pass/fail" on the phonics check on the basis of the children's chronological age. She costs the synthetic phonics policy in the UK and lists which individuals and companies have benefitted

Individuals and companies have benefitted from the £23 million (A\$40.6 million) to date spent by the Department for Education on matched-funding to support the teaching of synthetic phonics

from the £23 million (A\$40.6 million) to date spent by the Department for Education on matched-funding to support the teaching of synthetic phonics. Her book carefully analyses test results in England show that the subsequent narrowing of pedagogy in England has not improved their literacy rates. Her key concerns include:

- i) There is a large difference in the pass rate each year between the oldest and youngest children. Thus many of the youngest children, particularly boys, are labeled reading failures early in their school career.
- ii) Not only are half the words in the phonics check pseudo words, but each year the first 12 words in the test have been pseudo words. Some of those children confused by the pseudo words have been those who could already read, or have attempted to make these into real words. There are children, including some autistic children, who refused to attempt pseudo words, but read all the real words correctly and thus failed the check.
- iii) The assumption that the needs of those who fail to reach the arbitrary "pass mark" of 32 on this test may still be met by a continuing focus on synthetic phonics as the solution to their problems seems naïve and does not consider or identify reasons for this failure.
- iv) There have been no improvements in attainment or in progress that could be clearly attributed to the introduction of the phonics check, and no consideration of other confounding variables that may have contributed to the children's performance.
- v) In England, what was originally referred to as a "light touch" test has become a high stakes form of data, used by Ofsted in its judgement of a school's standing. Even though results for individual schools are not published, they are available on Raiseonline, accessible to Ofsted inspectors.

2017

Darnell, Solity and Wall (2017) highlighted that the phonics check fails to test some of the most common sound/letter matches in the English language, and screens for a very limited number of the hundreds of sound/letter matches in English. They found that children can achieve the pass grade of 32 from 40 with only limited phonic knowledge. Adoniou (2017a and b) also points out that as the English test only tests single syllable words with regular phonic patterns, it is not possible to ascertain how many English children can read the most common words in the English language (for example, "one", "was", "two", "love", "what", "who" or "because") as these words are not included in the test. She highlights that

these words are among the 100 most common words in the English language (or about 50 per cent of the words encountered in picture books, novels, newspaper articles and government forms).

Despite the English research, in Australia the Federal Minister for Education, the Hon Simon Birmingham appointed an "expert panel", chaired by Dr Jennifer Buckingham, Centre for Independent Studies. It should be noted that the panel was not representative of a range of reading experts and that the Centre for Independent Studies is a right-wing think tank.

The expert panel recommended that, after a pilot study to streamline the administration, Australia adopt the Year 1 phonics screening check that has been used in England since 2011. Birmingham argued its purpose was to identify students experiencing difficulties learning to read, despite research suggesting the check is no more successful than teachers in identifying students who may be experiencing difficulties in the reading process. In addition, it is difficult to understand how the check will provide any specific information about what the phonic difficulties of an individual child might be, or in fact whether the struggles are actually with phonics.

At a December, 2017, meeting of all education ministers, Birmingham asked the Australian states to adopt the phonics screening check, but so far no agreement has been reached.

In late 2017, the NSW Centre for Education, Statistics and Evaluation (CESE), Department of Education, published a research report about effective reading instruction in the early years of school. This document states "the explicit instruction model with the most evidence behind it is phonics ... the most effective phonics method is synthetic phonics" (page 2). The report compares phonics teaching with a "whole language" approach to teaching reading. **This comparison is incorrect and outdated.** Whole-language experts such as Ken Goodman (1995) agree that children have to acquire the ability to decode. The CESE report pays little attention to the extensive United Kingdom research findings summarised above. It examines only five elements in the learning-to-read process (phonemic awareness, phonics, fluency, vocabulary and comprehension), omitting some of the other important predictors of success described earlier in this review. It draws heavily, and often erroneously, on some of the national reports and meta-analyses also discussed in this review. Disappointingly, this report defines reading simplistically and only considers



Disappointingly, this report defines reading simplistically and only considers evidence in one research paradigm. Further, it asserts that teacher educators are not teaching phonics in pre-service teacher education, basing this on one inconclusive report from the New South Wales Educational Standards Authority.

2018

South Australia announces a trial of the English phonics check. The check has proven to be no more accurate than teachers' judgements in identifying children with reading difficulties. NSW teachers in government schools are offered synthetic phonics training.

Perhaps most concerning is that this emphasis on isolated phonics in the early stages of reading, together with a new emphasis on pseudo words, will influence young children's understanding of the nature of literacy and impact their attitude to reading. It will also affect their parents' ideas about how to help their young children. Such concerns are serious in light of the earlier discussion of the factors that contribute to reading success. The relationship between oral and written language, the importance of story and being read to, and the play with words are all ignored in focusing solely on synthetic phonics.

Reviewing relevant research related to the teaching of phonics

There is a powerful body of international research about the role of phonics in the teaching of early reading spanning many decades. This section of the review highlights some of the research over the last two decades. It demonstrates that systematic phonics instruction is a valuable strategy in helping children learn to read, especially when tailored to meet individual students' needs and used with other strategies in a broad and rich literacy curriculum.

Systematic phonics instruction is a valuable component of early reading instruction

A highly significant and continually cited contribution to the debate about research evidence and the teaching of reading is the 2000 report of the USA's National Reading Panel (NRP) on reading instruction derived from an extensive meta-analysis of relevant research, carried out by the National Institute of Child Health and Human Development. Although it is often cited as supporting synthetic phonics by synthetic phonics advocates, it has attracted a lot of criticism for its design and inconsistencies (for example, Garan, 2001) and must be read in its entirety.

Questions addressed in the review included:

"Does systematic phonics instruction help children learn to read more effectively than non-systematic phonics instruction or instruction teaching no phonics?" (chapter 1, page 3).

The report concluded that while specific systematic phonics programs are all significantly more effective than non-phonics programs, **they do not appear to differ significantly from each other in their effectiveness**. The report noted that "more evidence is needed to verify the reliability of effect sizes for each program" (National Institute of Child Health and Human Development, 2000, chapter 2, page 93). Additionally, the report warns against excessive emphasis on decoding instruction, noting no significant positive effects for decoding emphasis lessons were found for students, including struggling readers beyond Year 1. Further, the report stated that:

*"Programs that focus too much on the teaching of letter-sounds relations and not enough on putting them to use are unlikely to be very effective. In implementing systematic phonics instruction, educators must keep **the end in mind** and ensure children understand the purpose of learning letter-sounds and are able to apply their skills in daily reading and writing activities" (chapter 2, page 96).*

The 2000 National Assessment of Educational Programs (NAEP) Reading Report also warned against overemphasising breaking words into parts. It reported that for 4th Graders, frequent breaking of words into parts had a consistent negative relation to their reading performance on the NAEP assessment. The more frequently students received this help, the lower their average score. In contrast, 4th Graders who reported their teachers never helped them break words into parts had the highest average score in this assessment.

Phonics instruction needs to be embedded in a broad literacy curriculum

Many researchers' analyses of the relevant research, including Camilli, Vargus and Yurecko (2003, 2006) conclude that phonics instruction is most effective when embedded in a broad and rich literacy curriculum. Other researchers provide evidence that the "ideal" mix of phonics content and pedagogy must be varied to take account of the specific needs of individual learners and their context. Carol Connor and colleagues (Connor et al, 2004, 2007a) argue that children starting school with a rich vocabulary and well developed letter knowledge need a different program from those who start with less vocabulary and letter knowledge if they are to make best progress. As mentioned above, other studies demonstrate the clear advantage that children with a wide range of books in the home have on beginning school.

Another report often cited in support of a synthetic phonics approach is the *National Inquiry into the Teaching of Reading* (Australian Government, 2005). Although the title suggests the subject was the teaching of reading, the focus of this inquiry was essentially on instruction for students experiencing difficulty with reading. Nevertheless, it recommends that:

*"Teachers [should] provide **systematic, direct and explicit phonics instruction** so children master the essential alphabetic code-breaking skills required for foundational reading proficiency. **Equally, that teachers [should] provide an integrated approach to reading that supports the development of oral language, vocabulary, grammar, reading fluency, comprehension and the literacies of new technologies**" (Australian Government, Department of Education Science and Training, 2005, page 14).*

The report cautions that:

“While the evidence indicates that some teaching strategies are more effective than others, no one approach of itself can address the complex nature of reading difficulties. An integrated approach requires that teachers have a thorough understanding of a range of effective strategies, as well as knowing when and why to apply them” (Australian Government, Department of Education, Science and Training, 2005, page 14).

Reading pedagogy needs to be tailored to meet individual student needs

Louden, Rohl, Barratt-Pugh, Brown, Cairney, Elderfield, House, Rivilland and Rowe's (2005) *In teachers' hands* is also significant here. A sample of 2000 children from each Australian state and territory were assessed at the beginning and end of their first or second year at school, and the teaching practices used by the teachers whose children made the most progress were explored. The research findings demonstrated that highly effective literacy teachers implement similar activities to their less-effective colleagues, but achieve greater instructional density because they are knowledgeable about the individual children they teach and are able to be more responsive to what each child understands and needs. These teachers “follow-through” teaching points, challenge children intellectually, seize the “teachable moments” and still ensure the learning-to-read process is engaging and motivating. Less effective teachers were more likely to teach phonics in isolation and rely on busywork. The more effective teachers contextualised their teaching and framed reading and other literacy activities to prompt intrinsic purpose and engagement. Their teaching had more pace, meta-language and challenge (Louden et al, 2005).

Research findings demonstrated that highly effective literacy teachers ... 'follow-through' teaching points, challenge children intellectually, seize the 'teachable moments' and still ensure the learning-to-read process is engaging and motivating

Further, in 2005 the United Kingdom Literacy Association (UKLA) concluded that:

Best practice in the teaching of early reading brings together two key components: the acquisition of the alphabetic principle and comprehension.

These components should not be developed in isolation. Best practice integrates skills teaching with more authentic, contextually-grounded literacy activities, responding to the interests of the learner and the literacy contexts of their homes and communities (UKLA, 2005, page 3).

Pressley's (2006) research found that teachers who understand the need to integrate letter-sound knowledge across reading and writing activities, while meeting individual children's needs, work flexibly but systematically with all three phonics methods (synthetic, analytic and embedded). Spanning New Zealand and Scottish contexts, Connelly et al (2009) compared the skills and competencies of children taught in Scotland using a phonics-first approach with children taught in New Zealand using a non-phonics text-based approach. A common set of testing

procedures aimed to capture a range of skills appropriate to each method on a sample matched for their reading level. The researchers demonstrated that children took different routes to becoming skilled readers depending on the methods used in their reading lessons. The phonics-first instruction enabled faster recoding and deciphering of pseudo-words. Those who learned through a text-based approach demonstrated faster reading of whole texts with no diminishing of accurate comprehension. This research underlines **there is no single recipe in learning to read and highlights potential problems that may arise when only one approach is used because it demonstrates the different pathways children may take in learning to read** (Connelly et al, 2009).

This research underlines there is no single recipe in learning to read and highlights potential problems that may arise when only one approach is used because it demonstrates the different pathways children may take in learning to read

In addition, more recent New Zealand experimental research undertaken by Tse and Nicholson (2014) focused on the reading needs of children from low socioeconomic backgrounds and compared three broad approaches:

- i) The use of big-book reading combined with embedded phonics instruction.
- ii) A phonics-only program with no use of books.
- iii) A big-book shared reading program with limited focus on letter-sound teaching.

The researchers found that compared to big-book reading and phonics-alone programs, combined embedded instruction appeared to have no comparative disadvantages, but **it had considerable advantages in supporting low socioeconomic students' literacy**. They concluded that "the combined instruction was as effective as explicit phonics for basic decoding skills and was superior to phonics for all other measures of literacy" (page 17). These findings provide some support for many early years educators who have been particularly concerned about the dangers of imposing an inappropriate reading curriculum on young children.

Snowling and Hulme (2014), in an overview of research into early interventions, demonstrated that interventions may only be successful if coupled with increased time spent reading outside of the classroom, *including in the home* (page 303), and interventions need to increase student enjoyment of reading. Studies of how to increase student engagement in reading indicate strong links between cognitive, social, cultural and affective aspects of literacy learning, with intrinsically motivating tasks that foster choice, coherence, collaboration and student interest.

Much research also continues around interventions based on building strong oral language foundations (Snowling and Hulme 2011; Snow 2016). Recently Hayes, Hattam, Comber, Kerkham and Thomson reported the findings of their latest research in four highly disadvantaged Australian schools. They described the "uncommon pedagogies" of successful teachers who were able to support the literacy learning of at-risk students with a rich repertoire of teaching strategies were most successful in improving their students' literacies. They were able to build on the

knowledge and experiences that students had, connecting these to school learning, designing open-ended tasks that required complex thinking and use of language, as well as providing opportunities to contemplate significant life issues through engaging with authentic texts. This study resonates with Louden et al's (2005) research reported more than a decade earlier.

Over-teaching of phonics may impede comprehension

A range of research has demonstrated that over-teaching of intensive phonics can interfere with children's ability to construct accurate meaning from text, including USA government studies which specifically assessed the impact of intensive phonics-centred instructional approaches mandated by their "No Child Left Behind" legislation. For example, the *Reading First Impact Studies (NCEE 2009-4038)*: ies.ed.gov/ncee/pubs/20094077/pdf/20094078.pdf and ies.ed.gov/ncee/pubs/20094038/summ_a.asp found that time spent on phonics in Year 1 and Year 2 can be significantly and negatively related to student reading comprehension:

For every minute spent on intensive phonics in daily reading sessions, there was a minus 0.10 point drop (-0.10) in Year 1 student comprehension scores in Year 1, and a minus 0.15 (-0.15) point drop in Year 2.

Another study showing similar findings is the NCEE evaluation of an after-school reading program using a specific phonics-centred, direct instruction pedagogy to teach reading to below Year 2 through to Year 5 students (NCEE 2009-4078). This study found that when compared to the reading scores of regular (that is not specifically phonics-centred) after-school programs, two years of the phonocentric reading program had a negative and statistically significant impact on their total reading scores. Such research trends strongly suggest that intensive phonics, rather than always supporting comprehension, can actually impede the process of learning to read for many children. Giving young learners the message that written language can only be comprehended when converted into audible or inaudible speech to which the reader "listens" may encourage some young learners to give up the search for meaning and concentrate on getting the sounds right, thus creating excellent recoders (rather than decoders) because they cannot understand what they have recoded.

Learning to read differs depending on the orthography of different languages

Longtime researchers in the early reading field, including Ziegler and Goswami (2005) and Goswami (2007), also advocate moving away from a polarised debate around synthetic versus analytic phonics. Examining the evidence about how children learn to read across different languages, Goswami's work provides clear evidence that the phonological complexity of the spoken language and its spelling consistency in the written language determines how quickly children learn to read. As noted earlier, his study of European children asked to read across three languages at five years of age did less well than those aged seven. Goswami suggested that trying to teach reading too early can be counterproductive for some children. Ziegler



and Goswami (2005) and other advocates of analytic phonics argue that the orthography of the English language is better suited to a developmental sequence that uses rhyming skills.

Strauss and Altwerger (2007) argue that the logographic nature of the English alphabet, together with neuroimaging research, does not distinguish the phonological processing model of reading from the graphophonic processing of a meaning-centered model. They conclude from their multi-classroom research that **neither linguistic, neuroscientific, nor classroom research has demonstrated the superiority of intensive phonics over meaning-centered approaches to reading.**

Phonics instruction is insufficient for struggling readers

More recent research points to an increasing disquiet that phonics instruction is not effective for all children and certainly does not aid in spelling or vocabulary development. A meta-analysis of comparative phonics intervention studies, undertaken by McArthur et al (2012), provides an example. The researchers analysed 11 studies of struggling readers. Each compared phonics-alone reading instruction with phonics and phoneme awareness training, or phonics and irregular word reading training, to a control condition where the students had no training or unrelated training, such as training in mathematics skills. While phonics-alone training showed a significant (moderate) effect on word and non-word reading accuracy, there was no significant effect on word or non-word reading fluency and no significant overall effects on spelling or reading comprehension.

Older students experiencing difficulty with reading

With regard to reading instruction for older students experiencing challenges with reading, the effectiveness of different approaches to reading difficulties and disabilities is less studied. In addition, Blachman et al (2013) comment that very few studies investigate the long-term impact of early intervention on students' later success with reading for meaning. They highlight that many struggling students need ongoing support to acquire more complex skills. Similarly, Compton, Miller, Elleman and Steacy (2014) have estimated that 10–15 per cent of children experiencing reading difficulties who complete intense remedial phonological instruction continue to struggle.

Another area of investigation is eye movement research (for example, Mantei and Kervin, 2016; Paulson and Freeman, 2003), which tracks the reader's actual eye movement during the reading process. Experienced readers look at only 20–70 per cent of the words in a line. Mantei and Kervin (2016) used eye movement technology with miscue analysis and a re-tell of the story. They studied children who were experiencing difficulty with reading books when their reading response differs from what is on the page. Their close analysis suggests that children experiencing difficulty with reading often have a very limited repertoire of reading strategies,

often limited to the sounding out of an unknown word or an over-reliance on the initial letters in a word. They suggest more time may need to be devoted to the reading of images when reading multi-modal texts.

Guided invented spelling and learning to read

Another area of research creating new understanding is children's use of temporary spelling (commonly called invented spelling) and its impact on learning to read. Canadian researchers Ouellette and Senechal (for example, 2008, 2012, 2017) build on earlier work in this area to offer substantive research spanning two decades. They have consistently demonstrated a causal relationship between children's guided invented spelling and success in learning to read over and above alphabetic knowledge and phonological awareness. Monitoring children's invented spelling over time can indicate their understanding of reading to make meaning as well as phonics and spelling. Invented spelling is an exploratory process for children that enables them to understand the relationship between talk and writing, thus involving the integration of phoneme and orthographic representations.

Structured word inquiry

An important emerging area of research, led by Bowers and Kirby (2010) and Bowers and Bowers (2017), examines English as a morpho-phonemic system and suggests that the privileging of phonics without meaning is insufficient. Structured Word Inquiry (SWI) draws from both phonics and psycholinguistic approaches. However, it goes further to theorise that the English spelling system only makes sense when the sub-lexical constraints of morphology, etymology and phonology are considered in combination. Their work demonstrates that English spellings represent the interrelationship of morphology, etymology and phonology and that early reading instruction should incorporate this. Rather than the alphabetic principle that underpins phonics instruction, Bowers and Bowers point to the fact that **letters in English often play no role in representing the sounds of words**. They explain:

"The English spelling system is designed to represent both pronunciation and meaning, and the spelling of most, if not all, English words can be explained once the constraints of phonology, morphology, and etymology are jointly considered. The claim that English is full of exception words that just have to be remembered (so-called sight words) reflects a fundamental misunderstanding of the writing system" (page 131).

Bowers and Bowers (2017) have undertaken what they term "structured word inquiry intervention" and cite studies that not only show children can learn about the logical structure of words from an early age, but provide some preliminary evidence that learning about the phonological, morphological and etymological constraints on English spelling improves decoding (Devonshire et al, 2013), spelling (Devonshire and Fluck, 2010) and vocabulary knowledge (Bowers and Kirby, 2010). Australian educator David Hornsby (2018) and Tasmanian teacher Lyn Anderson (2017) are also working in this area.



Concluding comments

As Dombey (2006, page 6) accurately observes:

The most successful schools and teachers focus both on phonics and on the process of making sense of text. Best practice brings these two key components together – in teaching, that gives children a sense of the pleasures reading can bring, supports them in making personal sense of the texts they encounter, and shows them how to lift the words off the page.

This review of the current policy prospects around the teaching of synthetic phonics, together with other reading research over the last two decades, has found no clear advantage for either of the two main psychological models of phonics acquisition: analytic or synthetic phonics. However, it has documented the advantage for **systematic** teaching of any given phonics approach **alongside other clearly established known strategies** that foster the development of children's reading.

The most successful schools and teachers focus both on phonics and on the process of making sense of text

Three international reading inquiries often quoted as recommending synthetic phonics do not privilege synthetic phonics. They have been used inaccurately to support government intention in developing public education policy. Each recommends systematic and explicit teaching of phonics together with other strategies. Research is clear that phonics instruction can have a modest effect on initial literacy levels in the first years of instruction, but little to no impact on reading achievement in later grades, especially in terms of comprehension. The impact of isolated phonics instruction all but disappears a year or so after it is introduced, even in those tests that measure phonological awareness and decoding. In fact, overusing phonics instruction can impede reading for meaning.

So while it is readily acknowledged that learning to decode (not recode) is important – and that we need an understanding of letter-sound relationships, perhaps even more for spelling and writing than reading (Ewing and Maher, 2014) – it is also accurate that some children will need explicit instruction in decoding to develop this. Yet an estimated 75-80 per cent of children do not need this (Adoniou, 2017).

However, it seems that some governments are increasingly keen to control education and to legislate in haste and without substantial evidence. If synthetic phonics is legislated in Australia, there will be many consequences. Not least of these is that we will return to the use of contrived readers to ensure children practice their phonic knowledge. The replacement of quality literature with contrived texts in English lessons will negate a major element in many children's reading journey. One doubts whether parents and the broader community are aware of the potential further narrowing of the English curriculum.

Well-intentioned efforts to improve literacy in Australia should be built upon the understanding that the work of teachers is complex and context specific given that it is situated in particular classrooms with particular children. Strategies used to help children learn to read are dependent upon a range of factors, including a teacher's

It is...important to scrutinise what is actually being researched

own body of work (Comber, 2017) as well as their relationships with students and their families, the local community context, and the availability of opportunities for sustained teacher professional development and dialogue. **There is no evidence to support phonics instruction in isolation as the one best method for early reading.** There is no evidence for synthetic

phonics as the required approach rather than analytic phonics (Clark 2016). What distinguishes those who advocate a comprehensive approach to helping children learn to read is the knowledge that there are other essential strategies needed. For example, using clues from the text and context to make predictions.

It is also important to scrutinise what is actually being researched. For example, in 1999 Kohn claimed “the overwhelming majority of the research used to support direct instruction of phonics skills consists of tallying up children’s scores on standardised reading tests” (page 19). Similarly, a decade later, Krashen (2009) argued that while intensive phonics instruction might boost scores on isolated “skills” tests, it has a much smaller impact on measures of reading comprehension. A decade later, this review affirms that finding. Most tests are measuring decoding and word identification rather than comprehension and inferential meaning, which is the main purpose of learning to read. In addition, many of the research studies undertaken focus on specifically looking at children with reading issues — sometimes even those with severe reading difficulties — and then generalising the findings to imply best reading processes for all children. While determining how to best help students struggling with the reading process is an important area of research, it is highly inappropriate to suggest its relevance for all children.

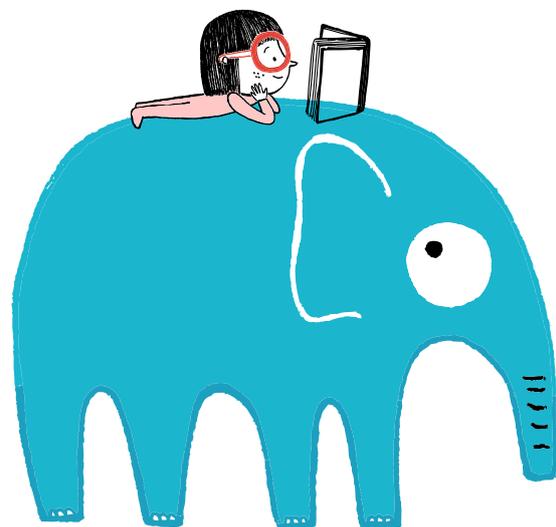
Many current discussions around learning to read fail to take into account the complexity of English orthography. The English language does not have a one-to-one visual representation of all spoken sounds, making it a difficult code for some young children to break. While reading is in part a visual process, it is essential that children do not over-rely on the visual system. Processing letter by letter, blend by blend or word by word is very slow and not a characteristic of experienced readers. The use of semantic information building on developing understandings about the world, and about language and syntax, is also important. **In reality, theoretical distinctions between synthetic, analytic and embedded phonics are soon lost in the classroom because a responsive teacher spontaneously moves from synthetic to analytic teaching to respond, for example, to a child’s observation that some words rhyme and some don’t.**

Many current discussions around learning to read fail to take into account the complexity of English orthography

The ongoing devaluing of the professionalism of teachers to make decisions about the form and timing of literacy assessments for children in their early years is increasingly destructive. Pressures on educators to adopt only one way of teaching reading, as if it must and will answer all the difficulties that students face, destroys their professionalism. Teachers must be trusted with responsibility for reflecting on and adjusting professional practice in the light of research evidence and their and other practitioners’ knowledge and experiences. Likewise, frequent assertions that teacher educators are not teaching pre-service teachers to use the range of reading strategies

when teaching evidence, including synthetic phonics that enable children to learn to read, is without basis. In the author's experience, teacher educators strive to develop an understanding of the need for a rich repertoire of reading strategies alongside the need for ongoing career-long professional learning.

The complexities of what it means to "read" and the challenges for some children in learning to read must be understood. Policies that address these complexities need to be accompanied by much needed resourcing and professional learning. Views of reading research that suggest one approach will provide answers for every child are unhelpful for teachers, parents and children.



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Appendix 1

Suggestions for further research

- How does phonics instruction relate to other aspects of learning to read?
- How much do experimental studies translate to real classroom situations?
- What is the optimum balance between different forms of reading instruction and how might they change over time?
- What is the efficacy for readers (and teachers) with different experience and prior knowledge?
- What constitutes effective phonics teaching in **real** classroom settings?
- How do contextualised conversations between teachers and their students about phonics knowledge make a significant difference to how children use phonics in their reading?
- Taxonomies of reading skills assume there is a set of decoding skills that can be taught, memorised and applied (Cambourne, 1979). Why do less proficient readers often have mastery of these discrete skills, but cannot translate these to reading fluency (Pfaum and Bryan, 1980)?

Appendix 2

Isolated synthetics phonics instruction contradicts Content Descriptions in *The Australian Curriculum: English*

Candace Glass provides information about synthetic phonics teaching on the Five from Five website: www.youtube.com/watch?time_continue=4&v=EKrvbEh4SHU.

The explanation provided about the synthetics phonics teaching approach contradicts Content Descriptions in *The Australian Curriculum: English*.

For example:

1. Students learning synthetic phonics initially learn the sound that letters make rather than letter names.

Foundation: *Recognise and name all upper and lower case letters (graphemes) and know the most common sound that each letter makes* (ACELA1440).

Year 2: *Understand that a sound can be represented by various letter combinations* (ACELA1825).

2. Syllables and onset and rime, as used by other methods of phonics, are *not* used in synthetic phonics.

Foundation: *Understand how to use knowledge of letters and sounds, including onset and rime, to spell words* (ACELA1438).

Foundation: *Segment sentences into individual words and orally blend and segment onset and rime in single syllable spoken words, and isolate, blend and manipulate phonemes in single syllable words* (ACELA1819).

Year 1: *Understand that a letter can represent more than one sound and that a syllable must contain a vowel sound* (ACELA1459).

Year 3: *Understand how to apply knowledge of letter-sound relationships, syllables, and blending and segmenting to fluently read and write multisyllabic words with more complex letter patterns* (ACELA1826).

Appendix 3

February 26, 2018

Seven things teachers agree on about teaching reading in Australia. Stop all the political haranguing over phonics.

By Robyn Ewing

aare.edu.au/blog/?p=2733

There is widespread agreement among educators and school communities about the importance of teaching phonics and other code-based literacy practices in early years classrooms. However, why is phonics instruction, one of the processes teachers use in helping children learn to read, so foregrounded by government policymakers and bureaucrats in Australia these days? Why is one particular approach to the teaching of phonics, synthetic phonics, now being proposed as the "right" way to teach phonics in Australia? And why do some influential cognitive psychologists believe they have all the answers when it comes to teaching reading, and appear to have undue influence over important literacy policy?

These questions are confounding teachers all around Australia. They talk about the research projects they find in their professional reading. Many follow discussions on blog sites such as this one. Others are participating in research in their own classrooms or within school/university partnerships. They then speculate about the motivation behind the "silver bullet" solutions they are being sold.

The groundswell of those wanting answers has grown as the rollout of new literacy teaching programs continues across states and territories. The looming imposition of a synthetic phonics test for all Australian six-year-olds is adding to teacher concerns. They are clear that another test is not the way to improve national standards.

I am continually asked: why are we adopting UK policies once again and accepting the Rose Report from the UK as "evidence"? This report recommended that synthetic phonics be the preferred method for teaching early reading in the UK, but the "evidence" quoted in the report has been widely disputed, including in the UK, by highly respected literacy education experts. The way the report has since been used politically is of ongoing concern.

This was the impetus for the Sydney School of Education and Social Work at the University of Sydney to hold a symposium on the role of phonics in learning to be literate last week in Sydney in conjunction with The Australian Literacy Educators Association. The board and staff of the Primary English Teachers Association also supported the symposium. More than 140 educators attended to hear three presentations from expert literacy educators. The symposium created such widespread interest that we are holding a repeat on March 17 and another symposium in Melbourne on May 5. It is clear that teachers and principals have both the energy and enthusiasm for ongoing professional learning in this critical area. Professional development must be tailored to the needs of individual teachers and schools. It should not be imposed by politically or commercially driven agendas.

Associate Professors Pauline Jones, Lisa Kervin and Dr Jessica Mantei (University of Wollongong) shared emerging findings from their large research project, TRANSLIT. The project is investigating the nature of students' literacy experiences at key points in schooling, from foundation to senior secondary (preschool to school, primary to secondary school and so on). It is investigating how teachers teach "constrained" skills including alphabet knowledge, word lists and phonics. These findings will be valuable for all teachers of literacy and for schools in developing their literacy programs and policies. The findings will also be useful to help those outside the teaching profession understand how isolated instructional experiences can be integrated into rich, engaging and meaningful literacy programs.

Former principal and lecturer, now literacy consultant, David Hornsby reminded us that *The Australian Curriculum: English* defines decoding as including comprehension. Simply focusing on letter-sound relationships constitutes only recoding or moving from printed code to oral code. He demonstrated with many concrete examples why morphemes are required for phonemes to express themselves. A number of practical activities quickly dispelled several myths about how English orthography works. If morphological awareness is developed in conjunction with phonics, children come to understand that English spelling represents meaning and that meaning determines how phonology works.

Emeritus Professor Marie Emmitt led the discussion about the importance of teachers having a sophisticated knowledge of sound-letter relationships and ways children learn phonics and use complex sound-letter knowledge for spelling and word identification. Teachers need to ascertain what phonic knowledge children have already learned, and determine what next will assist them in their reading and writing. Meaningful opportunities for learners are then offered to enable children to further develop phonic knowledge and to see it being used strategically in assisting with word identification, writing and spelling.

Teachers and principals shared issues they are currently experiencing with the teaching of literacy in Australia.

At this symposium, there was widespread agreement that:

Learning to be literate is crucial for children's life chances

Children who struggle to become literate face spiralling problems throughout their schooling and into their life after school. Mastering 21st century literacy skills leads to a more socially active and fulfilled life.

Socioeconomic status has a big impact on how well children read

The continual handwringing about falling literacy standards in Australia overlooks this single most important influence. While investment in schools and investment in quality teaching is crucial, until our governments do something about the growing inequity in Australian society and Australian schooling, they are ignoring the one thing that can make the most difference.

Children from disadvantaged or at-risk backgrounds need a much higher level of support at school. The schools which have higher enrolments of disadvantaged

children therefore need the best resources, policies, support staff and wide-ranging specialist help alongside ongoing fully funded professional development for their teachers.

Learning to be literate is a highly complex contextualised social practice — not a series of hierarchical skills

Teaching literacy involves complex processes. It cannot be reduced to a linear hierarchy of skills. Learning to be literate is a rich experience that transforms the way we look at the world. Teachers need to study deeply to gain the knowledge and understanding of a wide repertoire of pedagogical skills to teach literacy. They need to apply this knowledge and experience to design learning experiences that will meet the needs of individual children in particular circumstances in specific classroom and community contexts.

Learning to read is about making meaning. There are no easy, one-size-fits-all recipes

Learning to read is basic to being literate and learning to read is about making meaning. Knowing how to use graphophonic knowledge is important, but it is only part of the process. Teachers need to use many different strategies to help some children become readers.

Rich literature, real texts should play an important role in any literacy program

Decades of research underlines the importance of the time children spend listening to and sharing stories with loved ones. Telling stories, talking together linking the child's own experiences, linking them with books, discussing visual images and playing with language are vital in helping children make sense of their world and their place in it. This must continue in early childhood and classroom contexts. A wide range of authentic literature and real texts are thus vital elements in any literacy program.

Phonics and other code-based literacy practices **are** widespread in early years learning contexts in Australia. Where is the evidence that teachers aren't using these strategies?

With all the talk about basing our strategies and policies on evidence, teachers are puzzled about why they are continually told via media articles, or policy imposed by politicians, that they are not teaching phonics. Teaching phonics is embedded in the teaching practices of Australian teachers and is required by the Australian Curriculum. Where is the evidence that they are not using these strategies?

Another test is highly problematic and will disadvantage our EALD (English as an additional language or dialect) learners, as well as many in vulnerable situations.

Bilingual learners who are just beginning to or become confident with learning to speak English may become anxious about such tests, especially where they are expected to make sense of isolated words. It is also well established that such tests can also disadvantage children who are more vulnerable. These kinds of tests can

also be problematic for young proficient readers who expect the content of their reading to make sense. Being asked to read a list of words in isolation, some of which are nonsense words, can send a confusing message about the nature of reading.

The proposed Year 1 phonics test is not necessary. Any approach that singles out phonics instruction, and more recently, specifically advocates for synthetic phonics and testing the recoding of words (some of which are nonsense words) distorts and distracts from the bigger picture of our need to continue to develop effective classroom literacy practices that meet the needs of all learners.



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