

Submission to the Standing Committee on Education and Vocational Training: Inquiry into Teacher Education

15th April, 2005

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Purpose of the Submission:

This submission focuses on needs for effectively addressing the teaching of reading-accuracy to at-risk readers in preservice instruction of primary teachers. It addresses two points of the Terms of Reference of the Inquiry:

Point 11: The adequacy of the funding of teacher training courses by university administrations

Point 7(i): The preparation of primary and secondary teaching graduates to teach literacy.

Brief submission on adequacy of funding of teacher training courses

This comment is really an aside to the major points of this submission, but seems relevant nonetheless. I have just taken up full-time employment at Central Queensland University (Mackay campus), conducting reading research in schools and teaching reading subjects to undergraduate students in education, i.e. teacher trainees. I am delighted with the advanced skills evident in current Bachelor of Learning Management students. Having lectured part-time in the previous Bachelor of Education course, I am noticing a major and positive difference between qualities of Bachelor of Education students and those of current Bachelor of Learning Management students. The current students show strong skills in networking, lifelong learning, futures orientation, change management, flexible delivery, and general attitude to education. School learning managers (classroom teachers) have similarly commented to me on the adeptness of students.

I am far less impressed with the pay scale which university lecturers receive, and this is the reason for my including this point, as at least six teachers have commented to me that they could not forward the drop in pay which will occur if they moved from teaching across to lecturing. It seems most unsatisfactory that lecturers in preservice instruction are expected to have qualifications and experience which places them at the top of the teaching profession, but that the remuneration is such that they are paid far less than experienced classroom teachers. Low remuneration would seem a major factor preventing many expert teachers from moving on to lecturing - this lack of expertise in preservice lecturers is likely to be a significant factor in preservice education.

Major submission on needs for improving preservice preparation of teachers for teaching reading to at-risk readers

This submission discusses the ineffective reading-accuracy instruction currently in place in Victoria and Queensland, with the likelihood that this ineffective reading accuracy instruction is occurring in other states as well. It suggests that current instruction, and current preservice instruction focussed on the area fails to incorporate principles of reading-accuracy instruction built from research-based evidence, and is thus ineffective and inappropriate, particularly for at-risk readers. With reading-accuracy a core skill on which all further literacy and academic progress rests, weak reading-accuracy skills renders readers unable to benefit effectively from instruction aimed at higher-order literacy development. It recommends the incorporation of preservice instruction aimed at building effective reading-accuracy skills in at-risk readers.

The submission is developed in five sections:

1. The importance of effective reading-accuracy skills
2. High levels of reading difficulties in Australia
3. Principles of effective reading-accuracy instruction for at-risk readers

4. Deficits in current Victorian and Queensland reading-accuracy instruction, which are likely to be present in other states
5. Needs for reform in Australian reading-accuracy instruction and thus in preservice training on reading-accuracy instruction

The importance of effective reading-accuracy skills

Australians need highly effective authentic reading skills

There are strong needs for Australian adults to have effective advanced literacy skills, and acute awareness that higher standards of literacy are needed in our emerging knowledge society (Cuttance, 2001; Drucker, 1994; Education Queensland, 2000a; Galletly, 2002). Reading and writing are even more important than in the past and the need for people to have highly developed reading and writing abilities is growing, not diminishing (Hill & Jane, 2001).

Reading-accuracy is a core skill of academic progress

Reading-accuracy is a core skill of literacy, academic, and life progress (Adams, 1990; Catts & Hogan, 2003a; Chard, Simmons, & Kameenui, 1998; Stanovich, 1986; Torgesen, 2002), through its pivotal role as a tool for effective reading comprehension – ability to read the words effortlessly allows cognitive resources to be allocated to comprehension and reflection on text-content (Hoover & Gough, 1990; Nation, 1999; Stanovich, 1986; Stine-Morrow, Milinder, Pullara, & Herman, 2001). Failure to master reading-accuracy to efficient levels deleteriously impacts subsequent literacy, academic, behavioural and life functioning in significant negative ways (Lyon, 1998; National Reading Panel, 2000; National Research Council, 1998a; Rowe & Rowe, 2002), creating delays in areas such as

1. Reading comprehension (Catts & Hogan, 2003a; Chard et al., 1998; Dymock & Nicholson, 1999; Galletly, 2003, 2004a, 2004b, submitted; Nicholson & Tan, 1999; Shankweiler, Lundquist, Katz, Stuebing, & Fletcher, 1999; Stanovich, 1986).
2. Reading fluency (Chard, Vaughn, & Tyler, 2002; Kuhn & Stahl, 2003; Leach, Scarborough, & Rescorla, 2003; National Reading Panel, 2000).
3. Quantity of independent reading (Allington & Cunningham, 2002; A. E. Cunningham & Stanovich, 2003; Stanovich, 1986).
4. Vocabulary growth (Baker, Simmons, & Kameenui, 1998; A. E. Cunningham & Stanovich, 2003; Lyon, 2003; Nagy & Anderson, 1984; National Reading Panel, 2000; Swanborn & Glopper, 1999),
5. Written expression (Berninger, Abbott, Abbott, Graham, & Richards, 2002; Ehri, Stahl et al., 2001; Hooper, Swartz, Wakely, Kruij, & Montgomery, 2002),
6. Social, emotional and behavioural development (Kavale & Forness, 1996; Milich & Settle, 1999; Mishna, 2003; National Research Council, 1998a; Rowe & Rowe, 2002)
7. Likelihood in adulthood of unemployment, imprisonment, low-income, and depression (Adams, 1990; National Research Council, 1998a; Torgesen, 2002; Winch et al., 2001).

The role of reading-accuracy weakness in broad reading weakness

The purpose of authentic reading of printed texts is almost always to understand the message the writer has offered in the text, and student factors such as interest, engagement, prior experience with the concepts discussed impact integrally on reading effectiveness (Adams, 1990; National Reading Panel, 2000; National Research Council, 1998a). Reading comprehension strategies such as predicting, monitoring comprehension, imaging, using prior knowledge also impact strongly on effective reading comprehension. These factors (reading for meaning, reading comprehension strategies and reading comprehension) also impact reading-accuracy, as contextual cues provide strong support for reading words correctly (Adams, 1990; National

Reading Panel, 2000; National Research Council, 1998a). Within the framework of these factors (i.e., when considering children who are engaged, reading to extract meaning in texts that are meaningful), it is powerful to consider the relationship of reading accuracy, reading comprehension and language comprehension skills. Hoover and Gough's (1990) 'simple view' of reading is powerful in clearly isolating the core components of reading. It holds in considering reading in isolation from environmental factors:

$$\text{Reading Comprehension} = \text{Language Comprehension Skills} \times \text{Reading-accuracy Skills}$$

Language skills include literal and inferential comprehension skills (listening skills), semantic and syntactic competence at sentence and higher text levels, logical reasoning skills, and pragmatic and social competence.

Whilst not foregrounding aspects of student background and engagement, this 'simple' model foregrounds powerful kernels of both beginning and advanced literacy skills. Reading Comprehension, the prime purpose of reading, is thus affected in different ways in different students, creating three groups of children with weak reading comprehension:

1. Weakness in reading-accuracy-only
2. Weakness in language-comprehension-only
3. Weakness in both reading-accuracy and language comprehension.

The simple model and this trichotomy of students with reading difficulties is widely used by empirical researchers of reading difficulties (Catts & Hogan, 2003b; Dymock & Nicholson, 1999; Nation, 1999). Hoover and Gough's (1990) model is powerful in clearly delineating the roles of reading-accuracy and reading comprehension, disempowering neither, emphasising both, and showing their close and dependent relationship. Reading comprehension is the purpose of authentic reading, and reading-accuracy is the tool for effective reading comprehension.

While language aspects are enormously important in achieving effective reading comprehension and academic development, it is reading-accuracy that is the commonest point of literacy success and failure both in predicting success in reading comprehension in early reading and in being a key factor in reading difficulties (Adams, 1990; de Lemos, 2002; Ehri, Nunes et al., 2001; Ehri, Stahl et al., 2001; National Reading Panel, 2000; National Research Council, 1998a):

1. Reading-accuracy contributes more variance to reading comprehension for beginning readers than language comprehension does.
Shankweiler and associates (1999) studied the variance contributed separately by reading-accuracy and language comprehension, and found single-word reading-accuracy to be by far the stronger component of successful reading comprehension. They found ability to read listed single English real words accounted for 79 percent of the variance in reading comprehension, while ability to read aloud listed English nonwords accounted for 62 % of the variance, i.e., the major contributor to reading comprehension is the ability to read words, rather than ability to read meaningful words.
2. Reading-accuracy predicts reading comprehension more than language comprehension does.
Vellutino and Scanlon (1998) studied predictors of success in reading comprehension, finding that tests of single-word reading-accuracy were much better predictors of performance on reading comprehension test than were tests of listening comprehension in beginning and less skilled readers, while the opposite pattern was evident in more skilled readers. They comment on this being a relatively common finding of reading researchers.
3. More young readers with reading comprehension difficulties have weakness in reading-accuracy as their basis.
Leach et al (2003) compared children with early-emerging vs. late-emerging reading difficulties. Whereas weakness in language-comprehension and reading-accuracy are quite evenly spread in children with late-emerging reading-comprehension difficulties, in young children with reading difficulties, reading-accuracy weakness (95%) is far more prevalent than language-weakness (52%; See Table 1). The researchers discuss their results being contrary to two common assumptions:

- a. That reading difficulties in older readers are comprehension difficulties not reading-accuracy difficulties.
- b. That hyperlexic reading (good reading-accuracy and poor comprehension) is a common phenomena in young children with reading difficulties.

Table 1

Distribution of weakness areas of late-emerging vs. early-emerging reading comprehension difficulties in Leach, Scarborough and Rescorla's (2003) study.

Age at which reading comprehension difficulties were evident	Weak areas as basis of reading comprehension weakness				
	Accuracy-only	Language comprehension-only	Accuracy and language	Reading-accuracy weakness	Language comprehension weakness
Year 1 and 2	49%	6%	46%	95%	52%
Year 4 and 5	35%	32%	32%	67%	64%

The significant role of reading accuracy difficulties in children with difficulties in reading comprehension suggests that reading-accuracy weakness is highly worthy of consideration as a key factor in weakness in authentic reading.

High levels of reading difficulties in Australia

High levels of reading weakness in primary school students

It is likely that there is relatively widespread reading-accuracy weakness in Australian students and adults. Reports such as *Mapping Literacy Achievement* (Masters & Forster, 1996) and *Mapping the Territory* (Louden et al., 2000) include summaries of current achievement levels by Australian students, suggesting that up to 40% of students are at-risk readers.

High levels of reading weakness in high school students

Analysis of findings on Australian teenage readers indicates the likelihood that Australian's who master reading-accuracy and early reading go on to become effective authentic readers, but that approximately 30% of students fail to make this transition. In 2000, the Organisation for Economic Co-operation and Development (OECD) conducted a study of reading, maths and science skills in fifteen year old students in the 32 nations of the OECD (Program for International Student Assessment (PISA), 2002a, 2002b, 2003). While Australia showed good rates of high level readers, the report suggested that the instructional needs of weak readers are not being adequately met (Lokan, Greenwood, & Cresswell, 2002; Program for International Student Assessment (PISA), 2002a, 2002b, 2003).

While Australian proportions of low readers were below the OECD average, substantial numbers of Australian 15 year olds showed weak literacy skills:

1. Almost one third of Australian students were not achieving beyond the second lowest level of competency, which is described as "capable of solving basic reading tasks, such as locating straightforward information, making low-level inferences of various types, working out what a well-defined part of a text means, and using some outside knowledge to understand it (Program for International Student Assessment (PISA), 2002, p.6)".
2. Twelve percent of Australian students achieved at or below the lowest of the six levels of competency.
3. Australia had one of the largest spreads of results for the middle half of students, (well above the OECD average), in contrast to a much lower spread for numeracy (well below the OECD average), warranting

the comment that “The relatively large spread of results in reading suggests we may not be catering for our lower-achieving students (Program for International Student Assessment (PISA), 2003, p.9)”.

4. Australia showed the greatest achievement difference of all 32 countries between students who never read for enjoyment and those who did so for an hour or so each day. This raises the possibility that the lack of reading of many Australian nonreaders may not be just from lack of engagement, but also because weak reading-accuracy skills mean interest-level texts are too difficult.

Principles of effective reading-accuracy instruction for at-risk readers

The research base on reading-accuracy development and instruction is immense (Adams, 1990; National Reading Panel, 2000; National Research Council, 1998a; Simmons & Kameenui, 1998; Swanson, Hoskyn, & Lee, 1999), making it quite likely that more is known about how young children of school age become literate and about successful approaches to the teaching of literacy than is known about any other aspect of education (Hill & Jane, 2001; National Reading Panel, 2000). While knowledge in these areas is certainly there for the taking, the key issue causing complication is likely to be ongoing controversy on practical implementation of this knowledge, so much so that that Adams (1990) comments in introducing her massive review of the research, “the question of how to teach beginning reading may be the most politicised topic in the field of education (Adams, 1990, p.13)”. Debate on reading-accuracy instruction, both reasoned and highly emotive, has continued for three decades (Cadzow, 2003; Gough, 1995; Liberman & Liberman, 1992; Pressley, Allington, Wharton-McDonald, Collins Block, & Mandel Morrow, 2001; Stanovich & Stanovich, 1995; Tunmer, 1999).

While there are many areas of consensus, particularly the importance of extensive reading of meaningful texts and the strong role context plays in supporting the reading of meaningful texts, strong divisiveness exists as to the importance of several key factors in reading instruction for at-risk and low-achieving readers (Galletly, 2003, de Lemos, 2002; Hempenstall, 1997):

1. Written English being a very complex code such that at-risk readers will not master reading-accuracy if they do not receive carefully scaffolded explicit instruction and skills development from teachers skilled in reading-accuracy development and instruction (Galletly, 2002, 2003, 2004; Knight & Galletly, Submitted; Goswami, 2002; Spencer & Hanley, 2003).
2. Systematic development of phonological recoding skills being a key strand of reading instruction. (Phonological recoding refers to the decoding of a written word through processing of its phonological-orthographic units i.e., the sounds of letters, digraphs, orthographic units, syllables or the whole word, which are recoded to the word’s spoken form). The importance of this systematic development is seen in
 - a. Reading of decontextualised single words and word parts being a key part of this skill development.
 - b. Students needing sufficient practice with these decontextualised words for effective skill-building.
 - c. Students’ primary strategy for reading of unwritten words needing to be phonological recoding not contextual guessing (use of semantic and syntactic cues).

There is a massive body of research-based evidence on the instructional needs of at-risk readers, with findings overwhelmingly supporting the importance of these factors in effective reading instruction for at-risk readers (Adams, 1990; Anderson, Hiebert, Scott, & Wilkonson, 1985; Chall, 1967, 2000; de Lemos, 2002; Ehri, Nunes, Willows, & Valeska Schuster, 2001; Ehri, Stahl, & Willows, 2001; National Reading Panel, 2000; National Research Council, 1998a,1998b; Simmons & Kameenui, 1998; Slavin, Karweit, & Madden, 1989).

Additionally, it is highly likely that at-risk readers have high needs for their range of reading books to include high proportions of books with less predictable text rather than high or exclusive use of reading books with highly predictable text. Overuse of books with highly predictable text is likely to promote memorising of texts and sentence forms by weak readers, rather than promote the practicing of reading-accuracy skills, with meaning built from reading-accuracy integrated with contextual supports.

Deficits in current Victorian and Queensland reading instruction and instructional supports of reading instruction

Reading-accuracy instruction in Victoria and Queensland builds strongly from Whole Language models of reading (House of Representatives Standing Committee on Employment Education and Training, 1992). These models were fashionable in the 1970s and 1980s, but have not stood up to research scrutiny as being best practice reading-accuracy instruction for at-risk readers unless modified to incorporate principles of effective reading-accuracy instruction as discussed above (Adams, 1990; de Lemos, 2002; National Research Council, 1998a, 1998b; Pressley, Allington, Wharton-McDonald, Collins Block, & Mandel Morrow, 2001). Reading instruction for early readers in the states thus does not incorporate research-based evidence on reading-accuracy instruction for at-risk readers gathered since that time (de Lemos, 2001; Education Queensland, 2001a, 2001b, 2002; Galletly, 2002; Education Victoria, 1999; Hempenstall, 1996; Hill & Crevola, 1999; *Keys to Life early literacy program*; Queensland Department of Education, 1991; Queensland, 2002; Queensland Studies Authority, 2002). Additionally both states use Reading Recovery (Clay, 1972, 1993) as their 'catch-up' method for students experiencing reading delay (Hill & Crevola, 1999). Use of this program is highly controversial given its demonstrated low long-term effectiveness, high costs, and building from models of reading-accuracy development and instruction which fail to reflect current authoritative theory on reading-accuracy instruction for at-risk readers (Chapman & Tunmer, 2000; Tunmer & Chapman, 2003).

It is disappointing that the theory on reading-accuracy development and instruction incorporated into these models is so out-of-date, and out-of-step with current knowledge of the field, making instruction built from these programs likely to work adequately for readers not at risk, perhaps 60% of readers, but likely to fail to meet the needs of at-risk readers (de Lemos, 2002; National Research Council, 1998a; Tunmer, 1999).

Flawed bases in Victorian reading instruction

Current reading-accuracy instruction for at-risk readers in Victoria seems largely built from two largescale longitudinal projects by researchers Hill and Crevola:

1. The Early Literacy Research Project (ELRP), a joint initiative of Victorian Department Education, & University of Melbourne:
2. The Children's Literacy Success Strategy (CLaSS), a joint initiative of the Catholic Education Office in Melbourne:

These studies aimed to develop 'a systemwide approach to maximising the literacy achievement of "at risk" students in the early years of schooling (ages 5-8, ERLP)' and 'a systematic approach to maximising the literacy achievement of all children in the first three years of primary schooling (Years P-2), but especially those children who are at risk of not achieving success (CLaSS)'. Given that the researchers state they 'reviewed many thousands of studies' in developing their literacy program, the fact that 'the small number of factors pointed to by these many thousands of studies' did not include any principles related to systematic reading-accuracy instruction is puzzling. The authors state that their literature study pointed to just four factors being important, and cite Scheerens and Bosker's (1997) meta-analysis of effective schooling practices:

1. Time on task.
2. Closeness of content covered to assessment instrument.
3. A structured approach: specific objectives, frequent assessment and corrective feedback.
4. Types of adaptive instruction that can be managed by teachers (e.g., no more than two within-class ability groups per classroom).

They argue that the evidence from their extensive literature review supports just three factors which closely resemble the four factors of Scheerens and Bosker, namely:

1. High expectations of student achievement.
2. Engaged learning time.

3. Focused teaching that maximises learning within each student's 'zone of proximal development (Vygotsky, 1978)'.

They state that they built from these three key points to develop their whole school design of literacy practices.

To conduct a significant literature review searching for principles of best practice for students at risk of literacy weakness, and to arrive only at widely acknowledged principles of good instruction for all academic areas and nothing specific for literacy suggests several possibilities, including:

1. That the authors read many studies reflecting the wide range of views and perspectives on reading instruction for at risk readers, but did not feel those studies indicating specific phonics instruction were valid or relevant, and
2. That the authors assumed that current literacy practices in fashion in Victoria needed no further investigation and focused their literature search on aspects of best instruction in whole school approaches to literacy improvement.

Both literacy programs are strongly based on Whole Language principles with little or no word level instruction, which, as discussed above, is a major principle of optimal instruction for at-risk learners. De Lemos (2001) comments:

"In the case of the CLASS program, the teaching strategies for reading listed for inclusion in the two-hour literacy block include reading to children, language experience (Reading), shared reading, and guided reading (Hill & Crevola, 1999). These strategies are described as those that are familiar to teachers through programs such as ELIC, which drew upon "good first teaching practices that have been widespread in New Zealand classrooms over the past twenty years and that were credited with reaching that country's pre-eminent ranking in international surveys of reading". These practices are described as "carefully researched and documented" which "continue to be a rich resource to the present-day" (Crevola and Hill, 2001, p 14). The only reference to direct instruction in phonics and phonemic awareness is within the 10 minutes segment of the whole class focus on writing, which comprises less than 10 percent of the two-hour literacy block, and is in the context of the teaching of writing rather than the teaching of reading. This is consistent with Whole Language approach where letter sound correspondences are taught only in relation to invented spelling. There is however no reference to phonics or phonemic awareness in the section describing the key strategies teachers use in the CLASS program. Rather, these strategies focus on reading for meaning through reading to children, (described as the key strategy for those students needing the most assistance, that is, the PIR emergent readers), shared book experience, which is described as the "step between reading to children and independent reading by children; the step by which children learn to read by reading", after which children move onto guided reading and independent reading (Crevola & Hill, 2001, pp 15 to 16).

A similar dominance of Whole Language methods and philosophy is found in the Victorian Early Years Literacy Program. [The strategies in these programs] include no recognition that the ability of readers is in any way dependent on understanding of the alphabetic code, or recognition of the link between letters and sounds or that decoding of text is a necessary part of the reading process. The teacher simply demonstrates how a reader behaves, and the reader learns how illustrations and pictures give meaning to text, and how to make predictions as to what might be in the text from their own knowledge, rather than from the decoding of the text and the conversion of the principles to the spoken word. These approaches clearly do not fall into the category of a balanced program as this is to be understood in the United States context, since they do not include direct systematic instruction in phonics as a part of the teaching program."

De Lemos (2001)

Other indicators of the researchers perhaps being comfortable with current practice and not reading widely on research on reading practices for at-risk readers include:

1. The references and professional reading recommended for teachers using the Keys to Life literacy program (developed in the Early Literacy Research Project) being mostly writers from the 1970s including Marie Clay (1972; Clay, 1993) and Don Holdaway (1979), with few recent writers included.

2. The authors not promoting the building of teacher awareness of current research into their whole school model. Hill and Crevola's (1999) whole school design is a comprehensive model with many strengths, which could be used for whole school implementation in any curriculum area. Its major limitation is that it does not incorporate key principles of effective reading-accuracy instruction for at-risk readers. The central plank of the model, *Beliefs and Understandings*, refers to the need for incorporating beliefs in (a) the capacity of all students to achieve high standards given sufficient time and support, (b) teachers having belief in their own efficacy, and (c) administrators believing that almost all teachers can teach high standards given the right conditions of assistance. Other planks of the model, *Standards & Targets* and *Monitoring & Assessment* are incomplete from the perspective of current theory on reading instruction for at risk readers. The writers make a statement about the importance of expert knowledge, and being theory based rather than trade based, but this statement lacks credence when one views the practical implementation of this model, which very much involves educating teachers to work with what they are 'given': lots of inservicing teachers to work with old Whole Language theories, key references in professional development manuals having been written in the 1970s, and virtually no mention made of the tenets of best practice which do not fit with these theories.

Hill and Crevola's (1999) study is intended to show effectiveness of the reading-accuracy instruction methods used, however, the study uses methods that can be critiqued. Swanson and colleagues, reviewing research methodology in reading research, emphasise the problems of methodology created by researchers impacting treatment groups with more steps and variables than the control groups receive (Swanson, Hoskyn, & Lee, 1999). In studies involving interventions in schools, differences shown between treatment schools and control (nontreatment) schools can be spurious unless the two groups are matched on all other key variables likely to impact student reading progress. Hill and Crevola (1999) report high effectiveness of their whole-school reading program, through comparing treatment and control schools. This seems questionable, given that the control schools received no intervention at all yet are compared to experimental schools which incorporated new practices such as a daily two-hour literacy block, literacy coordinators on at least 0.5 release time, intensive teacher professional development and extensive expert support from outside the school. It seems likely that intensity of instruction, teacher engagement, time spent reading, and Hawthorne effects would impact children's reading progress as much as the reading-accuracy instruction method used (Chall, 2000; Swanson et al., 1999).

Despite the treatment conditions probably influencing results in Hill and Crevola's (1999) study of the effectiveness of their whole school literacy program, the results of the treatment schools, while significantly better than the results of the untreated control schools, were still well below the original literacy aims set by the Victorian Department of Education and used by the researchers in their research design. Rather than accepting the result and taking the opportunity to investigate ways results could be improved, the writers explain the original goals as unreachable, and continue to discuss their program as highly successful. Their comfortable acceptance that despite the intensiveness of their program, it is appropriate and normal for 20 to 25 percent of children to require intensive one-on-one 'catch-up' intervention through the Reading Recovery program, seems questionable given that their program is itself aimed at maximising the literacy achievement of at-risk students.

Much of the research underlying Reading Recovery has also been strongly questioned on a range of methodological grounds (Tunmer & Chapman, 2003; Chapman & Tunmer, 2000). Slavin (1989) discusses very early studies of Reading Recovery's effectiveness in the 1980s when it was 'the most recently developed of the preventative tutoring models'. The studies cited show strong treatment-stacking, with the progress of Reading Recovery students (described as working one-on-one with specially trained tutors for thirty minutes per day for an 60 to 80 lessons, on average) being compared with 'matched control students' who received no intervention at all. With such different treatment conditions, one would have to suspect that their progress might be as much from extensive time spent reading books of manageable difficulty, rather than the Reading Recovery intervention, per se.

Flawed bases in Queensland reading instruction

It is likely that Queensland reading and reading-accuracy instruction has similarly been inadequate for many decades. This is evidenced in the major findings of *Literate Futures*, the state government's 2000 review of reading (see Figure 1).

<p><u>Priority: The Teaching of Reading</u> The challenge of a shared understanding, professional vocabulary & dialogue around the teaching of reading.</p> <p><u>Major Review Findings</u></p> <ol style="list-style-type: none">1. There needs to be much stronger vocabulary & shared theoretical frame for teaching of early reading.2. Teachers without systematic pre- and in-service support in the teaching of reading are increasingly turning to packages. These packages are variable in quality, but may lead to unbalanced and unresponsive literacy programs.3. Pre-service teacher education appears to be highly variable, resulting in different approaches, vocabularies and practices.4. There is a general loss of focus on in-service work and professional upgrading in teaching of reading.5. There is a marked lack of expertise in and focus on the teaching of reading in the middle years and virtually no evidence of such expertise and focus in the secondary years.6. There is an overall lack of systematic guidance from Education Queensland and from universities and professional organisations on the teaching of reading. <p><u>Goal Statement:</u></p> <p>By the end of 2002, Queensland schools will adopt, as part of their whole-school literacy strategies, balanced multi-method approaches to the teaching of reading that meet the assessed needs of their diverse student bodies.</p> <p>To achieve this, all current and future Queensland teachers will be trained in the context of their specific age/subject area expertise by the end of the year 2005.</p> <p><u>Key Strategies:</u></p> <ol style="list-style-type: none">1. In-service and professional development: Outsourced training and mentoring in teaching of reading.2. Syllabus and program development and implementation: Integration of Early Years Net and Years 1-10 English syllabus around reading outcomes.3. School-based assessment and statewide testing: Systematic advice to schools regarding balanced assessment of reading in school programs.4. Funding and accountability priorities: Ensure funding for reading professional development and for independent evaluations of systematically supported intervention activities in schools.5. Pre-service teacher education: Teacher education summit meeting - analysis of core courses and practicum experiences for priority on the teaching of reading.
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Figure 1. *The Teaching of Reading*, one of the four priorities of *Literate Futures* (Queensland Government, 2001)

In a review of Education Queensland's literacy initiatives in 2002, I commented

The extent of the challenge of increasing reading achievement in P-2 students and older students with literacy delay must not be underestimated. It will involve a massive shift in Education Queensland's theory and practice. Whilst the challenge in moving from current practice to authoritative theory based practice in early reading is huge, however, the extent of the opportunities currently available in Education Queensland for significant improvement in literacy outcomes and for school engagement in achieving this goal are similarly impressive. The challenges can perhaps best be summed up in the Literate Futures first major review finding for The Teaching of Reading, which is perhaps getting less attention than it deserves: 'There needs to be a much stronger vocabulary and shared theoretical frame

for the teaching of early reading.’ Success is there for those who would work to achieve it. And now is the perfect time to begin.

(Galletly, 2002a, p.14)

To date, the potential for improved reading instruction for at-risk readers provided by *Literate Futures* has not been realised. It is likely this has occurred because of poor advice to Education Queensland by Education Queensland’s academic advisors, who seem to have been unable to view the findings of *Literate Futures* as a need to consider whether old mindsets and old practices might be inadequate, and seek new knowledge on reading development and instruction.

Education Queensland’s (2001) *Literate Classrooms: Reading (Working Draft)* was a worrying reflection of previous practice and ideology, and lack of examination of the authoritative research theory base. Similarly, the documents guiding the development of Whole School Literacy Plans did not encourage schools to break out of old mindsets (Education Queensland, 2001b). They emphasised building from current school-level practice and failed to encourage gathering wider knowledge. When what one is doing is not working, working hard at what was not working is often an ineffective practice.

It is likely schools assumed that the extensive *Literate Futures* literature review (Education Queensland, 2000b) covered all relevant aspects of literacy, such that they needed to look no further, whereas in reality, the review focussed almost exclusively on sociocultural and reading comprehension aspects of literacy and barely mentioned reading-accuracy development and instruction. The final document, *Literate Futures: Reading* (Queensland, 2002) seems completely unrelated to the directions proscribed by the *Literate Futures* review, and instead to be a rewrite of previous work on the four resources model and multiliteracies. It is extremely disappointing that this culminating document resulting from the priority area *The Teaching of Reading* has so poorly addressed the needs of at-risk readers, and simply recycled current rhetoric.

With the *Literate Futures*’ (2000) finding that teachers’ primary concern was overwhelmingly the need to improve the teaching of reading, difficulties in improving reading instruction for at-risk readers seem to lie less at school level than in the advice Education Queensland acts from. *Literate Futures* has not increased the odds for reading success by Queensland’s at-risk readers and thus continues Education Queensland’s disappointing history of poor decisionmaking regarding effective reading instruction for at-risk readers (Clay, 1993b; Education Department of Western Australia, 1995; Queensland Department of Education, 1991, 1997).

Needs for effective instructional supports of reading instruction

Instructional supports are those factors which empower teachers in their provision of the instruction from which students learn. In addition to teacher background factors, (e.g., the teacher’s schooling when a child, the previous teaching experience the teacher has had prior to the current time) they include preservice training, systemic curricula and syllabi, professional texts, professional associations, and inservice emphases. It seems likely that the influence of Australian reading-accuracy instructional supports on individual children’s learning is as depicted in Figure 2. If Australia is to significantly reduce the proportion of its students who fail to master reading, it will be through increasing teacher expertise and thus the likelihood that each teaching moment is characterised by instructional excellence. This is best done through improving the instructional supports provided to teachers.

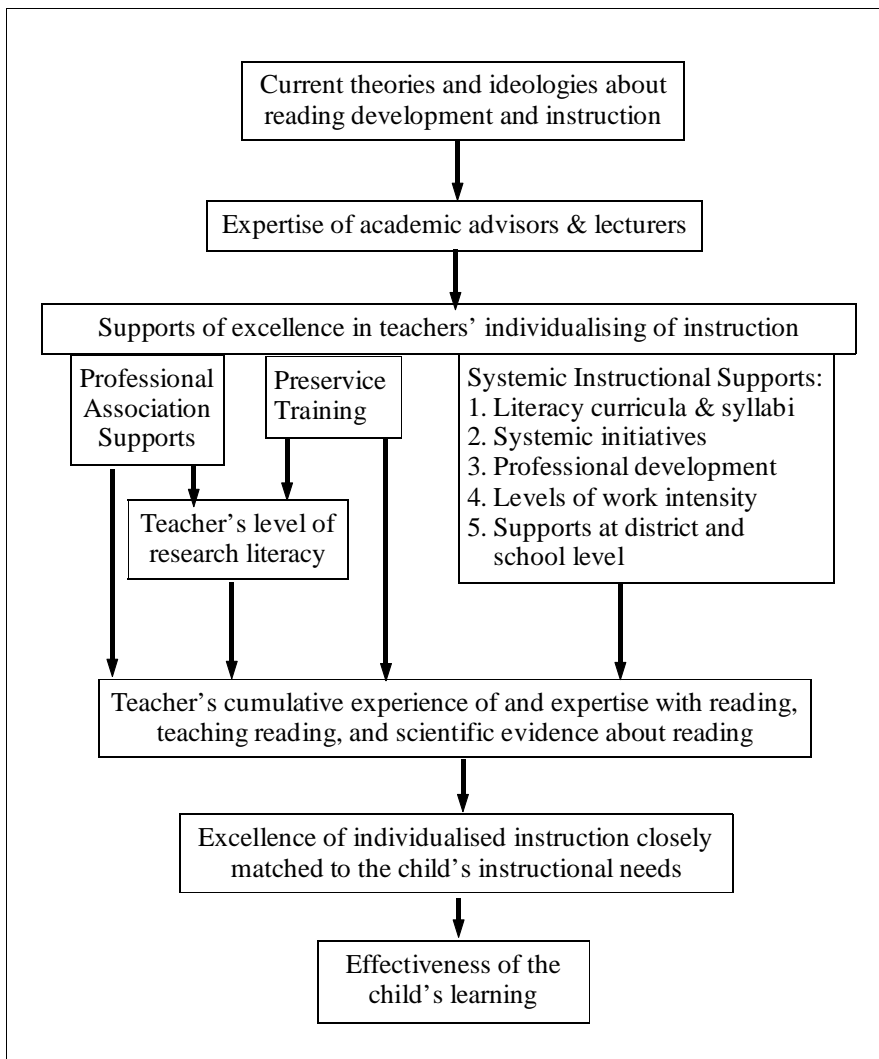


Figure 2. The impact of instructional supports on children's learning (from Galletly, 2004b)

It is highly likely that current Queensland and Victorian reading instruction for at risk readers involves widespread inadequacy of instructional supports, and that these stem from the inadequacy of current theories and ideologies about reading development and instruction, which then leads to inadequate advice from academic advisers and lecturers, which then impacts all of our instructional supports, including preservice instruction (see Figure 2).

Needs for effective preservice training

Preservice training is a key instructional support for teaching of all subject areas. It is also likely that teachers establish many of their personal theories during their training, such that the effects of preservice training are enduring not just in instructional expertise, but also in teacher beliefs. As a result, state and federal systems frequently call for reports on optimal preservice instruction (Christie et al., 1991; *Professional standards for graduates and guidelines for preservice teacher education programs*, 2002; Queensland Board of Teacher Registration, 2001). Analysis of these reports and the content of reading preservice courses training and texts for preservice teachers shows strong indicators of severe marginalisation of reading-accuracy development, difficulties and instruction, and strong emphasis of Whole-Language reading-accuracy instruction (V. Anderson et al., 2004; Anstey & Bull, 1996a; Christie et al., 1991; de Lemos, 2001b; Education Queensland, 2000b, 2002a; Hempenstall, 1997, 2001; House of Representatives' Standing Committee on Employment Education

and Training, 1992; Larking & Cox, 1998; Queensland Board of Teacher Registration, 2001; van Kraayenoord & Paris, 1994; Westwood, 2001; Winch et al., 2001).

This is reflected in low levels of knowledge on effective reading-accuracy instruction in most preservice teachers, e.g., Fielding-Barnsley (2003) found widespread low levels of knowledge of effective reading-accuracy instruction in her study of final year preservice teachers' across four Queensland universities. The students overwhelmingly strongly agreed that '*Basic skills should never be taught in isolation,*' and while they also strongly agreed that '*K-2 teachers should know how to teach phonological awareness,*' only 33% could recognise a definition of a syllable, and more than 10% could not count the number of syllables in the word *unbelievable*.

This lack of knowledge is not at all 'unbelievable,' and really quite understandable when one considers the curriculum content of the literacy subjects in which preservice teachers learn about teaching reading. In 1999 and 2000, I lectured a Bachelor of Education subject to second-year undergraduate teacher trainees. This subject comprised one half of the students' preservice literacy training, and their entire training for teaching reading in years P-3. The synopsis of the course required the lectures to be divided into three equal sections: (a) oracy, (b) reading, (c) the current Queensland syllabus and the writing of unit plans. Reading-accuracy instruction was strongly Whole Language, and lecturers on other campuses seemed very comfortable with reading instruction only needing four lectures and four tutorials. I recommenced lecturing in 2005, and there are now three literacy subjects, but I notice that despite curricula having been rewritten, no progress towards inclusion of reading-accuracy has been made (Knobel, 2001; Larking & Cox, 1998).

It is likely that Australia is similar to America in preservice instruction about reading-accuracy development, difficulties and instruction, in that Whole Language based changes of emphasis have de-emphasised the need for teachers to have strong expertise in English orthography and systematic phonics. As a result, it is likely that a generation of teachers have not received adequate preservice instruction in reading-accuracy instruction (Darling-Hammond, 2000a, 2000b, 2000c). This is certainly the impression I have gained while presenting professional development throughout Australia, with frequent comments made as to not having been heard the content on reading research re reading-accuracy development, difficulties and instruction which I present.

Needs for reform in Australian reading-accuracy instruction and thus in preservice training on reading-accuracy instruction

I am greatly concerned about ongoing ineffective practice in reading-accuracy instruction for at-risk readers, and the pre-service training that builds expertise predominantly aligned with this current practice. If at-risk readers are to be adequately supported into effective literacy, there are major needs for reform of current instruction and of preservice training. Effective changes will need to include consideration of

1. Reading-accuracy being a separate entity to reading comprehension from perspectives of development, instruction and assessment (Adams, 1990; de Lemos, 2002; Galletly, 2004b, submitted; Galletly & Knight, In press; National Reading Panel, 2000; National Research Council, 1998a, 1998b).
2. Other models of reading-accuracy development in addition to Whole Language based models. Worthy models include:
 - a. Hoover and Gough's (1990) 'simple model'.
 - b. Frith's (1985) stages of reading-accuracy development.
 - c. Galletly's model of Core and Continuing Literacy (Galletly, 2003, 2004b, submitted).
 - d. Goswami's (2002) three grain-sizes of English (Galletly 2004a, 2004b, submitted).
3. Characteristics of at-risk readers beyond sociocultural aspects, with strong emphasis on cognitive literacy processing skills such as working memory, long-term memory, phonological awareness, and executive processing (metacognition) (Baddeley, 2002; Catts, Gillispie, Leonard, Kail, & Miller, 2002; Denckla, 1996; Ericsson & Kintsch, 1995; Galletly, 1999, 2003, 2004b; Gathercole, 1994; Gathercole & Pickering, 2000; Goswami, 2002; Hooper, Swartz, Wakely, Kruif, & Montgomery, 2002; Kellogg, 2001; Knight & Galletly, Submitted; Lovett, Steinbach, & Frijters, 2000; Molfese, Molfese, & Modglin,

2001; Nicholson, 2001; Oakhill & Kyle, 2000; Swanson & Ashbaker, 2000; Vellutino et al., 1996; Wagner et al., 1997; Weismer, Evans, & Hesketh, 1999; Wolf & Bowers, 1999).

4. English orthographic complexity (26 letters making 44 sounds written in approximately 1000 different ways) and the high cognitive load this orthographic complexity creates for beginning readers (Bryson, 1990; Galletly, 2004a; Galletly & Knight, In press; Hanley, Masterson, Spencer, & Evans, in press; Seymour, Aro, & Erskine, 2003; Spencer & Hanley, 2003, 2004; Treiman, Mullennix, Bijeljac-Babic, & Richmond-Welty, 1995).
5. Subskills of reading-accuracy development including (Galletly, 2004a, 2004b, 2004c, 2004d, submitted)
 - a. Permanent mastery of 50, then 100 then 200 most frequent words of English
 - b. Permanent mastery of reading of unfamiliar regular words:
 - i. Single syllable words with
 1. aeiou and final-e vowels.
 2. Other common vowels, e.g., r vowels, w vowels, ai, ea.
 - ii. Multisyllabic words.
6. Phonological recoding (use of grapho-phonetic cues) as a primary strategy for reading of unfamiliar words, and syntactic and semantic cues used as a secondary strategy (Adams, 1990; de Lemos, 2002; Galletly, 2004b, submitted; Galletly & Knight, In press; National Reading Panel, 2000; National Research Council, 1998a, 1998b).
7. The matching of reading-accuracy instruction to students' differing instructional needs (sociocultural aspects combined with cognitive literacy processing aspects, through varying aspects of instruction such as:
 - a. Context: isolated-skill, embedded and authentic-task contexts offer different levels of cognitive load (Galletly, 2003, 2004b).
 - b. Intensity and specificity of instruction and practice (Adams, 1990; de Lemos, 2002; Galletly, 2004b, submitted; Galletly & Knight, In press; National Reading Panel, 2000; National Research Council, 1998a, 1998b).
8. Reading-accuracy instruction for at-risk readers needing to include not just extensive reading of meaningful texts, but also sufficient skill building with decontextualised words and word parts because of the lower cognitive load offered by reading of decontextualised words (Adams, 1990; de Lemos, 2002; Galletly, 2003, 2004a, 2004b, submitted; Galletly & Knight, In press; National Reading Panel, 2000; National Research Council, 1998a, 1998b).

It would seem imperative for changes in reading instruction to be carefully thought out and skilfully actioned, avoiding quick-fix initiatives, and strongly building from principles of careful reflection and organisational learning (Hough & Paine, 1997; Kofman & Senge, 1993; Kotter, 1995; Robinson, 2001; Sargent et al., 1997; Senge, 1990a, 1990b, 1996; Senge et al., 1999; Timperley & Robinson, 2000). There would seem major value in government and education systems thinking at length on ways to effectively achieve each of Kotter's (1995) stages of effective change: include establishing a sense of urgency, forming a powerful guiding coalition, creating a vision, communicating the vision, empowering others to act, planning short-term wins, consolidating improvements and producing still more change, and institutionalising new approaches (Kotter, 1995, pp. 60-63). They take time and careful implementation. Failure happens when stages are not achieved satisfactorily. Given current factionalism, choice of the right people when *creating the guiding coalition* would seem crucial. There would seem major value in having a pragmatic leader with knowledge of systems, schools, classroom complexity, who is not closely related to either reading scientists or mainstream reading academics.

Government actioning would also work to effectively *establish a sense of urgency*. Use of a two or three year moratorium period in which knowledge on reading-accuracy development, difficulties and instruction was to be developed to support Government decision-making, may suit this purpose. Actioning at government and systemic levels to create pressure to improve instructional supports of effective reading instruction and reading-accuracy instruction might include to

1. Establish clear definitions of literacy terms and criteria to be used Australianwide.
2. Establish a nationwide age of school-commencement, and nationwide names for each level.
3. Put pressure on Australian reading professionals, schools and teachers to
 - a. Become knowledgeable on reading-accuracy development, difficulties and instruction.
 - b. Actively reflect on the relationship of reading-accuracy and literacy in past decades, at present and in the future.
 - c. Research the role of reading-accuracy in reading development in Australian schools with emphasis on all ten deciles of students.
 - d. Review current reading curricula with respect to principles on reading-accuracy development, difficulties and instruction built from rigorous reading research.
 - e. Work together and resolve Reading Wars factionary.
4. Provide supports for this process:
 - a. Funding to schools and reading professionals working on the above areas.
 - b. Funding and actioning of effective thorough nationwide professional development on reading-accuracy development, instruction and assessment.
 - c. Free rigorous assessments of reading-accuracy, language comprehension and reading-comprehension.
 - d. Public transparency of all schools' class-level reading results, with associated funding:
 - i. Reward funding for schools with improved or high reading achievement.
 - ii. Provide conditional funding to schools with continued low achievement.
 - e. Incentives for teachers and schools to actively engage in the initiative:
 - i. Increased classroom personnel (perhaps teacher aides trained in reading-accuracy development, difficulties and instruction) as an initial incentive for involved schools and teachers.
 - ii. Supports in developing curricula or using commercial programs.
 - iii. Supports in using reading-accuracy tests.
 - iv. Supports in school-research.
 - v. Low work intensification as a major aim of the project, e.g., in Queensland, replacing the Year 2 Net with a modified simple assessment scheme including appropriate reading-accuracy measures.
 - vi. Funding incentives to do postgraduate studies in reading-accuracy development, difficulties and instruction.
 - vii. Funding incentives to work at challenging schools.
 - viii. (Possibly) funding/recognition incentives for excellence in instruction.
5. Ensure preservice teacher training includes emphases on graduates
 - a. Being flexible, reflective and knowledgeable teachers meeting the many 'literacy as analytical reasoning' criteria of the *Adelaide Declaration on National Goals for Schooling in the Twenty-First Century*, listed above.
 - b. Having strong knowledge on reading-accuracy development, difficulties and instruction.
 - c. Having effective educational research literacy including both qualitative and quantitative research, thus being able to
 - d. Critically read reports of reading research studies.
 - e. Conduct simple educational-research studies.
 - f. Use standardised and subjective reading-accuracy assessments.
6. Develop effective structures for Australian educational research, as discussed above.

7. Revise current national and state assessment measures to include effective reading-accuracy measures so they are useful not just for national accountability (macro-level) but are also strongly curriculum-based, thus actively guiding instruction at class and student level.
8. Cease *Reading Recovery*, and reallocate this funding to rigorous reading initiatives.

In any educational change initiative there would seem great value in the initiative having ownership and actioning at multiple levels, including top-down government actioning, bottom-up teacher actioning and side-side reflective actioning by reading professionals. Top-down government actioning as listed above, coupled with effective professional development programs and incentives would encourage ownership and actioning at teacher and school level.

It would seem likely that the biggest challenge will be achieving side-side actioning - reading scientists and mainstream reading academics working together reflectively to develop cohesiveness in developing effective instructional supports. Despite the challenge, this would seem crucial, as mainstream reading academics are currently highly influential in development of instructional supports, including preservice instruction, and currently they do not have sufficient knowledge on reading-accuracy development, difficulties and instruction, nor believe this knowledge has any value. The area which will need very careful actioning and some top-down government pressure to create a sense of urgency. As in all the suggested actions above, but particularly in side-side actioning, it would seem crucial that everything is built on strong honesty and integrity as to the aims of the venture.

The Galletly Report

I am in the process of completing my doctoral studies on the topic of '*Seeking ways to improve reading-accuracy instruction for Australian at-risk readers, using literature review and critical analysis*'. I have submitted my thesis for examination, and have also submitted as '*The Galletly Report: Reading-accuracy development, difficulties and instruction in Australia*' to the National Inquiry on the Teaching of Reading. The study has been a critical analysis of the reading research literature and current practice. Please contact me if you would like to read the full report. For purposes of brevity, only the recommendations of the report are listed here.

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1. Reading-accuracy is a vital skill in development of literacy and academic skill. Mastery of fluent reading-accuracy is possibly a gateway skill impacting students' opportunities for success in school and life.
 2. Reading-accuracy is a Core Literacy skill, a mechanical skill akin to handwriting and spelling accuracy, one which empowers authentic literacy skill development. As with other mechanical skills, reading-accuracy requires explicit instruction, i.e., instruction which teaches children to read.
 3. While integrally involved in all aspects of print-literacy, reading-accuracy development is also a curriculum area distinct from other aspects of literacy, including reading-comprehension.
 4. There is insufficient knowledge on reading-accuracy achievement of Australian readers, and it is important to gather data on current levels of achievement.
 5. A revised Simple Model (Hoover & Gough, 1990), reading $Reading-comprehension = Language\ comprehension \times Reading-accuracy + Text\ strategies$, provides a useful frame for situating reading-accuracy in the Australian context.
 6. Reading-accuracy is marginalised in major ways in current Australian reading instruction. This is extremely inappropriate, given reading-accuracy's vital role in the reading development of at-risk readers.
 7. There is a need to develop shared knowledge and vocabulary which includes reading-accuracy and reading-accuracy instruction as part of reading and reading instruction, and is strongly aligned with the findings of rigorous reading research.
 8. There are strong needs to include effective normed standardised assessments of reading-accuracy in Australian reading instruction and research.

9. Given Australia's strong performance in international studies of reading, it is highly likely that aspects of Australian reading and literacy instruction other than reading-accuracy instruction, such as written expression, reading-comprehension, and analytical reasoning, are highly appropriate and indeed excellent. It is also likely that older at-risk readers with weak reading-accuracy skills are unable to optimally benefit from this excellent instruction, because of their reading-accuracy and secondary motivation difficulties.
10. English orthographic complexity is an optional cultural choice, which strongly impacts literacy development. It delays reading-accuracy, phonemic awareness, and written expression, and must be accommodated in theories of reading and reading-accuracy development, difficulties and instruction. It creates broad national disadvantage as well as individual disadvantage.
11. English orthographic complexity makes reading-accuracy a complex skill with continuing high cognitive load in the early states of reading-accuracy development. It is likely that the disadvantaging of English orthographic complexity is through this continuing high cognitive load of reading-accuracy development.
12. Students' *central literacy processing skills*, cognitive processing skills including phonological awareness, working and long-term memory and metacognition, create different levels of *self-learning capacity*, which must be accommodated in effective reading instruction.
13. Prior to knowledge on crosslinguistic differences in reading-accuracy development, it was assumed that reading-accuracy is a simple skill, acquired relatively effortlessly when children engage in meaningful reading. This erroneous assumption has strongly impacted Australian instructional supports of reading-accuracy development, difficulties and instruction for the past three decades.
14. The models underlying current systemic reading instruction erroneously assume that reading-accuracy is a simple skill, acquired relatively effortlessly when children engage in meaningful reading. In reality, it is a highly complex task, particularly for at-risk readers. This erroneous assumption has strongly impacted Australian instructional supports of reading-accuracy development, difficulties and instruction for the past three decades.
15. Many models of reading development and instruction for at-risk readers currently used in Australia have assumptions which are not supported by rigorous reading research.
16. It is likely that reading development in the first years of schooling is best explained by interactive models of reading-accuracy development, difficulties and instruction which emphasise reading-accuracy as a core skill of reading-comprehension and the importance of individual differences in *central literacy processing skills*, and include the role of student experiential factors and supports of authentic reading such as contextual cues.
17. It is useful to consider the process of reading-accuracy as *phonological recoding* which is defined as the recoding of both familiar and unfamiliar words from their written (orthographic) form to their spoken (phonological) form through phonological processing of diverse lexical units including single letters, letter groups, syllables, and whole words.
18. There are strong needs to build knowledge of the role of reading-accuracy development in the reading development of different deciles of Australian students, and in student groups at different stages of reading development.
(It is considered that reporting findings in terms of deciles of students rather than group averages, in order to build knowledge related to all levels of readers, including gifted, normal-progress, at-risk, and severely delayed readers.)
19. There are many useful principles of effective reading-accuracy instruction which should be part of teachers' professional knowledge (These are summarised in Section 6.3).
20. Reading-accuracy development is a complex task, with continuing high cognitive load, thus effective reading-accuracy instruction includes both '*explicit-skills instruction*', and '*metacognition-instruction*'. It is suggested these terms be used as shared vocabulary.

21. Effective instruction benefits by having clearly defined benchmarks, goals which students reach by a set point in time.
22. Reading-accuracy should be a benchmark skill to be acquired at benchmark by perhaps 97% of Australian students. As such, students will differ not by achieving benchmark progress but by the intensity of instruction required to support them to achieve benchmark progress.
23. Effective reading-accuracy assessments minimise teacher work intensification and are curriculum-based, providing useful information which supports planning of instruction of the 'next steps' of students' reading-accuracy development.
24. Satisfactory reading and reading-accuracy achievement is the result of effective classroom reading instruction.
25. There are strong needs to build greater understanding of variables impacting classroom complexity which impact effective teaching and learning.
26. There are major inadequacies in current Australian instructional supports of excellent classroom reading-accuracy instruction, due to them being built from models which do not align with current knowledge on reading-accuracy development, difficulties and instruction. These instructional supports include
 - a. Adult: child ratios for reading instruction.
 - b. Preservice instruction.
 - c. Systemic documents and curricula.
 - d. Professional development on reading.
 - e. Reading assessments.
 - f. Levels of transparency of assessment results.
 - g. Teacher research-literacy and test-literacy.
 - h. Reading research establishing principles of effective classroom reading-accuracy instruction.
 - i. Current and recent research premises.
 - j. Definitions of literacy and reading.
 - k. Knowledge levels of education policy makers, understanding of classroom complexity, and political decisionmaking.
27. Efforts to improve reading outcomes should be focussed not on teachers, but on the instructional supports which support the building of expert classroom instruction.
28. Current Australian instructional supports of reading and reading-accuracy instruction do not prevent the progress of normal-progress readers, but are highly inappropriate for reading instruction of at-risk readers. There are strong needs to improve instructional supports and to align with current research knowledge and bring reading achievement of at-risk readers up to satisfactory levels.
29. Current marginalisation of reading-accuracy seems to be the result of *Whole Language reading-accuracy instruction* having been inappropriately subsumed into current sociocultural models of literacy instruction. As a result, the balance of authentic task learning and explicit development of skills and knowledge, which is evidenced in other areas of print-literacy, e.g., genre writing, handwriting, and reading-comprehension, has not been used in reading-accuracy instruction.
30. Current instructional supports inappropriately marginalise or omit important research-based aspects of effective reading instruction, including
 - a. The importance of reading-accuracy instruction.
 - b. The role of reading-accuracy as a basis of effective reading-comprehension in readers in their first years of reading instruction.
 - c. The important role of individual differences in central literacy processing skills (cognitive processing) in reading-accuracy development of at-risk readers.

- d. The value and power of quantitative (empirical) research, as a valuable partner to qualitative research.
 - e. The value and power of normed standardised tests of reading, as valuable partners to other reading assessments.
31. Because these instructional supports have been inadequate for several decades, there is widespread low expertise in the reading-accuracy development, difficulties and instruction in Australian teachers and reading academics.
 32. Divisiveness and factionalism, sometimes termed *Reading Wars*, seem present among Australian reading professionals. If Australian instructional supports of effective reading instruction are to be developed, it is important to resolve this divisiveness.
 33. There are strong needs to move away from ideological and factional thinking onto a pragmatic focus on achieving high reading achievement not just in normal-progress readers, but also in at-risk readers.
 34. There are strong needs to develop clear definitions and vocabulary on reading-accuracy and reading, and their development, difficulties and instruction, to ensure clarity of understanding and communication throughout Australia.
 35. There are strong needs for effective professional development on
 - a. Reading-accuracy development, difficulties and instruction,
 - b. Skills in use of normed standardised tests of reading-accuracy,
 - c. Skills in interpreting and using both qualitative and quantitative educational research,
 - d. Skills in reflection, systems-thinking and organisational learning,
 so that reading professionals are appropriately empowered for knowledge generation on reading and reading-accuracy, and effective reforms of instructional supports of reading instruction.
 36. It is likely that effective reading reform will be achieved through reflective practice at three levels:
 - a. Top-down: Considered decision-making by governments and education systems.
 - b. Bottom-up: Teachers working as researchers exploring reading-accuracy development, difficulties and instruction at school and classroom level.
 - c. Side-side: Reading scientists and mainstream reading academics working together reflectively to build common understandings, and new directions.
 37. Because ideological thinking is so strong such that others' opinions are not believed, it is recommended that Australian reading professionals, including teachers, reading academics and reading scientists, establish for themselves the reality of reading-accuracy's role in reading development, difficulties and instruction through research conducted at school and classroom level.
It is recommended this aspect of reading research use the framework *Reading-comprehension = Reading-accuracy x language comprehension + strategies*, and focus on
 - a. The relationship of reading-accuracy, language comprehension and reading-comprehension in reading development and effective reading instruction.
 - b. The effect of different strategies for reading of unfamiliar words during reading of authentic texts, on reading-accuracy, including whether contextual guessing (language comprehension) or phonemic recoding (reading-accuracy) should be students' primary recoding skill.
 38. It is recommended that a period of up to 2 years be used for knowledge generation and improving of school-level reading-accuracy instruction and students' reading and reading-accuracy levels, prior to final government decisionmaking on Australian reading instruction.
 39. Improving reading instruction is a complex problem such that it is valuable not to attempt 'quick-fix' solutions. Australian reading professionals need to develop skill in systems thinking, organisational learning, and reflection on personal and organisational beliefs and actions as part of achieving effective solutions.

40. It is likely that high transparency of school and classroom reading-accuracy achievement levels, and rewarding schools and teachers for effective reading progress, will support development of optimal reading-accuracy instruction, benchmarks of optimal reading-accuracy development.
41. There are strong needs to develop co-ordinated, effective, adequately funded reading research focussed on developing optimal reading and reading-accuracy instruction for different deciles of readers.
42. It is proposed that literacy be considered as having two separate aspects, both of which are important aspects of students' learning progress:
 - a. *Print-literacy*, and
 - b. *Literacy as analytical reasoning*,

The two areas are very different in many ways, such that separate consideration allows strong valuing of both areas.

Conclusion

Effective mature reading comprehension is the aim of authentic literacy, and reading-accuracy is merely a tool for the accessing of this comprehension. It is however a vital tool. When it works well, it goes virtually unnoticed. When it is ineffective, it blocks literacy, academic and life progress.

Effective reading instruction for at-risk readers must involve effective reading-accuracy instruction yet reading-accuracy instruction is ideologically rejected in current Australian models of reading-accuracy development, difficulties and instruction.

Improving Australian reading-accuracy instruction is likely to be less a matter of instruction itself, and more a matter of changing the beliefs, ideologies and knowledge bases of Australian reading academics. There are strong needs for reform of current Australian instructional supports of reading instruction for beginning and at-risk readers. These reforms will require ongoing reflective practice, openness and transparency, systems thinking and enthusiastic engagement in lifelong learning. Achieving effective reform in reading is likely to need effective reflective organisational learning at three levels:

1. Top-down:
 - a. Well thought out initiatives at government and education-system level, motivating effectiveness at bottom-up and side-side levels.
2. Bottom-up:
 - a. Ongoing reflective practice by schools and teachers, with strong understanding of reading development difficulties and instruction, and educational research.
 - b. School-level research focused on improving reading instruction, using effective, efficient and rigorous measures to show student outcomes in different deciles of students.
3. Side-side:
 - a. Ongoing reflective practice by reading academics, who are open to consideration of beliefs ideologies and perspectives other than their own.

Preservice instruction is a very major instructional supports as the training and mentoring preservice teachers receive has long-lasting effects on instructional practice. There are thus major needs for reform of preservice instruction with respect to reading instruction.

If further information or discussion on this area is desired, my contact details are as follows:

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