

Bulletin



**Early, Explicit and
Evidence Based:
An Interview with
Sarah Asome**

LDA Council 2016-17

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Learning Difficulties Australia is an association of teachers and other professionals dedicated to assisting students with learning difficulties through effective teaching practices based on scientific research, both in the classroom and through individualised instruction.

THE BULLETIN

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From the President

Dr Lorraine Hammond

In the last two weeks, I have twice presented a day-long professional development session on beginning reading, sharing strategies with over 60 teachers I am conducting research with. Over the course of the day, those attending learnt the instructional sequence for teaching reading, namely: concept of word, auditory blending, rhyming, segmenting, letter-sound correspondences, and the strategy of decoding. On each occasion, the mix of beginning and experienced teachers watched me teach these skills to classes of five-year-old children in their schools; they then practised delivering these instructional formats three times during the day themselves. After the second practice, an experienced Assistant Principal addressed me and the group.

“I am so embarrassed. I told you we taught phonics. I now know I have been wasting children’s time for the last twenty years doing something that simply does not work.”

Until our higher education institutions actually present scientifically based reading research in their teacher education programs, ineffective approaches will thrive in the absence of caring and good teachers knowing better.

I explained to this experienced educator that the teaching of phonics is very much in the eye of the beholder. I also assured her that because her school used a well-known commercial

phonics program, it was likely that the teachers weren’t merely relying on the incidental teaching of phonics – through craft, play and big books – that I have seen in some classrooms.

She countered that although her school focused on letter-sounds, she had not realised why it was so important to teach the precursor skills of auditory blending and phoneme segmentation. Put simply, if children learn blending (by hearing a teacher saying the sounds in words slowly, and practising saying them fast) *before* they learn letter-sound relationships, then learning how to systematically blend these sounds as they begin to decode words happens much more easily.

There is still a lot of ignorance about the science of effective phonics instruction. Recently, I wrote a piece for *The Conversation* about the Year 1 Phonics Check (which is reproduced in this Bulletin), and was promptly referred to as a ‘Phonicator’, a nom de plume I wear with pride and share with others on LDA Council who have also contributed pieces on this topic! Those most critical of phonics suggested it was something people like me inflicted unnecessarily on children, and advocated instead for a language rich environment. I have weathered these comments, as I am sure have many of you, for years.

At the end of each professional development day I asked the teachers whether any of them had learned how to teach beginning reading explicitly, systematically and sequentially at university. Not one put up their hand. Until our higher education institutions actually present scientifically based reading research in their teacher education programs, ineffective approaches will thrive in the absence of caring and good teachers knowing better.

As LDA members I encourage you to help fill the gaps in teachers’ understanding with research on the importance of effective phonics instruction, non-word decoding and formative assessment of early reading skills. Our LDA consultants are some of the most talented and knowledgeable teachers in Australia. I find that when presented with information about how to effectively teach beginning reading,

most teachers are highly receptive, provided they are shown what to do and supported to change their practice. I am inspired by teachers who make the decision not to be average. Excellence is not accidental, it is a choice.



LDA’s president, Dr Lorraine Hammond, is a senior lecturer at Edith Cowan University. She has a particular interest in preventing literacy based learning difficulties. Lorraine lectures in Direct Instruction and Learning Difficulties and is currently conducting research on Explicit Instruction.

Why Australia should trial the new phonics screening check

By Pamela Snow, Anne Castles, Kevin Wheldall, Max Coltheart

Adapted from an article [first published at The Conversation on 2 December 2016](#).

In the face of unacceptably low literacy standards in Australian schools, the Centre for Independent Studies recently [advocated a trial](#) of the UK Phonics Screening Check (PSC) as one part of the solution (Buckingham, 2016). A national PSC, similar to the program launched in the UK in 2012, is a worthwhile endeavour to boost not just literacy standards for students, but the ability of teachers to implement them effectively.

Phonics is a teaching method that focuses on the sounds within words – creating explicit links between these sounds and the letters that represent them. It allows children to decode written words independently, without having to guess or be told what they are. When taught well, phonics confers an essential skill set that helps all readers to decode text. It can be taught using off-the-shelf programs, but these are not necessary if teacher knowledge is strong.

In 2005, researchers found that “[e]xplicit teaching of alphabetic decoding skills is helpful for all children, harmful for none, and crucial for some (C. Snow & Juel, 2005). This teaching is particularly beneficial for disadvantaged students who often sit in a “long tail of under-achievement” (Masters, 2016). Despite these findings, no Australian state or territory has formally adopted the recommendations of the [National Inquiry into the Teaching of Literacy](#) (Rowe, 2005). These 20 recommendations strongly featured the explicit teaching of phonics as a starting point in reading instruction - not as an incidental component of the so-

called ‘three cueing’ strategy popular in Australian primary schools.

What is effective phonics teaching?

Claims that “phonics is already in the Australian Curriculum” (Adoniou, 2016) are not good enough, as they offer no assurance about what students will actually experience in classrooms across the country. Evidence from [Australia](#) (Stark, Snow, Eadie & Goldfeld, 2016) and [overseas](#) (Washburn, Joshi and Cantrell, 2010) indicates that teachers have unacceptably low levels of linguistic knowledge. This in turn means that they could not reasonably be expected to teach to the NITL recommendations. More worrying is [research that shows](#) that those teachers who know the least about the linguistic concepts that apply to phonics are the most confident in their ability to impart knowledge and teach these areas (Stark et al., 2016). Imagine this disturbing knowledge-confidence mismatch in airline pilots, engineers and doctors.

The failure to demonstrate meaningful progress on reading skills warrants serious consideration of data emerging from other, similar countries that have also faced falling literacy standards in recent decades.

UK pilot

The UK is one such country. In 2011, the UK piloted a [National Phonics Screening Check](#) (Standards and Testing Agency, 2017) given to students at the end of Year 1. It has since been administered nationally each year since 2012. In the absence of any other systematic changes, the reading skills – actual reading, not just phonics decoding – of UK children have begun to improve. Most notably, the attainment gap between low socioeconomic status students and their more advantaged peers has begun to close.



Not a magic bullet, but an evidence-based option

No one is claiming “magic bullet” status for the Phonics Screening Check, but its introduction in the UK in 2012 has been a natural experiment and we should not dismiss the results lightly. Inevitably, as has been borne out in media reactions in recent times, some opposition to the check comes from teacher representatives, who claim that it is “anti-teacher”. But the needs of struggling learners are such that we need to place students, not teachers, at the heart of this important debate.

An approach that improves learner outcomes would surely be pleasing and beneficial to teachers as well as to students. Importantly, the PSC is not a test. As the name indicates, it is a brief (and inexpensive) screen. It simply indicates which and how many children reach the level they should be at. In doing so, it provides uniform feedback to teachers about their instructional approaches. All that is being proposed in Australia at this stage is a pilot of the PSC. If a robust pilot indicates that the decoding skills of Australian students in Year 1 are at or above expected levels, then there is probably no need for further investment in the PSC.

An approach that improves learner outcomes would surely be pleasing and beneficial to teachers as well as to students.

We have an opportunity to work together on lifting the “long tail of under-achievement” in our beginning readers. Underachievement is costly to us all because of the exclusion from the economic mainstream it cements. It is also not going to fix itself.

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Explainer: What does the term ‘synthetic phonics’ really mean?

Kevin Wheldall, Pamela Snow and Linda Graham

We three have all been involved in various social media discussions following the publication of Dr Jennifer Buckingham’s call for a trial of the [UK Phonics Check in Australia](#) and the subsequent article in support of the proposal by Snow, Castles, Wheldall and Coltheart in *The Conversation* (reproduced on the pages 4 and 5 of this magazine). The aim of the proposed trial is to determine empirically whether such a check is actually necessary within an Australian context. Why bother if phonics is already being taught well in Australian schools?

... what is being delivered in classrooms may not be the most effective form of phonics instruction

As always, however, the devil is in the detail. It all depends on what is meant by ‘phonics instruction’. Clearly, many teachers are incorporating phonics in their teaching already, as one of the [Five Big Ideas](#) underpinning effective reading instruction: phonemic awareness, phonics, fluency, vocabulary and comprehension (Wheldall, 2011). But what is being delivered in classrooms may not be the most effective form of phonics instruction.

For example, [in a joint statement](#) by ALEA (the Australian Literacy Educators Association) and PETAA (the Primary

English Teachers Association of Australia), in response to Buckingham’s position paper, the argument is made that:

We ... agree that effective phonics

instruction should be explicit, systematic, and sequential ...

However, ALEA and PETAA argue that this instruction should always occur within genuine literacy events and in contexts meaningful to the student. Our assertion that phonics instruction should be taught in meaningful contexts should not be conflated with the concept that phonics instruction, as Dr Buckingham suggests, is random and ‘ad hoc’ ...

But it is difficult to imagine how ‘explicit, systematic and sequential’ phonics instruction could conceivably be delivered effectively in the way suggested. This may be due to confusion regarding terminology.

Synthetic doesn’t mean ‘fake’

The tensions regarding the way in which phonics should be taught are perhaps exacerbated by widely held misunderstandings about the meaning of certain technical terms. The form of phonics instruction that Buckingham and Snow et al. are advocating is known as **synthetic phonics** as distinct from **incidental** and **analytic** phonics.

Incidental phonics, as its name suggests, is taught as opportunity arises, and thus cannot seriously be regarded as systematic and sequential, even if it is explicitly taught. Analytic phonics starts at the word level, analyzing or breaking down words into their component letter sounds, and as such is not a starting point in reading instruction.



Incidental and analytic phonics often meet in practice; e.g. when a child is encouraged to “sound out” the first letter of an unfamiliar word they encounter when reading a book.

But it is the term *synthetic phonics* that is most widely misunderstood. Frankly, it is not a helpful term but we appear to be stuck with it as it is widely employed in the UK and Australian literature. (It is not used in the United States, however, where the term *linguistic phonics* refers to a similar approach.)

So, what is meant by ‘synthetic’ in this context? Apart from being truly ‘explicit, systematic, and sequential’, synthetic phonics, quite simply, refers to the process of synthesis, of synthesizing known letter sounds to read ‘through the word’.

Another way of describing this process is **blending**. Once a basic set of letter sounds have been taught, say “a”, “s”, “t”, “i”, “l”, “n”, and “m”, children are taught how to blend these letter sounds into words: s-a-t; m-a-t; t-i-n; l-i-t; and also to **segment** words so they can see how meaning changes as sound-letter patterns change. In this way, teachers systematically (not incidentally) teach the various letter combinations that represent the 44 sounds that we use in English, and they do this as the starting point in reading instruction.

Unfortunately, the word ‘synthetic’ has connotations other than this technical usage. It can mean artificial or man-made as against natural; nylon or plastic, for example. It should

not be surprising, then, that it is to this meaning that those not closely connected to scientific reading research might be drawn. In our experience, it is a distinction that many teachers have not encountered. This creates fertile ground for discussion to be occurring at cross-purposes.

This particularly applies in the context of the proposed Phonics Screening Check, which includes non-words or pseudowords to test for generalisation of letter sound learning (poth, shan, veen, etc). It almost begs the (false) assumption that the underlying idea is to teach and test artificial, synthetic, non-real, pseudowords. Hence, the myth is born that synthetic phonics involves teaching phonics by teaching pseudowords.

This is simply not true and those teachers in the UK who have attempted to teach possible pseudowords that might crop up in the check are inadvertently distorting the purpose of the whole exercise: to test whether their regular phonics instruction is sufficiently effective so that it generalises to previously unseen pseudowords, and provides all children with the critical decoding skills they need to be effective readers.

All children need to learn to decode, but some require much more explicit teaching in this skill than others.

So, whose fault is this misunderstanding? The reading scientists for using impenetrable jargon and not communicating effectively? The educators for not doing their (reading) science homework and not keeping up to date? Neither or both of the above?

We subscribe to the view that it is simply an unfortunate fallacy that has sprung up. It is nobody's fault but it is a fallacy that has perhaps hindered trans-disciplinary communication about effective reading instruction. There is nothing artificial or unnatural about synthetic phonics instruction.

Why do we need to overcome such misunderstandings?

All children need to learn to decode, but some require much more explicit teaching in this skill than others. In particular, children who may be vulnerable with respect to early oral language skills are likely to need (and

benefit from) early teaching that has a focus on phonemic awareness (the ability to hear, blend and segment sounds within words) as the starting point in their reading instruction, along with strategies that promote comprehension.

Without such explicit instruction, these children run the risk of being part of the so-called long tail of under-achievement with respect to reading skills and it is these children who are being missed in the academic debate over approaches to phonics instruction in Australia.

For many children, 'revealing the code' that more fortunate others may well learn through incidental means is a critically important step in the process of learning to read, without which they may experience ongoing school failure. Moreover, we cannot know in advance just who these children will turn out to be and so we need to offer effective synthetic phonics instruction to all children initially. If there is a means to avoid children experiencing failure in learning to read, we cannot, as a community that cares deeply about children's life chances, continue to argue at cross-purposes.

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Why do we need a phonics test for six-year-olds?

Lorraine Hammond and
Alison Clarke

Education Minister Simon Birmingham has announced that all Australian six-year-olds will soon be [required to do a phonics test](#) (Media release, 29 January 2017). Researchers, parents and others concerned about our system's failure to identify children who initially struggle to learn to read – and can go on to have a reading disability – have pushed for this test to ensure children are getting the support they need early on. But the announcement has divided opinions. And at first glance it does look like yet another impost from on high – on already overwhelmed teachers.

measuring children's early phonics skills alone won't make a difference to how early reading develops. But if you don't properly measure something, you can't properly manage it.

[Some are concerned](#) it is an unnecessary waste of money that should be channelled into intervention, or that the test will prompt teachers to practise test items (Adoniou, 2016). Okay, measuring children's early phonics skills alone won't make a difference to how early reading develops. But if you don't properly measure something, you can't properly manage it. And arguments about children practising how to read

short, real and made-up words is precisely what will help develop phonic knowledge, and should be encouraged.

But, looking more closely, this test has significant potential to reduce teacher workloads across the school system by identifying students at risk of reading failure early. This provides targeted support and prevents the need for teachers to cater for an increasingly wide ability range of students as they move through primary and into secondary school. It also has the potential to sharpen teachers' focus on a key area – reading – that students nationwide continue to struggle with. While national average performance may have shown a statistically significant, but relatively small, improvement since national testing (such as NAPLAN) was introduced ([Rice, 2016](#)), this is yet to be seen in high school years. And not all states have improved to the same extent.

Is it actually a test?

The word “test” conjures up ideas of an external assessor and associated stresses, but the child's classroom teacher would administer the literacy screener individually. In terms of the way testing is undertaken, it will be not unlike the on-entry assessments five-year-olds typically complete when they begin the foundation year of school in some states, although it will be much quicker. Children would be presented with a list of real and made-up words – and teachers would record their score. This in itself is highly informative for teachers. And it's preferable to sending students to a literacy specialist for assessment, which is common practice in many schools.

After listening to each child, teachers will know whether children can blend single sounds, or which letter combinations (for example, /sh/) they need to reteach. The test should take between five and seven minutes per



child. The aim is to identify children who aren't learning to sound words out well, and to detect this early before they fall too far behind their peers.

Many young children can give the false impression that they are learning to read, when in fact they are mostly guessing words from pictures or context. This guesswork is often aided by the provision of repetitive, predictable texts. It is also sometimes encouraged by teachers taught the “three-cueing” model of reading at many universities, and promoted by some government and non-government education authorities who recommend particular methods. Rather than apply the letter-sound relationships to systematically decode words, children are encouraged to use unreliable strategies such as looking at the illustrations, rereading the sentence, saying the first sound, or guessing what word might “fit”.

[Research shows](#) that the three-cueing model lacks a scientific basis (Adams, 1998). Yet people continue to use it because it is familiar and it is marketed as a strategy to promote reading comprehension. While the goal of reading is undeniably to extract meaning, children who cannot accurately read the words on the page are almost invariably very poor comprehenders. To become a strong reader, a young child must learn how to sound words out accurately and quickly. No exceptions. Decades of research back this up ([Seidenberg, 2016](#)).

Sounding out words is very difficult for around 20% of children in the

general population, and typically a much higher percentage in areas of disadvantage. We know that such children, if left unassisted, usually [never catch up](#) (American Federation of Teachers, 2017).

But don't teachers already do this?

Regular monitoring of the critical precursor skills young children need to become fluent and accurate readers, such as identifying the first sound in spoken words, is something effective teachers already do. For those who don't, the requirement to listen to every six-year-old read the same list of made-up and real words will at the very least flag those children who are struggling and draw attention to their instructional needs. Many schools use free one-minute assessments such as [DIBELS](#) or the [Castles and Coltheart Test 2](#) (Castles, Coltheart, Larsen, Jones, Saunders & McArthur, 2009). These measures are very similar to the literacy test being proposed. The cost of the UK Phonics Check [has been estimated](#) at around A\$20 per child (Buckingham, 2016).

The most useful tests investigate children's ability to read both real words and short made-up-words like lib, mep, gax; these are examples used in the [2016 Phonics Test in England](#) (Standards and Testing Agency, 2016) – the model proposed for Australia. What's important is that students have not seen these made-up words before. If they have been taught the precursor skills – letter sound knowledge (phonics) and the strategy of decoding – this assessment will show it. All of us have to be able to attack words we've never seen before. Look at Pokémon cards featuring names such as Pikachu and Nidoran; place names such as Naringal; brands like Bupa; or characters in a book, such as Hagrid. The earlier children can develop [this skill](#), the better their chance of reading and spelling well (Wang, 2017).

Current assessments in schools

The problem is that the assessments some schools use don't always include made-up words. Some children start school being able to recognise words because of their shape or associated picture clue, but cannot independently decode. Made-up words are objective and favour no child. Other assessments of reading, like the [Observation Survey](#) or [Running Record](#) (Clay, 2005), tend to be more labour-intensive, and focus more on reading comprehension,

vocabulary and fluency. These are important, but if a student is struggling in any of these areas, the main reason is often poor sounding-out skills. Children who struggle to sound out words must be identified and given extra help as early as possible, both at a classroom level and then in small groups. Many parents quietly pay tutors for expert help outside school hours. Many other parents can't afford this. The [consequence for taxpayers](#) is a much larger bill for things like unemployment benefits, forgone taxes, adult literacy courses and prisons (Snow, 2016). The school-to-prison pipeline is real.

How will the phonics test be implemented?

We don't know yet exactly how the phonics test will work here because the minister's expert panel hasn't done its work yet. However, we can be encouraged by [research into the impact](#) of a similar test in England (UK Department for Education, 2015). There is some evidence that, in helping sharpen teachers' focus on phonics, the test led to a greater emphasis on systematically and explicitly teaching children about sounds and their spellings. This was something our national inquiry into the teaching of reading [recommended over a decade ago](#) (Rowe, 2005).

For teachers who are ideologically opposed to explicit, systematic phonics instruction (Wang, 2017), this literacy check is an unwelcome impost. However, for many schools that include phonological awareness and systematic decoding instruction, it is simply a validation of their effective early reading instruction.

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Lorraine Hammond is senior lecturer in Education at Edith Cowan University, and president of Learning Difficulties Australia

Alison Clarke is a speech pathologist at the Clifton Hill Child and Adolescent Therapy Group in Melbourne, and a former LDA Council member.



30 March – 1 April 2017
 Perth Convention & Exhibition Centre
literacylanguageconf.com

Focusing on the needs of every child.

The Language Literacy and Learning Conference will provide a wealth of information on the factors influencing the successful acquisition of skills in both language and literacy. It will be particularly relevant to classroom teachers, school principals and administrators, school psychologists, speech pathologists, allied health professionals, tutors, parents and other key stakeholders concerned with the effective education and support of schoolaged children – including those with learning difficulties.

The conference will be an opportunity to hear from internationally renowned speakers and Australian experts discussing current evidence-based literacy instruction and will showcase best practice in education. It will include a variety of interactive workshops, keynote presentations and information sessions designed to meet the needs of all delegates. Presentations will focus on reading and spelling acquisition, learning disorders, language development, improving skills in written expression, the value of assistive technology, developing self-esteem and resiliency, and a number of additional topics.

Conference themes:

- Reading and Spelling Acquisition
- Language Development
- Improving Written Expression
- Learning Disorders

- Inclusive Education
- Assistive Technology
- Self-esteem and Resiliency
- Supporting Parents



DSF has put together an amazing line-up of keynote speakers as well as session and workshop presenters. We are delighted to introduce the following keynote speakers:

Morphemes and Spelling



Professor Kenn Apel (USA)
 Professor and Chair of the Department of Communication Sciences and disorders at the University of South Carolina.

Working Memory



Professor Susan Gathercole (UK)
 Director of the UK Medical Research Council and the Cognitive and Brain Sciences Unit at Cambridge University.

Reading Comprehension



Professor Kate Nation (UK)
 Professor in Experimental Psychology and Director of the Language and Cognitive Development Research Group at Oxford University.

Visible Learning



Dr Shaun Hawthorne (NZ)
 A Principal Consultant for Visible Learning^{plus} with over 20 years' experience working in schools in New Zealand.

Focus and Attention



Associate Professor Craig Hassed (Aus)
 Senior Lecturer at the Department of General Practice and Coordinator of Mindfulness programs at Monash University.

Language and Literacy



Professor Pamela Snow (Aus)
 Head of School, La Trobe Rural Health School, Pamela is both a Registered Psychologist and Speech Pathologist. She is the author of the Snow Report.

Download the full conference program at:
literacylanguageconf.com/schedule.pdf



LDA News

It is the time of year to call for nominations for both Learning Difficulties Australia (LDA) awards and Australian Journal of Learning Difficulties (AJLD) awards.

LDA Awards

The LDA Awards are designed to recognise outstanding work in the field of learning difficulties. These Awards are open to both members and non-members of LDA. Individuals may only be nominated for one LDA award in any round. LDA reserves the right not to confer an Award in any of these categories if no suitable nomination is received. The closing date for the 2017 LDA Awards is Friday, 26 May 2017.

Submissions can be forwarded by email to Idaquery@bigpond.net.au with the name of the award nomination category in the subject line. For more information about the awards, application processes, and previous winners, visit the Learning Difficulties Australia website.

LDA Mona Tobias Award: Emily Mona Tobias, B.E.M., died in 1980. She was acknowledged for her exceptional skills as a teacher and her devotion to children with learning difficulties and this award commemorates her pioneering work. The Mona Tobias Award is presented in recognition of an outstanding contribution to the field of learning difficulties in Australia. This contribution may be in the area of leadership, research, practice or teacher and community education. Previous recipients of this award include Dr Peter Westwood, Dr Molly de Lemos AM and Mandy Nayton AOM.

Bruce Wicking Award: Bruce Wicking established the Currajong School in 1974, and was committed to the provision of programs which catered for the individual needs of children with learning difficulties. The funds for this award are provided through the generosity of the Wicking family and their friends in commemoration of Bruce's life and work. The award recognises an individual or organisation for innovative programs or practices relating to the teaching of children with learning difficulties. Previous recipients of this award include Rossbourne School, John Fleming and Maureen Pollard.

LDA Tertiary Student Award: The LDA Tertiary Student Award is presented in recognition of academic excellence and significant research which advances the understanding of theoretical and practical issues in the field of learning difficulties, carried out by a student in the course of their tertiary level studies. The Award is based on the submission of a research article, which will be considered for publication in the Australian Journal of Learning Difficulties. Previous recipients of this award include Dr Gary Woolley, Dr Jennifer Buckingham and Dr Danielle Collenbrander.

AJLD awards

The AJLD Eminent Researcher Award and the AJLD Early Career Researcher Award are funded by Taylor and Francis, publishers of the Australian Journal of Learning Difficulties. These awards are designed to recognise significant contributions to research and to encourage submissions of high quality research papers to the Journal. The awards are decided by the journal editors in consultation with the editorial board.

AJLD Eminent Researcher Award: This award is designed to recognize significant contributions by eminent researchers in the field of learning difficulties and will be awarded by invitation. The editors of the Journal will approach worthy eminent researchers, inviting them to submit an article. The prize of \$500 will be awarded upon receipt from the researcher of a paper appropriate for publication in the Journal. Previous recipients of this award include Emeritus Professor Max Coltheart AM, Professor Maryanne Wolf and Dr Louisa Moats.

AJLD Early Career Researcher Award: This award will be decided by open competition based on the submission of a paper appropriate for publication in the Australian Journal of Learning Difficulties. Researchers eligible to receive this award will have completed their PhD within the last six years, and will be currently engaged in research that has the potential to make a significant contribution to theory or practice in the learning difficulty area. The paper to be considered for publication should be submitted to

Idaquery@bigpond.net.au by Friday, 26 May 2017. All papers submitted for this award will be considered for publication in the Journal. Previous recipients of this award include Tanya Serry.

For more information about the awards, application processes, and previous winners, visit the Learning Difficulties Australia website.

Upcoming Professional Learning (Melbourne)

Specific Learning Disorder: Assessment processes and support for learning and wellbeing

Dr Kate Jacobs

Saturday 22nd April 2017,
9.00am – 12.30pm

Treacy Conference Centre

Please visit the LDA website for the registration form and to book online.

This workshop will outline the specific cognitive strengths and difficulties faced by people with Specific Learning Disorders such as Dyslexia. Participants will explore how cognitive difficulties experienced by this group manifest in the area of academic challenges and how parents, teachers, learning support staff and others can best support the learning and overall wellbeing of people who experience learning difficulties.

Dr Kate Jacobs lectures and conducts research in the area of learning difficulties. She completed a combined PhD/Masters in Educational and Developmental Psychology at Monash University, for which she won the 2013 Mollie Holman Doctoral Medal. She uses the extensively empirically validated Cattell-Horn-Carroll Theory of Cognitive Abilities in her assessment process, which views intellectual ability as multi-dimensional rather than unitary. That is, individuals display unique profiles of cognitive strengths and weaknesses which cannot be summed up in a single score (i.e. IQ scores). It is through understanding and appreciating an individual's unique learning profile that effective and targeted intervention and support can be provided.



2015 recipient of the 'Outstanding Primary Teacher' award in the Victorian Education Excellence Awards, **Sarah Asome**, interviewed by **Ros Neilson**

Early, Explicit and Evidence Based: An Interview with Sarah Asome

Supporting data, including tables, figures and references, have been provided in this article to assist the reader.

Ros: *Congratulations on your award, Sarah! Can you tell us something about the school you are working in, and what your role is there?*

Sarah: I work at Bentleigh West Primary School. This is a government primary school in the south-eastern suburbs of Melbourne. It is a rapidly growing school with current enrolments at approximately 600 students. I am the Learning Support Leader at the school. I lead a team which provides intervention and support for identified students with or without a 'formal' diagnosis of a learning difficulty.

I was delighted to receive the Outstanding Primary Teacher award in 2015, and I am extremely proud of our achievements at Bentleigh West - but I feel that I was just doing what every teacher in every school should be doing, and nothing exceptional.

A large part of my support role at Bentleigh West is to work with class teachers as a coach and mentor

Ros: *Could you outline the journey you have taken with your school, and share some of your successes?*

Sarah: I began at the school in 2010 in the role of Prep support and extension (Prep is the first year of schooling in Victoria). After a baby break, I returned in 2013 to the same role. This role quickly evolved as I moulded the role to suit the needs of the students, with the support students received being individualized and diagnostic. Each lesson was based on the learning from the day preceding it to ensure that lessons were cumulative, systematic and structured. The learning

support being offered was quickly recognized as extremely effective, and Bentleigh West was lauded for offering early intervention to students in their first year of school. We have had visits from state and federal ministers and several university lecturers, so this early intervention and support must have been something special.

Ros: *Where did your school go from there?*

Sarah: We wanted the success of the sessions with the Learning Support Teacher to be replicated and reinforced throughout all classrooms to ensure that all students were receiving the optimum reading, writing and spelling instruction. We noticed that many of our students with dyslexia were showing impressive growth on the National Assessment Program in Literacy and Numeracy (NAPLAN) scores, but we wanted to extend the teaching principles to all students in the school. While our NAPLAN results were deemed satisfactory overall, on closer inspection we felt they just weren't good enough and we needed whole school change. We consistently had over 20% of students functioning one year or more below the standard at Grade 5 in reading, and felt this was unacceptable, especially given the entry level of our students and our demographic profile. We were also not seeing improvement from Grade 3 results to the related Grade 5 results two years later (Table 1).

Ros: *What were your first steps in extending your approach to the whole school?*

Sarah: In 2014, we implemented the [Early Years Evaluation](#) (EYE) for all students in their final term of preschool before they began formal schooling. This assessment samples four domains: awareness of self and environment, cognitive skills, language and communication, and physical (fine and gross motor) skills. Reporting on the results opens communication with parents before students start formal schooling.

In addition to this, we began screening all the students on school entry for phonemic and phonological awareness using our school-based diagnostic assessment. This allowed us to track growth following early intervention and really target the teaching from the first day of school. There was huge variation across classes, and we clearly needed a more consistent approach.

This baseline data also allowed us to see how the students responded to intervention (the 'RTI' approach) and allowed us to further profile the students if required. We chose not to wait for a student to fail before acting. We re-assessed the Prep intervention students in June of the same year, and found very pleasing improvement (Table 1). By the middle of their first year of school all intervention students were functioning at the expected level in reading (namely, level 0.5 for AusVELS, Victorian Curriculum F-10).

However, we felt that we needed a more rigorous whole school model for the RTI focus that would allow re-assessment of the whole cohort in each year, so for 2017 we have decided to use the Dynamic Indicators of Basic Early Literacy Skills ([DIBELS](#)) for whole school progress monitoring. This involves assessing students from Prep to Grade 6. DIBELS includes measures of phonemic awareness, the alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. It is a research-based measure, and monitors student progress through short one-minute fluency assessments.

Ros: *What was involved beyond using whole-school assessment data?*

Sarah: A large part of my support role at Bentleigh West is to work with class teachers as a coach and mentor, through assisting with planning and target setting for Individual Learning planning. I started by embarking on my own professional learning journey, and

Testing Year	Grade	Reading	Writing	Spelling	Punctuation & Grammar	Numeracy
2012	Grade 3	13.9	9.22	12.5	6.0	4.2
	Grade 5	32.7	34.6	29.1	43.6	21.8
2013	Grade 3	20.3	17.4	17.4	25.0	15.9
	Grade 5	20.3	18.7	25.5	28.0	30.7
2014	Grade 3	12.9	19.8	17.8	12.0	5.0
	Grade 5	21.5	10.9	16.9	29.2	20.3
2015	Grade 3	15.0	12.3	23.3	17.8	5.5
	Grade 5	26.8	16.1	24.6	29.2	24.6

Table 1. Percentage of Bentleigh West students performing 1 year or more below the standard on NAPLAN assessments

in 2014 I completed the Multi-Sensory Structured Language (MSL) training with the Australian Dyslexia Association (ADA). This provided me with greater knowledge of how to use the alphabetic code to teach the 'Big 6' more effectively. Not only did our systematic synthetic phonics need looking at, but also our instruction in vocabulary, phonemic awareness, fluency and comprehension (Konza, 2014).

we ensured that we were regularly revisiting, revising and checking for understanding

I also realised that there was a real need to deliver further professional learning for our staff. They were not equipped with the tools and skills they needed to give each and every student the best chance of leaving our school with adequate literacy skills for secondary school. So we set aside time for a series of staff meetings, during which we unpacked the National Inquiry in to the Teaching of Reading (NITL, 2005), the Independent Review of the Teaching of Early Reading (Rose, 2006), the Simple View of Reading (Gough and Tunmer 1986), Cognitive Foundations of Learning to Read: A Framework (Wren, 2001) and Read about it: Scientific Evidence for Effective Teaching of Reading (Centre for Independent Studies, 2014).

Ros: *Did this lead to changes to whole-school literacy practices?*

Sarah: Yes! We could see that there were changes that could be easily and quickly made. The first thing we did was to abandon the list of high frequency words that we had been sending home for reading practice, and provided a more logical and systematic sequence of words to be learnt. The words are now linked to the phonemes the students learn, so that the first regular words they learn are 'as' and 'at' in line with the phonemes /a/, /s/, and /t/. In conjunction with simple decodable words, the students were learning irregular words, but the parent,

teacher and student all knew that they were irregular as they were marked with an asterisk to indicate this.

We changed the number of phonemes being taught, because the previous schedule would have meant taking all year to cover single sounds. At that rate, the Prep students could never have learnt the digraphs (two letters which represent one sound e.g. ch, sh, ng), diphthongs (two letters making one sound with combined vowels e.g., oi, oy), vowel teams (two vowels making the sound of the vowel, e.g., ee, ai, ay) and r-controlled vowels (e.g., er, ir, ar). Throughout our systematic synthetic phonics program, we ensured that we were regularly revisiting, revising and checking for understanding. In this way, during the Prep year, grapheme-phoneme correspondences for all 44 phonemes of English were explicitly taught and regularly revised.

The other big change we made was to implement an explicit scope and sequence for spelling to ensure that there were no gaps. Many of the spelling rules had never been taught because teachers didn't know them, so, once again, professional learning was required. For example, I can safely say that no teacher knew (or was teaching) the 'Gentle Cindy' rule for 'soft' and 'hard 'c' and 'g'. Teachers had been telling their students that these letters could represent two different sounds, but had not been explicitly teaching when the letters made the 'soft' sounds (i.e., when the 'g' or 'c' was followed by an 'e', 'i' or 'y'). The same lack of teacher knowledge was evident for other spelling rules, and some rules were never covered in other years of schooling, so we addressed this previous lack of progression and structure.

In addition to the grapheme-phoneme correspondences and spelling rules, students were taught the six syllables types to assist them in decoding and encoding multisyllabic words. Children were explicitly taught about open and closed syllables very early on in Prep, followed by silent e and vowel teams. We complete the 6 syllable types with controlled r and consonant le

when students are ready; for some this will be during Prep, but for most early in Grade 1.

In 2016 the school expanded the use of decodable texts beyond those students who were receiving intervention. The first books the children use in Prep are now linked directly to the phonemes they have already learnt so they are learning to decode and not guess. We don't teach the three-cueing system any more, so the books we used needed to match our approach. I even recently had a grade 5 boy knock on my door to ask for more books! Previously he was a disengaged student struggling in many areas.

During 2016, the school received some excellent Explicit Instruction professional learning from LDA president, Dr Lorraine Hammond. This has allowed the staff to take the pedagogy of structured language and deliver this through explicit direct instruction (e.g., Hollingsworth & Ybarra, 2009), further strengthening our teaching of the 'Big Six' described earlier.

Our school is also more conscious of accommodating the needs of all students.

Accommodations are put in place for students with identified needs by way of reduced workload, extra time (or a reader) for assessments, and use of assistive technology. The school has iPads in all classrooms to support students, and students with identified needs are also encouraged to bring their own iPads to school to enable them to access the curriculum through the same apps we use at school. The iPads also allow them to use audio books in the classroom. We believe these devices help to develop confidence and self-esteem.

Ros: *Were parents involved in the school changes?*

Sarah: One of the most successful changes in 2015 was the start of the parent support group, which meets twice a term to discuss a range of topics. While my door has always been open, the parents have really welcomed this organised support. The topics covered for parents in these sessions have

Individual (Intervention) students	A	B	C	D	E	F	H	I	J	K
Pre-intervention score (February) Total out of 60	19	23	15	26	28	30	19	19	18	18
Pre-intervention score (June) Total out of 60	41	57	48	57	56	53	53	47	46	49

Table 2. Growth in phonemic and phonological awareness in the Prep intervention students on a school-developed measure based on Australian Dyslexia Association screening tools.

included spelling rules, questions to ask secondary schools when selecting a school, appropriate educational apps to support their child's learning, and emotional support and organisational skills for their child. During her time at our school, Lorraine Hammond ran a parent talk, which was very well attended, with 70 parents coming along. We have followed this up with further information for the parents, as they needed this information in order to support their children. We are continually up-skilling our parents' knowledge in all areas of the curriculum, but particularly literacy, with spelling rule tips in the newsletters and detailed bi-weekly 'Connections' notices detailing what is happening in the classroom.

we are constantly questioning ourselves and ensuring everything we are doing is backed up by research

Ros: *How do you feel your assessment schedule is working?*

Sarah: We recently fine-tuned our assessment schedules. We have introduced the Phonics Screening Check used by schools in England in Year One (Standards and Testing Agency, 2016). This is a mix of real and pseudo words and we administer it mid year. Any student who scores below benchmark (32/40) is reassessed at the end of grade 1. In our case in 2016, this was only necessary for students who had not received 18 months of instruction at our school.

We now make greater use of the MOTIf assessments to regularly review

students' progress. **MOTIf** is Macquarie Online Test Interface. We also use those assessments as part of the profiling for new students entering the school beyond Grade 1. The MOTIf website provides free online assessment and scoring of cognitive tests to inform teaching. We make particular use of the Castles and Coltheart 2 reading assessment (CC2; Castles, Coltheart, Larsen, Jones, Saunders & McArthur, 2009) and the Letter Sound Test (LeST; Larsen, Kohnen, McArthur, & Nickels (2011).

We have elected to use the **CARS and STARS** reading comprehension program (CARS and STARS, 2010) which allows us to identify areas of need and diagnostically teach comprehension. It is a structured reading program that diagnoses gaps in student comprehension strategies and then guides teachers to instruct to the level of each student's ability to improve literacy results. Recent Progressive Achievement Test data for reading (PAT-R, ACER, 2008) has shown a significant reduction in the number of students at the lower end of the achievement scale. We also ensure that we support students who are at level or only marginally below, who in other schools may not receive any additional support.

Ros: *How would you summarise the outcome of your whole-school journey so far?*

Sarah: Our school has developed a culture whereby we are constantly questioning ourselves and ensuring everything we are doing is backed up by research. We think 'outside the square' for our students who have any difficulties with reading or spelling, assessing language comprehension and vocabulary alongside their decoding. Our timetables are structured in such

a way that consistency occurs. For example, literacy lessons begin with 10 minutes of phonics and/or word study, depending on the year level.

The other components of the Big Six must also be included in the English block. Our focus is also expanding to put a clear emphasis on fluency and comprehension. We have recently begun using **RAVE-O** (Wolf, 2011) to develop fluency.

We are also aware that it is essential to assess students' language comprehension. The Simple View of Reading, which conceptualises reading comprehension as the product of decoding and language comprehension, raises important issues. When a student is struggling with reading, the formula helps us to ask which aspects of the reading are showing weaknesses. Then we need to unpack this even further: is it a difficulty in background comprehension, lexical knowledge, phonemic awareness, or something else? Previously we were unable to break it down this far, as our teachers were lacking in this in-depth knowledge of reading development. We now feel much better prepared to ask the right questions.

Ros: *How can you evaluate your success so far?*

Sarah: In 2015 all students who completed a full year at Bentleigh West Primary School reached the benchmark according to AusVELS levels for Foundation, which is the F level (see Figure 1), and many exceeded this by 6 or 12 months. In 2016, the data were very similar, and many students who were new to the school are closing the gap too. For example, one Grade 1 student, who has dyslexia and was new to the school, was at least one year behind according to AusVELS at the end of 2015. He completed Grade 1 and had gained an additional 6 months' progress, achieving 18 months' growth in a year. It is not unheard of for our students to make two years' growth in a year.

Our students are particularly strong in the following areas of AusVELS at level F.5, which is expected by mid-way through Grade 1:

- Recognise common sound-letter correspondences (ACELA1458 Alphabet knowledge)
- Recognise and use common vowel blends, for example 'ae' in cake, and consonant blends, for example 'tr' in train (ACELA1458 Alphabet knowledge)

Over 50% of students have achieved AusVELS Level 1 (one year ahead):

Prep AusVELS Reading Levels Semester 2 - 2015

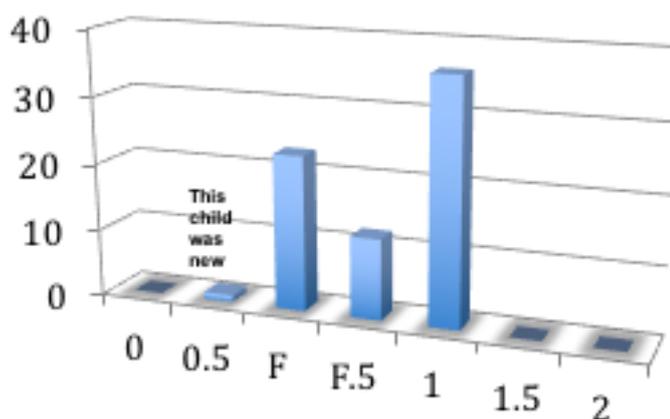


Figure 1. Students who had been at the school for 12 months all achieved the expected AusVELS levels (F) by the end of the Prep year.

- Recognise a wide range of letter/sound correspondences including some silent letters, vowel/consonant diagraphs and less common sound-letter combinations (ACELA1474 Sound and letter knowledge)

Australian schools cannot continue to teach the way they have always taught if continuing to do so means we are allowing at least 20% of our students to slip through the cracks (or should I say craters) without achieving functional literacy skills (Master, 2016). This is a terrible outcome and increases the risk of anxiety, depression, self-harm or incarceration (Snow, 2016). It's simply unthinkable.

Australian schools cannot continue to teach the way they have always taught if continuing to do so means we are allowing at least 20% of our students to slip through the cracks

Ros: *Have you got a set of top tips for teachers?*

Sarah: We believe that all students, not just students with learning difficulties, will benefit from these tips for literacy instruction in the Prep year and beyond:

- Start making teaching more multisensory. When they are using all their senses to learn, students will be more likely to remember something new
- Get the students jumping for the phonemes (sounds) they can hear in words, writing them in the sandpit, stamping them out and singing songs!
- Be clear and explain the reasons why the phonemes or spelling patterns behave the way they do - they will get it even at 5 years old.
- Have the students finger spell to identify the sounds they can hear, e.g. using three fingers and saying the sounds c-a-t for cat and sh-ay-p for shape.
- Every class should have a class set of mini whiteboards that are used daily to check for understanding (great for developing phonemic and phonological awareness)
- Give students who need it more time to learn skills, and modify the work. It will take students with dyslexia longer and they need the scaffolding to achieve the tasks.

- Make sure you use assistive technology for these students if possible.
- Use decodable books rather than those that rely on sight word recognition.
- Audiobooks are an invaluable resource to develop confidence, vocabulary, fluency and comprehension and shouldn't be undervalued. Suggest these to parents in place of the 'nightly battle' with the 'take-home reader'
- Allow the child to be read to instead of having to read aloud. If children aren't learning, then change the way you teach, don't expect them to change – some children just learn differently.

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Sarah A some is the learning support leader at Bentleigh West Primary School in Victoria. She is an accredited Member of Australian Dyslexia Association (AMADA) and certified as a Structured Literacy Teacher with a certificate from the Centre for Effective Reading Instruction (CERI) in the USA. Sarah was the winner of the Victorian Education Excellence Awards' Outstanding Primary Teacher for 2015.

Like a child in a lolly shop!

Bentleigh West Primary School's Sarah Asome at the 67th annual International Dyslexia Association Reading, Literacy and Learning conference

The work undertaken at Bentleigh West Primary School in Victoria in supporting students with dyslexia was recognized through the 2015 Victorian Educational Excellence Awards when I was awarded 'Outstanding Primary Teacher'. The monetary prize I received was used for further professional development. The prize allowed me to complete an award course through Dyslexia Action in the UK, as well as attend the 67th annual International Dyslexia Association (IDA) conference in 2016.

I chose to attend the IDA's Reading, Literacy and Learning conference as it would not only give me access to the latest, highly regarded researchers in the field of dyslexia, but also allow me to visit some of the schools dedicated to supporting students with dyslexia and learning difficulties in the Philadelphia/Princeton area. Nothing like this conference exists in Australia so I knew I had to go overseas.

The conference program arrived midway through 2016 and filled me with excitement. I really was like my children are when they are in a toy shop or a lolly shop. How would I choose which to attend? After speaking to several IDA conference 'veterans,' my schedule was a little clearer.

I went with a clear objective: morphology, morphology and more

morphology.

Day 1 (Wednesday 26th October 2016) consisted of two amazing half day symposiums. They were:

- *The Geschwind Lecturer Trio: Then, Now & the Future of the Neuroscience of Dyslexia* with Laurie Cutting Ph. D; Albert Galaburda, M.D., Ph. D; and Fumiko Hoeft M.D., Ph.D., and
- *Perspectives on Morphology: A Little Bit More Than a Sneak peak!* with Kenn Apel, Nancy Hennessy and Marcia K. Henry.

Take home messages: Hoeft was inspirational. Her message was that literacy intervention must occur with cognitive training and social and emotional support. Al Galaburda's research into the genes and the reading centre of rats' brains was fascinating. His message to students was that 'you are lost for the time being until a good teacher comes along.' Kenn Apel's measure of morphology will be available soon, and is very exciting.

Day 2 (Thursday 27th October 2016) consisted of a mixed bag, focusing on spelling, executive function and fractions! I attended:

- *The Samuel Torrey and June Orton Memorial lecture* with Albert Galaburda,
- *Words with spelling connections have meaning connections* with Nancy Cushen White,
- *Executive Functions: What are they? Why are they important? And how can I help?* with Cheryl Chase, and
- *Mathematical literacy: No fear fractions - Instructional language holds the key* with Marilyn Zecher.

Take home messages: Aiden Colvin (aged 16) received the Remy Johnson Certificate of Merit. His novel, *Looking for Heroes: One Boy, One Year, 100 Letters* is a 'must read'. You can see his moving speech here: <https://vimeo.com/189192531>. It is important that we do not remove supports because students are making progress. The supports are allowing for success. We must apply multisensory principles to mathematical learning too!

Day 3 (Friday 28th October 2016) was a chance to explore more morphology. It also meant exam day and meeting one of my all time heroes!

I enjoyed:

- *Norman Geschwind memorial lecture* with Guinevere Eden,
- *iPad apps to enhance instruction in reading and writing* with Elaine Cheesman,
- *Morphology for all primary students in the public schools* with Ron Yoshimoto, and
- *SWAT – Strategic Writing Approaches for Teachers* with Diana Handbury King.

Take home messages: Yay, I passed the 2 hour Certification Exam for Effective Reading Instruction (CEERI) from the Centre for Effective reading Instruction (CERI). I would love to still be as passionate, knowledgeable and inspirational as Diana Handbury King when I am her age! So wonderful to hear her speak as I love her book 'English Isn't Crazy'. Ron Yoshimoto is simply amazing! Funny too - what



Sarah with Diana Handbury King

a wonderful few hours. I have already put so much of his work into our school scope and sequences.

Day 4 (Saturday 29th October 2016) was the last half day, with lots of wonderful information to support families. I heard:

- *What the Every Child Succeeds Act (ESSA) means for students with dyslexia and their families* with Dr Robert Pasternak,
- *Four steps to better spelling* with William Keeney, and
- *Why Orton was right* with Thomas West.

Take home message: The brains of individuals with dyslexia aren't defective; they're simply different (Drs Brock and Fernette Eide).

Three and a half days just wasn't enough time to even explore the exhibition hall, although any longer and I would have needed more than one extra case on the way home!

Next, I was to see it all in practice. First stop...

AIM Institute for Learning & Research, Philadelphia, hosted by Deborah Lynam

AIM Academy is a research-to-practice school for students from Grades 1 to 12 with language-based learning differences/disabilities. Students are in classes of approximately 12 students with two teachers and have an integrated literacy model including - but not limited to - RAVE-O, Wilson, LeTRS, and Lindamood. The school's interactive humanities curriculum blew me away! Starting at the big bang and moving through to the renaissance, systematically and cumulatively, just like for literacy. They also offer wonderful webinars and online training. See www.aimpa.org/institute/pd



Laurel School

The Laurel School of Princeton and New Grange, hosted by Dee Rosenberg

It's almost impossible to pick a highlight of the trip, however spending the morning with Dee and Dr. Gordon Sherman was certainly up there at the top of the list. The Laurel School was not only inspirational but beautiful too. Dee and Dr Sherman were so generous with their time and knowledge as they shared their assessment practices and journey. It was wonderful to see the Orton Gillingham sessions mirroring what we do at Bentleigh West Primary School. Dr Sherman offered lots of wonderful advice but one thing sticks in my mind. He explained how it is important to keep going even when others get in your way or try to divert you. The New Grange School was inspirational too, and one day was not enough for these two schools. Do some exploring at www.laurelschoolprinceton.org

The Bridge Academy, hosted by Susan Morris

This is a strictly Orton Gillingham (OG) school and was wonderful to see. The staff shared with me their multisensory mathematics curriculum (another bag required!) and allowed me to observe lessons for the day. Again, I left inspired and wishing we had such schools in Australia. The website is at www.banj.org

Understood and National Center for Learning Disabilities, hosted by Natalie Tamburello

My last stop was a meeting with *Understood* (www.understood.org/en) and the National Center for Learning Disabilities (www.nclld.org) in New York. It was wonderful to hear their journeys in training and advocacy.

Such a worthwhile trip, courtesy of my award! The links I made with the schools and other professionals have been invaluable. For example, my new connections have meant that we can bring Ron Yoshimoto to Australia to train our school staff later this year. It most certainly won't be my last trip to this conference. I learnt so much and brought so much back to Australia to share with others.



Sarah with Dee and Dr Sherman

Book Review: Reading development and teaching

Review by **Tom Nicholson**

Reading Development and Teaching;
Stuart, M., & Stainthorp, R. (2016),
London: Sage

This is a brilliant book. It would be an interesting read for lecturers of university courses on reading development, educational psychologists, specialist teachers of reading, and anyone who has more than a passing interest in reading, including parents.

The book itself and what is in it

Half of the book is about the nature of reading, from reading words on the page through to reading comprehension. The other half is about assessment of reading and the teaching of reading. There is a focus on students with reading difficulties, including dyslexic students.

Chapter 1 introduces English orthography, that is, the English writing system. It really does give a clear explanation of phonemes, syllables, onset and rime, and how English orthography is both regular and irregular.

Chapter 2 is about the *simple view* of reading, a model that has been researched a great deal in recent years. Starting with a model like the simple view is a great help because it positions the reader to understand that there are three major types of reading difficulty. One of the predictions of this model is that if someone has low reading comprehension but high language comprehension, then their difficulty must be in the area of word decoding, as in some definitions of dyslexia. The

model also predicts that if someone has low reading comprehension but good decoding then their difficulty will be in the area of language comprehension. Finally, the model predicts that some poor readers will experience the 'double whammy' of problems with both language comprehension and with decoding.

Chapter 3 is about how skilled readers process words. It explains that the skilled reader identifies words not just through phonological recoding (that is, 'sounding out', either consciously or unconsciously), but also through lexical knowledge (that is, knowledge of vocabulary and linked word meanings) which can override phonological decisions when necessary. This system is more likely to be activated if the word is spelled irregularly, as in the case of the word 'yacht,' which a reader relying on phonological recoding might pronounce as 'yatched'.

Chapter 4 is about how children become skilled at reading words. It shows that the process involves two stages: first, learning to identify letters, letter sounds; and then, learning to read words by phonologically recoding them. The authors then discuss what kind of phonics instruction is most helpful to assist children to do that. They consider whether teachers should focus on rimes (i.e., word families) as in beak, peak; the research suggests teachers can do this but it might not be the best way. The focus of the chapter then turns to grapheme-phoneme correspondences (GPCs, or letter-sound matches). Should teachers teach all the GPCs or just some, letting students pick up the others through reading practice?

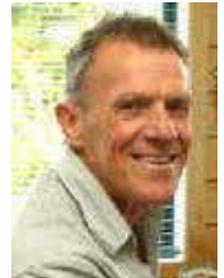
The chapter then considers 'sight words'. Should teachers teach sight words, especially irregularly spelled words, and if so, how? The book tackles the question of whether sight words are best acquired through the process of reading many books, consistent with Share's self-teaching hypothesis. Stuart

and Stainthorp also explore the role of wide reading across a variety of different topics as a mechanism for developing a deeper understanding of words, including the different ways in which a word may be used, understood, and associated with other words and ideas (i.e., the lexical quality of words).

Chapter 5 focuses on the teaching of word reading skills. It starts with the teaching of letter knowledge, then moves to phonological awareness, then whether to use synthetic phonics or analytic phonics. This chapter addresses other questions too, such as how much phonics to teach, whether to use decodable books, whether phonics works for English language learners and struggling readers, and how to facilitate the move from reading with phonics to reading words by sight.

Chapter 6 is about oral and written language comprehension. It explains the importance of morphology (vocabulary meanings), syntax, pragmatics, how we comprehend written text, and how we monitor our comprehension. Chapter 7 is on teaching reading comprehension focusing on these aspects of language. It covers strategies for developing vocabulary as well as specific comprehension strategies such as self-monitoring, graphic organizers, questioning, and summarising.

The next chapter is on assessment, including group and individual diagnostic tests. Chapter 9 focuses on teaching students with developmental dyslexia. The chapter describes both *surface dyslexia* and *phonological dyslexia*, and explains how each type of dyslexia requires a different emphasis: on either lexical processing or on teaching phonics.



Chapter 10 is about reading comprehension difficulties and what to do about them. The focus is on poor readers who can decode words but do not understand them. Several strategies are suggested. One is to improve working memory (which is difficult to achieve). Another is to focus on inferencing, such as teaching students how to link ideas together using anaphoric reference (for example, identifying pronouns or other category words from one sentence in a text that link back to a previous sentence). Another is to focus on self-monitoring of comprehension while reading. Finally, the suggestion is to use a 'reciprocal teaching' strategy and general language teaching.

Reflections on the book

There are so many books on the teaching of reading but this one is different because it combines research from the psychology of reading with research about the teaching of reading. Another point of difference is that the authors are English researchers and much of the research in the book comes from the English research base. The context for the teaching of reading is England, a country that has largely adopted a synthetic phonics approach to early reading instruction in all schools. This is so different to Australia and New Zealand. Although their context is different, I have set the book for my post graduate class on reading difficulties this year because the material in the book is especially relevant to these children.

One question arising from the book is whether or not to teach sight words as whole words without sounding out. The book suggests that we should teach children that even irregular sight words have got something regular about them. For this reason learners can and should use both phonics and visual memory to learn and store these words in lexical memory. The book mentions the Shapiro and Solity (2016) argument that this can best be done by combining phonics with learning of sight words, especially for children who start school with low levels of phonemic awareness. Their research suggested this, but it is not clear whether they got a good result for these children because of the mix of phonics and sight words or whether it was because they included book reading as part of their teaching in the study. Many children may have picked up sight words and other reading skills through book reading (see Ros Neilson's review of the Shapiro and Solity research in the LDA Bulletin, Winter 2016).

My research group undertook a study that included both phonics instruction and book reading, and got better improvement in reading levels than by teaching only phonics or only book reading (see the review of this study by Ros Neilson in the LDA Bulletin, Spring 2016). It is therefore not clear to me that teaching sight words on their own is necessarily the best approach. Many children in New Zealand and Australia spend more time learning sight words than phonics in school, and as a result children learn to read words by sight but this does not transfer to decoding. My belief is that students benefit from phonics and book reading together to mediate the learning of irregular, frequent words in text, and that much teaching of sight words is a waste of time.

Another question that arises from the Stuart and Stainthorp book is how well the simple view of reading can explain reading difficulties. The model has a category for dyslexia but there is debate as to whether we should teach children with dyslexia any differently to other children with reading difficulties. The 'simple view' model assumes that students with dyslexia have no language difficulties, but some researchers have found that they do. The debate centres around the way we define dyslexia. It might also be the case that older children with dyslexia have started school with normal language comprehension, but over the years their language development has atrophied due to lack of reading. This then puts them into the 'double whammy' category of having both language and decoding difficulties. This undermines the model because for older readers their dyslexia status may have changed. I recall teaching a dyslexic child over several years and this is exactly what happened.

A third question that arises for me is about the teaching of reading comprehension. Some researchers have argued that we can't teach reading comprehension. We can teach comprehension strategies but whether they transfer to overall comprehension is not clear. My experience suggests students with poor comprehension are often not really good at decoding, and need to build their decoding skills to a much higher level through more reading practice. The research on reciprocal reading suggested in the book does not convince me. I would prefer to see teachers focus more on building advanced decoding skills and fluency so that the decoding

processes of the poor comprehender become automatic. When this happens, maximum cognitive capacity is available for comprehension and for the buildup of vocabulary, general knowledge, and all those elements that support students with good comprehension. I have co-authored books on the teaching of comprehension and the teaching of vocabulary for the average reader, but for poor readers a more important priority is to make sure their decoding skills are perfect.

A final question in my mind is what to do about helping children from low socioeconomic backgrounds, who struggle with literacy acquisition. The book does not explicitly look at this and perhaps a future edition might want to. In Australia and New Zealand for example we have a major issue with indigenous children and their low literacy achievement. Although a common response is to 'blame the parents', there is much research to show that these children lack the pre-reading skills necessary to succeed in school. This is especially the case in New Zealand and may well be the case in Australia. This needs to be addressed in early childhood education; we really need to tackle this issue. Teaching letter knowledge and phonemic awareness and building oral language should be part and parcel of early childhood education for children from disadvantaged backgrounds, but in New Zealand anyway there seems to be resistance to making sure these children start school just as well prepared as those from more advantaged backgrounds.

Overall however the book does a great job of explaining why many children learn to read and why some fail. It really deserves to be in the staffroom of every school.

Tom Nicholson is a Professor of Education in the Institute of Education at Massey University. Before that he held a personal chair at The University of Auckland and before that was Associate Professor at the University of Waikato.

Book Review: Language at the Speed of Sight

Review by **Sir Jim Rose**

*Mark Seidenberg, New York:
Basic Books*

Last Christmas my family gave me a 'surprise present' of a fishing rod and a card with a Chinese proverb saying: 'Days spent fishing are not added to mans' life.' I then came across an interesting research paper from Yale University which claimed that 'readers live longer'. So, there we have it – 'the fish and read longevity formula'. Whether you believe it or not, it sounds a good deal more alluring than crash diets and exercise.

But let's get serious - learning to read well is, indeed, a lifeline that ought to be a fundamental human right. It is alarming, therefore, to find that so many children fail to master reading even in highly developed countries, such as, America, Australia and the UK. This is despite the fact that we know more about the processes involved in reading than ever before, hence it is hardly surprising that few aspects of education attract more intense debate than how best to teach reading.

Earlier this year, a remarkable book was published, entitled 'Language at the Speed of Sight', by Mark Seidenberg. This book is a massive contribution to securing high quality teaching and removing the obstacles to 'becoming a reader' faced by readers of any age. It promises to be a game changer not only in bringing to an end the lingering skirmishes of the 'reading wars' but also in defining the ingredients of high quality teaching of reading for typically developing children, as well as those with

specific reading difficulties and dyslexia. Given the range and depth of the book, it is impossible to do it justice in a short review so what follows focuses on a few of the many nuggets it has mined.

First, is the message that the teaching of reading has been seriously weakened 'because decisive evidence was hard to obtain', such that, 'rhetoric and intuition carried the day for many years'. Now, however, much scientific evidence for achieving the optimal teaching of reading exists and is convincingly garnered to assemble an unrivalled picture in this book of the state of play. Moreover, there is an unswerving focus on putting things right. So, while obstacles to reading are held up to the light, the main thrust is to answer the crucial question: what must be done about them? To this end, Professor Seidenberg reminds us of the nature, and the necessary limitations of research:

'Groundbreaking studies that used the best available methods in innovative ways might nevertheless have led to conclusions that do not hold up for long, as seems true for much of the research about neurocognitive modules. The value of the research is not simply whether, with hindsight, the conclusions were entirely correct. Rather the research was a necessary intermediate step that enabled further advances. The same is surely true of current theories, which are also fated to be replaced by ones that build on current insights but move beyond them.'

New ways of interrogating old evidence by framing different questions have yielded considerable advances. The 'Simple view of Reading' (SoV), is a case in point. It is seen as 'a deep insight about learning to read' making it essential for teachers to understand the relationship between the 'two components: print knowledge and comprehension'. The author's masterly exploration of each component affirms the importance of developing spoken

language: 'We read with our eyes, but the starting point for reading is speech.' And further: 'Children whose spoken language is age appropriate can acquire



the basic skills rapidly if given relevant instruction and support'. Ironically, the SoV was framed in the 1980's yet it remains doubtful that it is embedded thoroughly in current professional training.

No doubt, genuine researchers and scientists have understood these essential truths about the nature of research for years. This is not so, I fear, in the world at large, which is hungry for answers and does not concern itself much with the limitations, tentative nature and quality of research into reading, let alone bother to read beyond executive summaries and media headlines about the state of it. Moreover, when it comes to funding, researchers are sometimes painted as driven by self-interest so that research begets more research to little effect. Of course, the case for research is not much helped when, as this book shows, there is quite a lot of pseudo-research around.

Alongside investigating why teaching fails, the author convincingly destroys claims that direct instruction is an inevitable 'Gradgrind', joyless experience for children. He tackles many thorny issues of within-school practice, including popular, but questionable, interventions for struggling readers. No punches are pulled when he is sure of his ground. His powerful advocacy of high quality phonic work, for example, exposes the weaknesses of the whole language/ real books/ anti-phonics/ three-cueing movements. Further, the influence of iconic figures, such as, Goodman, Smith and Clay is seen as a

chapter in the teaching of reading that is best forgotten despite the persistent efforts of their disciples to extend its shelf life. His stark message that: 'The level at which reading is understood is unacceptably low and justifies misguided practices', is a wake-up call, if not a call to arms to which we should all respond robustly.

On the bright side, he underlines the gains that are possible when professionals, such as, academic researchers, eschew working in silos and collaborate so that the whole is greater than the sum of its parts. Over the last decade, we have seen a considerable convergence across the neuro, cognitive, genetic and medical sciences that has shed a great deal of light on the processes of reading. This is no small achievement which deserves stronger recognition in teacher education and elsewhere.

Especially notable is the commentary on the nature of dyslexia. Recent years, have seen a confetto of stipulated definitions in an attempt to prove that dyslexia is not mythical. In this book, we have a wobble-free platform for arguing that dyslexia exists. Accepting that it cannot be defined by a discrepancy between reading and IQ, the question posed is: 'who is dyslexic?' to which the answer is:

'Dyslexics are children (and later adults) whose reading is at the low end of normal distribution. Reading skill results from a combination of dimensional factors (that is, ones that vary in degree), yielding a bell-shaped curve. The reading difficulties of the children in the lower tail are severe and require special attention. 'Dyslexia' refers to these children. Viewed this way, dyslexia is on a continuum with normal "reading". All children face the same challenges in learning to read but dyslexics have more difficulty with the essential components.'

The 'essential components', associated with dyslexia, wherein difficulties and impairments need to be identified and acted upon early, form a valuable checklist. They are:

- Phonology
- Reading aloud
- Processing speed
- Orthography
- Working Memory
- Language

The book is replete with up-to-date information on these and other key factors for which the construction of such checklists would help to make sure that children receive the quality

of teaching they need and deserve to become skilled readers.

Moreover, it makes plain that 'Reading skill follows a lifelong trajectory', which suggests we are all works in progress and must be willing to learn from our mistakes. Securing success for children in the early years of that journey establishes confidence and the crucially important 'can do' attitude that sets the drumbeat for what follows.

The title of the final chapter is: 'READING THE FUTURE'. Those tempted to think that this, or the book in general, is bound to the American context should ponder on this chapter and think again. The read across is the powerful universal truth that no school can do better than its teachers. That is where we should direct our efforts.

Professor Seidenberg deserves a standing ovation for this book but I guess he would prefer us to roll up our sleeves and get to work on putting things right.

The Dyslexia-Stress-Anxiety Connection

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What is stress?

Stress is the reaction of the body and brain to situations that put us in harm's way. The stressor may be a physical threat (e.g., a baseball coming quickly toward you) or a psychological threat (e.g., a worry or fear that you will make a mistake delivering your lines in a play or write a passage that won't make sense to the reader). Stress, or more specifically, the stress response, is our body's attempt to keep us safe from harm. It's a biological and psychological response. When we're under stress, the chemistry of our body and our brain (and, therefore, our thinking) changes. A part of the brain called the amygdala does a great job learning what's dangerous, and it makes a connection between certain situations and negative outcomes.

How can stress be good and bad?

All human and non-human animals have the built-in capacity to react to stress. You may have heard of a "fight or flight" response. This means that when faced with a threat, we have two basic ways of protecting ourselves. We can run away (flee) or stand firm and try to overcome or subdue the threat (fight). When we have a sense that we can control or influence the outcome of a stressful event, the stress reaction works to our advantage and gets our body and brain ready to take on the challenge. That's good stress; at the most primitive level, it keeps us alive. It also allows us to return to a feeling of comfort and safety after we have been thrown off balance by some challenge.

On the other hand, bad stress occurs in a situation in which we feel we have little or no control of the outcome. We have a sense that no matter what we do, we'll be unable to make the stressor go away. Body and brain chemistry become over-reactive and get all out of balance. When that happens, it can give rise to another protective mechanism, to "freeze" (like a "deer in the headlights".) We can freeze physically (e.g., become immobilized), or we can freeze mentally (e.g., "shut down.") In these situations, the stressor

wins and we lose because we're incapacitated by the perceived threat.

How does good and bad stress work with dyslexia?

Individuals with dyslexia are confronted regularly by tasks that are, either in reality or in their perception, extremely difficult for them. These tasks might be reading, spelling, or math. If they have experienced success at mastering this kind of task in the past, good stress helps them face the challenge with a sense of confidence, based on the belief that "I can do this kind of task." If, on the other hand, someone has met with repeated failure when attempting this or a similar task in the past, his or her body and brain may be working together to send out a chemical warning system that gets translated as "This is going to be way too difficult for you! Retreat! Retreat!" That's bad stress in action. And remember, perception is everything! It doesn't matter if a teacher, a friend, or a spouse believes that you can do something; it's that you think you can do it that matters.

What is anxiety?

Anxiety comes in many forms. It can be situational (that is, specific to one kind or class of worry, like traveling or being in social situations). Individuals with dyslexia may experience marked anxiety in situations in which they feel they will make mistakes, be ridiculed, or made to feel foolish in front of others. Severe anxiety or fears are known as phobias.

When the anxiety is specific to or triggered by the demands of being with or interacting with people, and is characterized by a strong fear of being judged by others and of being embarrassed, it is known as social anxiety disorder (or social phobia). This fear can be so intense that it gets in the way of going to work or school or doing everyday activities. Children and adults with social phobia may worry about social events for weeks before they happen. For some people, social phobia is specific to certain situations, while others may feel anxious in a variety of social situations.



Anxiety can also be generalized (that is, a kind of free-floating sense of worry or impending trouble that doesn't seem to be specific to one trigger or event). In its more serious form, this is considered a psychiatric disorder known as generalized anxiety disorder (GAD). According to the [National Institutes of Mental Health](#), GAD is diagnosed when a person worries excessively about a variety of everyday problems for at least 6 months. Generalized anxiety disorders affect about 3.1% American adults age 18 years and older (about 18%) in a given year, causing them to be filled with fearfulness and uncertainty. The average age of onset is 31 years old.

How is anxiety different from stress?

Simply put, anxiety is a state of worry about what might be—as compared to stress, which is a reaction to what is. Both stress and anxiety trigger the same chemical reactions in the brain, which does a really good job remembering negative experiences. If you worry all the time about something bad happening to you, that puts you in a state of chronic stress. Individuals with dyslexia worry about reading, writing, and arithmetic much of the time. The irony is, the more they master, the more work they get. It's an unending cycle.

What's the connection to dyslexia?

Stress and anxiety increase when we're in situations over which we have little or no control (a car going off the road, tripping on the stairs, reading in public). All people, young and old, can experience overwhelming stress and exhibit signs of anxiety, but children, adolescents, and adults with dyslexia are particularly vulnerable. That's because many individuals do not fully understand the nature of their learning disability, and as a result, tend to blame themselves for their own difficulties. Years of self-doubt and self recrimination may erode a person's self-esteem, making them less able to tolerate the challenges of school, work, or social interactions and more stressed and anxious.

Many individuals with dyslexia have experienced years of frustration and limited success, despite countless hours spent in special programs or working with specialists. Their progress may have been agonizingly slow and frustrating, rendering them emotionally fragile and vulnerable. Some have been subjected to excessive pressure to succeed (or excel) without the proper support or

training. Others have been continuously compared to siblings, classmates, or co-workers, making them embarrassed, cautious, and defensive.

Individuals with dyslexia may have learned that being in the company of others places them at risk for making public mistakes and the inevitable negative reactions that may ensue. It makes sense, then, that many people with dyslexia have become withdrawn, sought the company of younger people, or become social isolates.

How can individuals with dyslexia move from distress to DE-STRESS?

The DE-STRESS model that follows is a step-by-step guide for addressing stress, anxiety, and dyslexia.

Define: Professionals working with the person need to analyze and understand the way dyslexia presents itself in that individual.

Educate: Based on the information gleaned by the professionals above, the child or adult needs to be taught how dyslexia has an impact on his or her performance in school, workplace, or social situations.

Speculate: This step involves encouraging individuals with dyslexia to look ahead and anticipate the problems they might encounter because of their condition as they face new challenges.

Teach: It's important to teach children, adolescents, and adults developmentally appropriate strategies, techniques, and approaches that will maximize success and minimize frustration and failure. This involves actively teaching people how to recognize and manage stress, the skills of honest self-appraisal, and the ability to learn from and repair errors.

Reduce the Threat: Educators and others involved need to create learning and social environments that reduce, remove, or neutralize the risk. This means giving students the chance to practice newly learned skills in a safe place. It also involves teaching people with dyslexia how to recognize and deactivate “stress triggers.”

Exercise: Regular and vigorous physical activity is known to enhance brainpower and reduce stress. So it is important to build in opportunities for exercise. This step also involves encouraging the person to drink plenty of water and eat a healthy diet.

Success: Children and adults need abundant opportunities to display mastery and experience success. Providing these opportunities gives individuals with dyslexia a chance to learn how to replace the language of self-doubt with the language of success.

Strategize: The child or adult should be encouraged to use what he or she has learned about minimizing and managing stress, and the relationship between stress and dyslexia, to plan for a future in which continued success is likely.

A little bit of stress is a good thing; it keeps us on our toes and gets us ready for the challenges that are a normal and helpful part of living in a complex world. Yoga, mindfulness activities, meditation, biofeedback, cognitive behavioral therapy (CBT), medication and exercise are among the many ways that individuals (with and without dyslexia) can conquer excessive or debilitating stress. For the individual with dyslexia, effectively managing and controlling stress must also involve learning more about the nature of the specific learning disability. Gaining an understanding of the daily impact of dyslexia and learning how to work through or around the dyslexia to gain a better sense of control over the environment, is the key to reducing stress and achieving greater success.

Competence instills confidence and competence leads to success. When children, adolescents, and adults are able to develop a sense of mastery over their environments (school, work, and social interactions), they develop a feeling of being in control of their own destiny. Control through competence is the best way to eradicate stress and anxiety.

Suggested Readings

Brooks, R., & Goldstein, S. (2007). *Understanding and managing children's classroom behavior: Creating sustainable, resilient classrooms*. New York: Wiley.

Minahan, J., & Rappaport, N. (2012). *The Behavior code: A practical guide to understanding and teaching the most challenging students*. Cambridge: Harvard Education Press.

The International Dyslexia Association (IDA) thanks Jerome J. Schultz, Ph.D., for his assistance in the preparation of this fact sheet. Dr. Schultz is a clinical neuropsychologist and lecturer on psychology in the Department of Psychiatry at Harvard Medical School.

Letter to the Editor

Jenny Deyzel

As a teacher with over fifty years experience, I have become increasingly anxious about many aspects of the education system in Australia. One of my concerns is about the mismatch between the Australian Curriculum and the well researched body of evidence on developmental milestones in children.

Thirty years ago, teachers were well aware of the developmental levels of the primary school students that they taught. In the teaching of written language it was accepted that phonics was systematically introduced in Prep and Year 1. This coincided with Level 3 of the acquisition of written language, 'the phonetic stage'. The consolidation of these phonic skills which involved systematic detailed teaching of all aspects of phonics and related skills, usually culminated in Year 1 and 2 students (5-7 years of age) writing stories using the sound structures that they had learnt. Sometimes a word was created that did not exist. The text was, however, always readable, as a suitable sound had been substituted while silent letters were ignored. The children could 'sound out' and understood the alphabetic principle of the language.

Despite Whole Language now being discredited and phonics having been included in the curriculum, old habits die hard.

This stage was followed in late Year 1 or early Year 2 with Level 4 known as the 'transitional spelling stage'. Gradually, as the year progressed the students began to notice that some words were very strange and that 'thay', for example, was in fact spelt as 'they'. By the end of the year, the reading and writing that these students produced

indicated that they had, on the whole, mastered the phonics of the language and were moving into the fourth or transitional stage of language acquisition – the spelling of words correctly and the gradual mastery of morphemes, compound words, contractions and homonyms. The heavy reliance on the auditory components of the words made way for a visual representation of the words. The students were now capable of spelling out the letters in words. Years 3 and 4 were spent exploring the writing of stories culminating often in Year 5 with long intricate stories and in most cases significant mastery of written language skills. The students now entered the fifth and final stage of acquisition of written language skills, namely the 'independence' stage. Along the way students were introduced to the writing of nonfiction in projects. Skills related to the writing of nonfiction were built up gradually over the years, starting with simple research at Year 3 level with short written presentations.

This developmental process of language acquisition has been well researched and documented. Westwood provides a comprehensive model for the spelling skills described above. His model includes five stages and is based on work by Bissex, Gentry, Moats and Zutell. Other researchers and theorists such as Chall, have identified similar developmental stages of reading acquisition. Ehri also provides a flexible framework for educators to use. All these models, whether for reading or spelling, have identified an early phonics approach, the systematic teaching of phonics, the gradual mastery of the intricacies of the language and finally a greater automatic focus on the visual aspects of language. The introduction of the Whole Language Approach denied students access to the essential early learning skills for developing efficient reading and writing. The result was that a third of our students do not read effectively.

Despite Whole Language now being discredited and phonics having been included in the curriculum, old habits die hard. Children are still not encouraged to sound out words. They are forced into the visual format almost immediately using the cueing systems. There is a

heavy emphasis on the learning of sight words and the spelling out of words using letter names. Many students never understand the alphabetic principle of the language. It sometimes takes many remedial lessons for a child to make a direct association between a sound and its written form. The child who only spells the letters in words, when being instructed in phonics, says the sound of the letter, then the name of the letter and only then writes the letter. The association of the sound of the letter with the ability to write it directly can take a long time to be established automatically, because of the extensive use of letter names. The steady progression through the various auditory phases leading into the greater reliance on the visual form and final mastery of reading and writing has been sabotaged at the sounding out stage.

Unfortunately, in an attempt to stop teachers teaching students prescribed stories that could be adapted to any given story topic in NAPLAN, persuasive text was introduced instead of story writing. What a disaster. The lower grades are forced into this format while still acquiring mastery of the English language. Writing creativity and imagination are stifled. Furthermore, the language objectives do not coincide with the natural language development in children. A considerable amount of work has been done on researching the development of writing in children. Kroll is one of the foremost researchers in this area. He proposes that there are four phases:

- Preparatory Phase (approximately ages 4-7). Basic motor skills are developed and many aspects of the spelling system acquired.
- Consolidation Phase (approximately ages 7-9). Children begin to use writing to reflect what they say in speech. Children's spoken language skills help to improve their writing. They may use unfinished sentences and strings of clauses linked with the conjunction and.
- Differentiation Phase (approximately age 9 onwards). It is at this stage that children *begin* to learn that written language differs from oral language in style and structure. They begin to realise that different kinds of writing are required for different purposes and audiences.

Writing now becomes more formal than the spoken language. Children begin to understand that writing serves a purpose.

- Integration Phase (approximately 14 onwards). Writers now have a good command of the written word. They have a variety of stylistic choices and students understand that writing and speech have different forms and functions, but are still linked in many ways.

The current language objectives listed at a Melbourne school for Year 2 are:

Semester 1. Uses question and exclamation marks correctly. Begins to use synonyms and antonyms to improve writing.

Semester 2. Begins to use commas and attempts to use apostrophes of possession. Uses vocabulary appropriate to text type and purpose e.g. persuasive and descriptive or specific vocabulary.

By Semester 2 of Year 2 the student is expected to present “two relevant examples to support an argument. (Most Year 2 students do not have formal persuasive language in their oral speech!)

The above objectives are being

The mismatch between children’s developmental levels and the current curriculum has contributed significantly to the difficulties that many children encounter

introduced into the curriculum far too early, especially as all the children will not be at the same stages of development and very few will be advanced enough to cope with the formal prescribed format of persuasive writing. Using Kroll’s research as a guideline in the school setting, persuasive text should not be introduced until Year 4 or 5 depending on the child’s stage of development.

Similar inappropriate work is presented in mathematics. The new Australian Curriculum has introduced algebra into primary school mathematics. Recently the second best group in a Year 6 maths class was given algebra equations to solve which included negative numbers and x on both sides of the equal sign. Most students are in Year 8/9 before these types of equations are done.

Piaget maintained that students generally came to the end of the

concrete operational level at about the age of eleven or twelve. Subsequent research indicates that some students may stay in the concrete operational area until thirteen or fourteen and will need hands on concrete teaching into senior school. Some Year 6 students, therefore, may be ready for algebra but many are not and they are certainly not ready for Year 9 mathematics. Neither does it seem advisable to be introducing algebraic concepts at Year 4 level where few students even have a real concept of equal.

The mismatch between children’s developmental levels and the current curriculum has contributed significantly to the difficulties that many children encounter in our schools. Other mismatches occur. The problem needs to be addressed.

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- This letter about developmental milestones is one of thirteen issues of concern to the author. The full text is titled ‘The Great Decline. Why Australian Education Standards are Plummeting Fast.’ It can be accessed online at <https://goo.gl/HaNPPh>*

We welcome the submission of articles from LDA members and others with an interest in learning difficulties for possible inclusion in upcoming editions of this Bulletin.

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Supporting students with numeracy difficulties

From the Consultants' Committee Convenor, Jan Roberts

Scott, please count out 10 animals [counters].

Scott* does this accurately and checks, touching each one.

Now we will play the hiding game. You guess first.

Scott covers his eyes (this time without peeping) as I hide three of the animals under a box.

Ready!

He looks at the remaining seven animals on the table, counts them just by looking (a step forward) then counts on the extra 3 to 10 on his fingers. "Three", he says triumphantly. I uncover the hidden three counters. He grins because, this session, he will receive a Smartie (with mum's permission) for each correct answer. We swap roles and continue the game but I also encourage Scott to guess before working it out. He knows when there are 1-2 hidden without calculating and is becoming faster at checking other combinations.

For you, the reader, this all sounds rather ho hum for a beginner. But Scott is 9 years old and in Grade 3. Maths is a mystery. "I don't get it" is his mantra, even when it seems he does 'get it'. We had a breakthrough last week when he realised that $3+4=7$, $4+3=7$, therefore $7-4=3$ and $7-3=4$. "I sort of get it", he said hesitantly and could explain the reciprocality concept. His confidence is so low that he doesn't trust that he might have understood.

Scott has been diagnosed with extreme dyscalculia. He is also dyslexic although less severely and he is progressing quite well in literacy. While he has not been assessed for an overall IQ score, he is probably within the average range. He becomes frighteningly despondent and frustrated because he is so 'stupid', and smart enough to know that in maths, he is way behind the others in his class.

His teacher helps as much as possible and has been advised on his difficulties and relevant strategies by Judi Humberstone (Developmental Sciences, Psychological Studies, University of Melbourne) who assessed him last year. Scott does extra practice using various strategies at home with his mother until he verges on melt-down, when mum knows to stop. He clearly needs concrete materials to learn concepts but it is also important that we try to help students like Scott to gain skills in the automatic retention of basic facts. He enjoys the most simple, repetitive *Numbershark* games (White Space Ltd, n.d.), which do encourage quicker calculations as some speed is required. But even the minimum speed setting can be frustrating when he miscounts in a hurry and is maybe gobbled up by a shark or loses the treasure. Nonetheless, Scott is improving with basic calculation, albeit slowly, and accepting that it is okay to make mistakes.

Robert Reeve and Judi Humberstone define development dyscalculia as 'a specific learning deficit associated with difficulties understanding numerical and arithmetic concepts' with recent estimates that suggest a prevalence rate of 6.5%. Characteristics of students with dyscalculia include difficulty acquiring number concepts, confusion of math symbols, poor intuitive grasp of numbers, and problems in learning and retention of number facts. Scott displays all of these characteristics.

My experience (and of course that of other teachers and tutors) is that most children will improve greatly when given explicit teaching, using a variety of concrete materials to demonstrate the same concept in different ways, requiring the children to demonstrate, draw diagrams and give correct verbal feedback. For many though, gaining an automatic grasp of number facts, including times tables, takes far longer than it does for most children, even with much more practice. Brian Butterworth, Institute of Cognitive Neuroscience, University College, London, states that the concept of numerosity appears to be innate, because infants, even in the first few weeks of life, seem to be able to discriminate visual arrays. The

impairment of the capacity to learn arithmetic, i.e., 'dyscalculia', is a deficit in the child's concept of numerosity.

The realisation that arithmetical skills are essential

to the effective exercise of citizenship in a numerate society behoves us to act to alleviate the difficulties of those with dyscalculia. LDA has been at the forefront of Australian organisations in recognising and recommending the best peer-reviewed research strategies for dyslexia. Now, without losing momentum on improving literacy teaching and learning, we must throw our weight into the maths arena with equal enthusiasm, so that classroom teachers and consultant tutors can expand their teaching skills to help struggling maths students.

Technology (and good teaching) has made great advances in alleviating problems for those with dyslexia but we have yet to catch up in the same way for maths. The calculator is a handy tool, but unfortunately, does not teach concepts. Apps can provide practice in learning concepts and skills but, rather like learning to knit, it is always better with a teacher on hand.

With this in mind, PD for tutors and classroom teachers is being arranged for later this year in Melbourne with Dr Judi Humberstone. This will be very well attended so do book in early. And in 2018, more maths PD will be offered by LDA.

(*Not his real name)

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