Learning to Read in Australia

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Learning to read is not easy, and a substantial number of children struggle to do it. Children who read substantially less well than most children of their age may be referred to as exhibiting 'specific learning difficulties' or 'specific reading impairment' or 'developmental dyslexia' ('dyslexia' for short). These different terms are typically used interchangeably. Learning to write and spell is not easy, either, and some children lag behind their peers here, too. The distinction between difficulty in learning to read and difficulty in learning to write and spell is worth making because there are children who are normal readers for their age but poor spellers: these children are dysgraphic (poor at writing and spelling) while not being dyslexic (poor at reading). Children who have had difficulty in learning to read but have managed to catch up with their peers as far as reading is concerned often still exhibit poor writing and spelling.

It is natural to ask: what is the incidence of difficulties in learning to read amongst Australian children? This question has no answer. How far a child is lagging behind in reading compared to other children of the same age is a matter of degree. There is no way of making any qualitative distinction between 'children with dyslexia' and 'children without dyslexia'; the distinction is purely quantitative (ie, depends on how far behind in reading a child is required to be before he warrants the label dyslexia) and therefore arbitrary. This is because reading is a skill that is distributed continuously rather than dichotomously across any group of children.

Or, to be more exact, reading is a *set* of skills, each distributed continuously rather than dichotomously across any group of children. If that is so, it follows that if we want to understand how children learn to read (and why some find this so difficult), we first need to identify the set of reading skills that children will need to acquire. That in turn means that we first need to understand skilled reading – we need to know exactly what *are* the cognitive skills that skilled readers possess which enable them to achieve the act of reading so quickly and so effortlessly.

About a century ago, in his book *The Psychology and Pedagogy of Reading,* experimental psychologist Edmund Burke Huey wrote 'to completely analyse what we do when we read would almost be the acme of a psychologist's achievements, for it would be to know very many of the most intricate workings of the human mind, as well as to unravel the tangled story of the most remarkable specific performance that civilisation has learned in all its history'.[1] Today, a century later, experimental psychologists and other cognitive scientists certainly have not achieved the goal of completely analysing what we do when we read. But this question has been intensively investigated by reading scientists over the past thirty-five years, and at least *some* of the workings of the mind upon which skilled reading depends are now well understood.

Reading researchers are still a very long way from understanding exactly how someone can, from reading *The Brothers Karamazov,* have a view of what it must have been like to live in Imperial Russia in the Nineteenth Century (a full understanding of how a reader achieves this would certainly count as having a complete analysis of what we do when we read). Nevertheless, we do have a good understanding now of some of the basic building blocks of

skilled reading that are part of the cognitive system we use to extract an understanding of life in Imperial Russia. One of these elements of the skilled reading system is letter-sound translation. This simple process plays a part even in complex reading tasks such as the comprehension of novels. *The Brothers Karamazov* has 48 characters, and it is not easy to keep track of all of them: for example, Marfa Ignatyevna appears in Chapter 37 and her previous appearance in the book is way back in Chapter 14. How does the reader store knowledge of this woman in Chapter 14 which can last until it is needed in Chapter 37? Those of you who read Russian novels will know the answer. You create a representation of the pronunciation of her name when you come across it in Chapter 14, and then you again translate the letter strings *Marfa Ignatyevna* from print to speech when you come across them again in Chapter 37. This allows you access to the information you have already associated with the pronunciation of her name when you read about her in Chapter 14.

But how do you generate a pronunciation for a string of letters that you have never seen before, such as *Marfa Ignatyevna* when she first occurs in the book? You do this by applying what you have learned, as you learned to read, about the rules that relate particular letters to their particular sounds. You've learned these rules for English, and it may be that Russian letter-sound rules are rather different, so that the pronunciation you assign to *Marfa Ignatyevna* may be wrong: but that won't matter. As long as the pronunciation you assigned in Chapter 14 via your letter-sound rules coincides with the pronunciation you assign that way in Chapter 37, you will be able to keep track of this minor character.

Reading would be tedious and inaccurate, however, if it were always based on applying letter-sound rules to all the words on the page. It would be tedious because slow: it takes time to generate pronunciations from print via application of letter-sound rules. And it would be inaccurate, at least for English, because many English words disobey the standard letter-sound rules of English. Applying the rules to *yacht* will give you something that rhymes with 'matched'; applying the rules to *aunt* will give you something that rhymes with 'haunt'. About 25 per cent of the 8000-odd monosyllabic words of English have pronunciations which disobey the letter-sound rules: these are the *exception* or *irregular* words of English, and many of them are amongst the most commonly-occurring words of the language (*have, good, do, are, said, were* etc). Skilled readers escape the tedium and the error of reading via pronouncing to themselves because they have learned to rapidly and automatically recognise words to which they have frequently been exposed; this rapid automatic recognition of familiar words as wholes makes no use of letter-sound translation.

Thus skilled reading of *The Brothers Karamazov* involves the use of these two components of the reading system, two reading subskills: application of letter-sound rules and rapid automatic recognition of familiar words as wholes. Of course, skilled reading of the novel depends on far more than these two simple reading abilities; but the abilities upon which skilled reading depends include these two. This much reading researchers have already shown, as they travel the path towards having a complete analysis of what we do when we read.

If letter-sound rule application and rapid whole-word recognition are reading subskills which are components of the skilled reading system, then they are subskills which a child will have to master if that child is to become a skilled reader. This is why many programs for reading instruction involve *both* phonics instruction (teaching children what the letter-sound rules are) *and* sight-word recognition (teaching children to recognise individual isolated words as wholes).

Knowing how to translate an unfamiliar word from print to speech by 'decoding' (sounding out the printed word's components*)* is sometimes useful **even** for the skilled reader, as in our Russian-novel example above. But it is vastly more useful for children as they are learning to read – for a simple reason. A normally-developing seven-year-old child will have an auditory vocabulary of perhaps 10,000 words, but may be able to recognise in print fewer than 100 words, since seven-year-old children have usually only just begun learning to read. So it will constantly be the case, as a child looks at a page, that there will be words on the page which the child has never seen before and so cannot recognise in print, and yet could easily recognise if the words were heard. Given this, consider how useful it would be if the child had available some mechanism for converting print to speech ('sounding-out'): this would allow visually unfamiliar words to be recognised by ear. Application of letter-sound rules is just such a mechanism. In English this will fail for a proportion of words (the irregular words) but it will succeed for the majority (the regular words). This provides the child with a self-teaching mechanism. If the child is looking at the word *tree*, for example, and has never seen it before, applying some simple letter-sound rules to this letter-string will yield the pronunciation 'tree', and this the child can recognise: that allows the child to learn that the visual form *tree* is the word 'tree' and eventually to be able to recognise *tree* rapidly and automatically as a familiar visual form, without the need to translate it to speech via letter-sound rules.

Teaching the child what the letter-sound rules are equips the child with what's needed to carry out this self-teaching procedure. Teaching the child the rapid visual recognition of isolated whole words helps the child deal with words which disobey the rules. This also helps the child to make the gradual transition from the crucially important but cumbersome sounding-out stage to an ability to recognise a large number of words rapidly and automatically – that is, the transition to skilled word recognition.

When one studies children who are having difficulties in learning to read, one finds some children whose difficulties lie in the first phase – they are having difficulties in mastering the use of letter-sound rules to sound out what's on the printed page. There are various scientifically-validated and commercially-available training programs to help children who are having difficulties at this phase. But there are also other children whose difficulties are at the second phase: even if they have mastered the use of letter-sound rules to sound out what's on the printed page, they struggle to move beyond this to build up a sight vocabulary of words which they can recognise instantly and automatically without needing to sound them out. Reading scientists have begun to discover what methods are effective in remediation of children who are having this particular kind of difficulty in learning to read.[2]

This conception of the teaching of reading is firmly grounded in what we know about the structure of the skilled reading system, is widely accepted amongst reading researchers, and is supported by a great deal of research on learning to read. Thus there is a solid body of scientific knowledge about how children learn to read, what they should be taught in the course of early reading instruction, different ways in which children find learning to read difficult, and effective methods for helping such children.

The points we have made above about learning to read apply just as much to learning to spell. Reading and spelling are symbiotic and hence should be taught together. Indeed, teaching of writing/spelling is a particularly powerful way of imparting to children an understanding of the alphabetic principle. Treiman (1998)[3] presents evidence that spelling instruction should be part of beginning reading instruction rather than bringing it in later, or treating it as a separate subject. Spelling instruction facilitates the learning of rules and patterns to add to phonemic awareness (eg, use of *x* versus *cks* in *fix*), and knowledge of

morphology (appreciation of the significance of smaller meaningful parts or roots of words (eg, '*ed*' or '*ful*').

Treiman's evidence also suggests that children who learn to spell words from their reading program make faster progress in learning to read than children who are taught to spell words that are not in the texts they are reading. Practice in spelling is more helpful to reading than vice versa, so using spelling as a remedial method can be very profitable for both skills.[4] These insights concerning how learning to read can be helped by instruction in spelling and writing are the basis for one effective program for teaching literacy, the Spalding program, as is evident from the very name of the program's textbook: *The Writing Road to Reading*.[5]

The three national surveys of children's reading levels and of classroom practices in the teaching of reading.

Given that much is already known about learning to read and spell, about the difficulties some children have in this domain, and about how these difficulties can be treated, it is rather surprising that in the past decade the governments of three major developed countries – the USA, the UK and Australia – have been sufficiently concerned about how poorly their country's children were learning to read that each commissioned a national survey of reading standards and the classroom teaching of reading.

In the USA, Congress established the National Reading Panel in 1997, its task being to assess the effectiveness of different approaches used to teach children to read. It reported on 13 April 2000.[6]

In the UK, Parliament established in 2004 a House of Commons Select Committee on the Teaching of Reading, which conducted several hearings in 2004-2005. It reported on 7 April 2005.[7] The outcome was an announcement on 3 June 2005 that Jim Rose, a former Deputy Chief Inspector of Schools, had been asked to lead an independent review to examine best practice in teaching reading, emphasising the crucial role of synthetic phonics instruction in the reading curriculum.

In Australia, on 30 November 2004 Dr Brendan Nelson, then Federal Minister for Education, Science and Technology, launched the Australian Government National Inquiry into the Teaching of Literacy. The Inquiry was intended as a broad, independent examination of reading research, teacher preparation and practices for the teaching of literacy, particularly reading. On 8 December 2005, this Inquiry issued its report and its recommendations in a document entitled 'Teaching Reading'.[8]

On the basis of its literature review, the Australian Inquiry reached the conclusion that the evidence indicates that the Whole Language approach to the teaching of reading, currently the most widely used approach to the teaching of reading in Australian schools[9] (we say more below about what the Whole Language approach is), is not in the best interests of students, especially those students who are having difficulty learning to read. Rather, in order to be able to progress with reading instruction, children need to acquire the basic building blocks for reading, including letter knowledge (the names and sounds of the alphabet), phonological awareness (explicit appreciation of the sounds of language and how words are composed of these sounds) and a grasp of the alphabetic principle (the principle that the individual sounds of language can be represented by individual marks on the page – letters).

The Inquiry concluded that the evidence is very clear as to what is essential for an effective program for the teaching of reading: much research has shown that, for any reading program to be effective, it must include throughout its first two or three years extensive systematic explicit instruction in synthetic phonics.

Let us explain exactly what these terms mean.

First, what is 'synthetic' phonics? A child being taught that 'cat' can be analysed into three sounds 'kuh' 'a' and 'tuh' that correspond to the three letters of the word is being taught *analytic* phonics; a child being taught that the letters *c a* and *t* correspond to the sounds 'kuh' 'a' and 'tuh' and that these can be put together (synthesised) to make the syllable 'cat' is being taught *synthetic* phonics. Either type of phonics instruction helps children learn to read but research shows that the synthetic approach helps children more.[10]

Second, what's meant by *explicit* instruction? This contrasts with *implicit* instruction, sometimes referred to as 'discovery learning': here you present children with a number of examples and let them figure out the rules for themselves. Few children will be able to figure out the rules of phonics by discovering these rules for themselves: most will need to be told explicitly what these rules are, and then trained in their use.[11]

The conclusions of this Australian literature review are completely consistent with those reached in the other recent national surveys of the teaching of reading mentioned above. For example, the USA National Reading Panel concluded that 'the Panel's findings demonstrate that learning phonics skills is critical for positive reading development. However, the best results will be achieved when direct instruction is combined with the development of other skills, and when teachers are able to use a combination of direct instructional strategies to achieve those skills.' And the UK Select Committee observed: 'In accordance with the available evidence, the DfES[12] now seems to have accepted that phonics is an essential methodology in teaching children to read. The present debate revolves around the status of phonics within early teaching of reading and the type of phonics programme that should be used'. All three inquiries have thus reached the same conclusion: systematic instruction in phonics is an essential component of any effective method of teaching reading.[13]

The 'Whole Language' approach to the teaching of reading

The emphasis above on reading and spelling as depending upon a set of skills which need to be explicitly taught contrasts markedly with a different approach to teaching reading and spelling which is currently widely adopted in Australian primary classrooms: the 'implicit holistic' 'Whole Language' approach, where children are seen as active self governed learners who construct knowledge of reading by themselves with minimal instruction in decoding. One exposition of this approach has the following to say:

> Whole language represents a major shift in thinking about the reading process. Rather than viewing reading as 'getting the words', whole language educators view reading as essentially a process of creating meanings. Meaning is created through a transaction with whole, meaningful texts. It is a transaction, not an extraction of the meaning from the print, in the sense that the reader-created meanings are a fusion of what the reader brings and what the text offers. ... In a transactional model, words do not have static meanings. Rather, they have meaning potentials and the capacity to communicate multiple meanings.[14]

Although this quotation suggests that the whole language approach is new, this is not so. The approach goes back as far as the 19th century philosopher of education John Dewey and his advocacy of what was called 'progressive education'. As far as the teaching of reading is concerned, according to Dewey: 'It is one of the great mistakes of education to make reading and writing constitute the bulk of the school work the first two years. The true way is to teach them incidentally as the outgrowth of the social activities at this time'.[15] This idea that reading and writing should be taught incidentally rather than explicitly is a key feature of the Whole Language approach to reading instruction.

A second key feature of this approach is that children are encouraged to guess freely at words which they fail to recognise: 'It is not indeed necessary that the child should be able to pronounce correctly or pronounce at all, at first, the new words that appear in his reading, any more than that he should spell or write all the new words that he hears spoken. If he grasps, approximately, the total meaning of the sentence in which the new word stands, he has read the sentence. ... And even if the child substitutes words of his own for some that are on the page, provided that these express the meaning, it is an encouraging sign that the reading has been real, and recognition of details will come as it is needed. The shock that such a statement will give to many a practical teacher of reading is but an accurate measure of the hold that a false ideal has taken of us, *viz*., that to read is to say just what is upon the page, instead of to think, each in his own way, the meaning that the page suggests'.[16] As the major modern advocate of Whole Language put it, reading is 'a psycholinguistic guessing game'.[17]

In general, the whole language approach claims that learning to read develops naturally in the same way that acquisition of spoken language occurs naturally, and is biologically pre-programmed, so that learning to read is a natural process which children can do for themselves. 'Written language is language, and what is true for language is true for written language . . . babies acquire a language through actually using it and this model of acquisition explains the learning of reading and writing'.[18] But this can't be right, because literacy is a cultural invention, not a universal human characteristic. The belief that reading is a 'natural process' whose development should not be interfered with by explicit instruction has become entrenched amongst primary school teachers and popular pundits such as children's author Mem Fox,[19] and has been endorsed by Australian Departments of Education. This belief has, however, been universally rejected by reading scientists.

What are Australian trainee teachers taught about the teaching of reading?

In addition to its Literature Review, the Australian inquiry into the teaching of reading surveyed all the 4-year Bachelor of Education courses around Australia. This survey's findings included the following:

(a) in almost all such courses, less than 10 per cent of course time was devoted to preparing student teachers to teach reading; in about half of these courses this percentage was less than 5 per cent.

(b) many students undertaking BEd courses have poor literacy skills themselves and lack knowledge of such concepts as phonemic awareness, phonics and the alphabetic principle; yet these are just the kinds of concepts that they will need to teach children if their teaching of reading is to be effective.

(c) on the whole, beginning primary teachers are not confident about teaching some specific aspects of literacy, namely spelling and grammar, as well as phonics.

(d) barely a third of senior staff in schools think that beginning teachers are adequately prepared to teach children to read. And,

(e) new teachers are graduating without sufficient specific strategies to improve literacy standards.

So the results of this survey suggest that, as far as the teaching of reading is concerned, the situation in teacher training courses in Australia is grave; which means that the classroom situation in Australia will also be grave.

The Committee made twenty recommendations[20] which they hope will improve the situation. These recommendations include:

- Teachers should be equipped with teaching strategies based on findings from rigorous, evidence-based research that are shown to be effective in enhancing learning to read in all children (ie, including children who are having difficulty in learning to read);
- Teachers should provide systematic, direct and explicit phonics instruction so that children master the essential alphabetic code-breaking skills required for foundational reading proficiency;
- The teaching of reading throughout schooling should be informed by comprehensive, diagnostic and developmentally appropriate assessments of every child;
- The conditions for teacher registration of graduates from all primary and secondary teacher education programs should include a demonstrated command of personal literacy skills necessary for effective teaching of reading;
- All schools should have a highly trained specialist literacy coordinator to support school staff in developing and monitoring children's progress in individual literacy plans, especially for those children with reading difficulties;
- Literacy teaching should continue throughout schooling (Kindergarten to Year 12); and specialist literacy teachers should be available in each school;
- Teacher education and training should include more specific and evidence based training in the teaching of reading and include ongoing professional learning throughout the teaching career; and
- A national program of literacy action should be set up to design, produce, and evaluate guidelines concerned with the effectiveness of teaching literacy, and to promote research into the best teaching practice.

Children with specific difficulties in learning to read

The situation for the thousands of children in Australian schools who are struggling with literacy requirements every day, and whose future will be seriously compromised if they do not receive expert help, is especially serious. While up to 20 per cent of children and adolescents are said to emerge from their education experience in Australia with 'very poor levels of literacy' according to numerous surveys,[21] around 10 per cent have intransigent reading difficulties which seriously limit their capacities for healthy adjustment in our society.

The Australian National Inquiry review gave rather minimal attention to this problem, and education departments across the country have never given much more than tokenistic attention to children failing to achieve functional literacy. The program 'Reading Recovery', which is provided in many Australian schools for children identified as having slow development of reading skills in the early years, has not been successful in making a difference to the outcome of children with genuine reading problems,[22] despite beliefs to the contrary in the education system. Improved teaching of reading in the early years will help to reduce the numbers of children with difficulties over the longer term. But we have enough expertise now, from the science of remedial intervention, to make a difference to the existing problems,[23] and to save many children from the undesirable consequences of poor literacy. These undesirable consequences include low confidence and self esteem, social, emotional and behavioural problems, vulnerability to delinquency and crime, early drop out from education, and under or unemployment. We know that training in, and adoption of, evidence-based interventions such as synthetic phonics, along with strategy-based instruction as noted above, applied intensively and consistently for sustained periods of time over the school years, does make a difference for children who would otherwise struggle to learn to read.

Therefore training of teachers in *evidence-based remedial approaches* for children who will struggle to read and spell should be a priority for training agencies.This needs to encompass not only students in teacher training, but teachers currently in the system who find themselves lacking in knowledge and skills to help the children in their classrooms with reading difficulties.

What actions are required following the review and recommendations?

Critical, well-researched reviews of the teaching of reading are important; but if they are not followed by action to produce change for the better, they will of course have no impact on what happens in the classroom. There is now opportunity following the Australian national review of the teaching of reading to take steps to significantly improve outcomes for Australian children in learning to read and write.

Firstly, a thorough overhaul of teacher training systems and courses in the universities and colleges is needed, to properly equip teachers to teach reading well and with confidence, in ways which are based on scientific evidence, not on trends in educational philosophies. This is the responsibility of the teacher training and certifying agencies including university departments of education. It will involve an injection of the latest research and scholarship into the teacher training courses, based on the evidence about how the complex skill of reading develops and can be effectively fostered in young children. This is likely to require university staff to undertake professional development and update themselves in the science of reading.

Secondly, intensive professional development and training is needed for teachers who are working in the system already, so that they understand how to provide a valid evidence-based approach to their teaching of literacy skills. In addition, they need support in assessing the efficacy of their instruction by closely monitoring children's progress and taking steps to provide extra help for those who are struggling - before the problems become entrenched.

Thirdly, there is need for a raising of awareness in parents and families in the community of the importance of preparing their children for success in reading, through pre-reading

activities at home and in play, including introducing their children to letters and sounds in the pre-school stage.

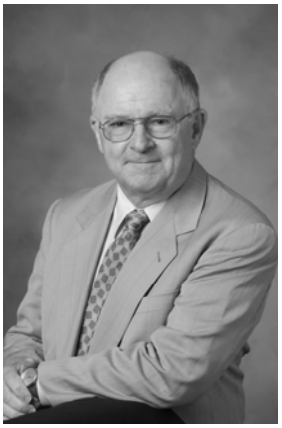
What has been done so far?

The Nelson Review was published in December 2005 (ie twelve months ago, at our time of writing). We have identified a number of responses which have been subsequently made to this Review at Federal Government level:

- The federal Minister for Education, Science and Training, the Hon Julie Bishop, in a media release in May 2006 noted that although Australian children do relatively well in comparison with other countries, too many were failing to reach national bench marks in reading. She emphasised highlights from the *Teaching Reading* report relating to teacher education, teaching quality, the use of proven techniques and early assessment of reading skills. Bishop also noted that she would be working collaboratively with States and Territories on the literacy agenda.
- The Council of Australian Governments (COAG) has discussed a range of reforms to improve literacy and numeracy standards as necessary underpinnings to Australia's economic prosperity. Bishop wrote in May that 'Senior officials from all governments have agreed that by December 2006, proposals will have been prepared for consideration by COAG that will focus on increasing the proportion of young people meeting basic literacy and numeracy standards and improving overall levels of achievement'. Thus far no specific recommendations have been announced.
- From the 20th Ministerial Council for Education, Employment, Training and Youth Affairs Meeting in Brisbane (held 6 to 7 July 2006), a joint Ministers' Communique was released on literacy and numeracy reform. It stated that 'agreement was reached on three priority areas for national collaborative action that have the greatest potential to lift literacy and numeracy outcomes across Australia. The three priority areas are teacher preparation, capacity building and assessment. The Federal Government, States and Territories will work with the Deans of Education, Teacher Accreditation Authorities and Teaching Australia to ensure that beginning teachers are being adequately prepared with the skills and knowledge to lift literacy and numeracy outcomes. The Ministers will also request a report on the strategies that build capacity in teachers, including professional development, to improve student outcomes'.
- Recommendation 6 of the review actually calls for 'highly trained specialist literacy teachers with specialised skills in teaching reading to be responsible for linking the whole-school literacy planning process… and supporting school staff'. Consistent with this recommendation is the recent call by the Victorian Education Department for applications for 45 literacy coordinator positions in schools as recommended in the review. This is a welcome step forward: but if we have so few educators with the requisite knowledge and skills to teach reading, to evaluate standards and to identify and treat children who are failing, where are these experts to come from?

As far as we know, though, none of the Australian tertiary institutions which provide teacher training, nor any of the State Departments of Education except in Victoria, have yet acted in any way in response to the review and its recommendations. We know of no plans for the universities to improve the training of teachers in the science of reading, and in evidence-

based methods for teaching reading and assisting children with difficulties in learning to read. This is despite the fact, noted in the Nelson Report, that it is currently possible for Australia's future teachers to complete a Bachelor of Education course in Australia with less than two per cent of total credit points devoted to instruction in the teaching of reading.



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6 See http://www.nationalreadingpanel.org/.

7 See http://www.publications.parliament.uk/pa/cm200405/cmselect/cmeduski/121/12104.htm.

8 See http://www.dest.gov.au/nitl/.

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[13] Anti-phonics advocates interested in fanning the flames of the 'Reading Wars' sometimes claim - or imply - that those who consider phonics instruction to be important advocate reading programs that consist *solely* of phonics instruction; but there is no one who takes such a position.

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