

The Winston Churchill Memorial Trust of Australia

Report by Kathryn Harker

2005 Churchill Fellow

To study and evaluate the outcomes of innovative literacy programs that involve a combined approach between teachers and speech pathologists to deliver content that is both language and literacy based.

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Signed Kathryn Harker

Dated 18th January, 2006

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ACKNOWLEDGMENTS

During the seven weeks of the fellowship program funded by the Churchill Trust I travelled to three countries, visited four reading research centres, attended two conferences, and visited three specialist schools for children with specific language disorders and seven schools involved in experimental reading intervention programs. I spoke to many speech pathologists, reading teachers, teacher trainers and reading researchers about their jobs, their beliefs about best practice in preventing and remediating reading difficulties, their training and their desire to do the best by the children in their charge. I hope this report will do justice to the generosity of the people I met, reflect the amount of information, motivation and inspiration I gained during my time away, and contribute to the services for all students in NSW, particularly those experiencing difficulty acquiring literacy skills.

I would like to extend my appreciation to the Churchill Trust for providing me with the means to pursue further knowledge and experience in the area of language and literacy. I wish also to thank Peter Vernon for his encouragement and support and my colleagues at Dalwood Assessment Centre for their support.

EXECUTIVE SUMMARY

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The aim of this project was to look at literacy programs with strong language elements and models of service delivery that involve a combined approach between teachers and speech pathologists.

Major Lessons

Speech pathologists and teachers have complementary skills and knowledge that, when utilised in a collaborative way, can have a significant impact on the academic progress of students with specific learning difficulties. An explicit, metalinguistic knowledge of how the English language system works is a core knowledge requirement for effective teaching of reading. Teacher training programs both in Australia and in the United States seem to be moving to provide such information but there is a considerable way to go. Teachers in specialist academic support roles need to really be specialists – they need to have expertise and sound theoretical knowledge in the area in which they are providing specialist support. Support teachers in the United States, Canada and United Kingdom are required to have specific credentials in language in order to work with students who have identified language disabilities. Currently no such formal requirement is expected in NSW. Professional development for both general and support teachers needs to be research-based and classroom-focused and it needs to be sustained and intensive to make an impact on teachers' classroom performance.

Main Recommendations

1. All students in Language Support Classes should have access to regular speech pathology services for assessment and programming.
2. There should be specific accreditation standards for teachers of Language Support Classes in terms of knowledge base and experience.
3. Support Class teachers should have access to regular and targeted professional development.
4. Teacher training programs should incorporate explicit instruction in the different elements of English language such as phonology, morphology, syntax and semantics.

Implementation and Dissemination

Presentation at the Speech Pathology Australia annual conference in 2006, publications in the Community of Practice in Education newsletter, development and delivery of in-services to rural teachers, presentations to local speech pathology groups, meeting with speech pathologists working in education to extend membership of COPE and establish links with teachers in Support Classes-Language.

PROGRAM

26th – 30th September, United Kingdom

- Blossom House School, Wimbledon
Ms. Joanna Burgess, Principal
- Moor House School, Surrey
Mr Alan Bathe, Principal
Ms Aoife Gallagher, Head of Therapy
Ms Helen Middleton, Joint Literacy coordinator
Ms Jill Sharp, Joint Literacy coordinator
Mrs Fiona Parsons, Class teacher
Ms Liz Nimmo, Speech and Language Therapist
Ms Hilary Nicoll, Speech and Language Therapist
Mr Nick Hart, Class Teacher
Ms Karen Horniman, Speech and Language Therapist

3rd – 7th October, Toronto

- The Learning Disabilities Research Centre at The Hospital for Sick Children
Dr Lea Lacerenza, Program coordinator
Dr Karen Steinbach, Clinical Psychologist and Project Coordinator
Ms Debbie Boland, Teacher trainer
- Bowmore Public School
- St Joseph's High School, Wellesley
- Regent Park – Duke of York Public School
- St Benedict's Primary School
- Bishop Morocco High School

10th – 14th October, Vermont

- The Greenwood School, Putney
Mr. Stewart Miller, Principal
Ms Marcia Hamm, Speech Pathologist

17th – 28th October, Boston

- The Centre for Reading and Language Research, Tufts University
Dr Stephanie Gottwald, Project coordinator
- Reading Public School
- Columbus Public School
- Learning and the Brain Conference Wed 26th Oct
Dr Maryanne Wolf

31st October – 5th November, Houston

- Centre for Academic and Reading Skills
Dr Jack Fletcher, Director

Dr Kristi Santi, Coordinator, TPRI research
Ms. Marguerite Held, Coordinator, Education Outreach
Dr Dennis Ciancio, Clinical psychologist
Dr Linda Ewing-Cobb, Researcher

- Texas Reading First
Dr Melissa McGee
- The Texas Institute for Research and Rehabilitation
Dr Sherin Sakari
- CIRCLE
Dr Susan Gunnewiig
- Texas Reading Institute
Dr Eldo Bergman

7th–12th November, Denver

Dr Louisa Moats

- The International Dyslexia Association annual conference

INTRODUCTION

The impetus for this project was a certain level of frustration with what at times felt like the intractable barriers between teachers and speech pathologists working together effectively in schools in NSW. My basic interest was in best practice for teaching literacy. Since reading and writing are language based activities and speech pathologists are language specialists, it is logical to assume speech pathologists would have something to contribute to the development of literacy skills. Indeed, documents from the American Speech-Language-Hearing Association (2001) and Speech Pathology Australia (2005) state that speech pathologists have a clear role in the development of skills important for reading and writing. Despite this, and the presence of 43 support classes exclusively for students with language disorders, the Department of Education, Employment and Training (DEET) in NSW currently has no formal role for speech pathologists within the school system. Availability of speech pathology services for school-aged children in NSW is determined by Department of Health staff on a district by district, or even a centre-by-centre, basis. Some health services provide comprehensive and strongly collaborative services for children with communication impairments attending public schools. Some health regions have policies that specifically exclude children from receiving Department of Health community-based speech pathology services while they are enrolled in a Language Support Class. Other health regions have a cut-off age after which limited or no services are provided to school-aged children. In many cases this leaves private speech pathology services to fill the gap, raising issues of equity of access for language and reading disabled students as well as an issue of competence and adequate training. Speech pathologists in general have no specific training in teaching reading and spelling, although some individuals have developed specific and extensive expertise in the area, just as some teachers have developed expertise in language.

More broadly I was also interested in issues of teacher training in the area of reading. Some reading researchers argue that the often quoted figure of

reading disability prevalence of 20% is an overestimate of the true incidence of dyslexia and that the cause of many students' poor reading achievement reflects poor instructional methods (Fletcher, Denton, Fuchs & Vaughn, 2005). A study by McCutchen et al. (2002) found that the students of teachers who had received two weeks of explicit training in the sound and spelling system of English, achieved significantly higher reading scores than the students of a control group of teachers who had not received this specific language training. Teacher training is a major theme of the recently published National Inquiry into the Teaching of Literacy (Department of Education, Science and Training [DEST], 2005). The report states that teachers need to support students in their development of oral language, vocabulary, grammar, reading fluency and text comprehension. In order to provide this support teachers need explicit knowledge about how the English language is organized in terms of phonology, grammar, morphology and semantics and they need a solid knowledge base about the normal development of these skills, the ways in which these skills influence each other and effective ways to develop and integrate these skills in the classroom.

Therefore, in this project I had three aims:

1. to look at different models of collaboration between speech pathologists and teachers as demonstrated in three specialist schools for students with communication disorders or other specific learning difficulties.
2. to investigate what teachers need to know in order to be effective teachers of reading and how issues of imparting this knowledge are currently being addressed by different programs in the United States.
3. to observe and evaluate two experimental reading programs called PHAST (Phonological and Strategy Training) and RAVE-O (Retrieval, Automaticity, Vocabulary elaboration, Engagement with language and Orthography). These programs were chosen because both interventions require teachers to be specifically trained in reading development, reading remediation and language systems (phonology,

syntax, morphology, and vocabulary) and because of RAVE-O's strong language focus.

Aim 1

Models of collaboration between speech pathologists and classroom teachers at specialist schools.

a. The Greenwood School, Putney, Vermont

This school is a private boarding school for boys between 9 and 14 years who have language-based learning difficulties. Student enrolment is about 40 and there is a student to teacher ratio of approximately 2:1. There is one fulltime speech pathologist. Some students' school fees are paid for by their school district if it has been determined that the school district cannot provide the support a student needs within his district.

All teachers undergo a two-week intensive training course at the Greenwood Institute. Part 1 addresses the structure of language up to word level (i.e. sound, syllable, spelling and word structure). Part 2 focuses on meaning, syntax and text comprehension and structure.

Model

The school prospectus describes all staff as "remedial language specialists" as well as specialising in a particular subject area (e.g. literacy, writing, science, woodwork, art etc.). A tiered approach is used to deliver the curriculum. All students receive an individual 'language' tutorial (i.e. for reading and spelling). Other subjects such as science and social studies are taught in groups of 4-6 and students are grouped by ability within a range of ages. Speech pathology and occupational therapy are offered as additional services.

Role of the Speech Pathologist

The Speech Pathologist is now a full time member of staff unlike the Occupational Therapist who receives payment directly from the parents for each session. The speech pathologist determines the need for individual speech pathology input for all students via either assessment at the school or through previous assessment records. Speech pathology services are offered as an additional student service by the school and if parents or school districts take up the recommendation, they pay additional fees.

The Speech Pathologist almost always works individually with the students. This actually fits in with the school teaching model and allows the Speech Pathologist to focus specifically on the communication needs of the student. She will consult with other subject teachers and does some in-class support where appropriate and she works closely with the literacy teacher for each of her students. Being on staff means she has access to and input into, general school and student issues such as discipline, curriculum, timetabling, behaviour management and assessment.

Comment

- Despite good intensive professional development initially, there did not appear to be a structured ongoing program or support to maintain and build on staff knowledge and skills gained during the Greenwood Institute course.
- Having the Speech Pathologist on staff meant that there were many more opportunities for knowledge sharing and a cohesive approach to student management between the therapist and teachers
- The Principal was very supportive of the speech pathology program and saw it as important but the school philosophy was one of approaching speech therapy as a separate 'additional' service, not integral to the curriculum, despite most students having language and literacy needs. Thus, currently, 'writing' is taught by a college graduate in English, a

published author. Despite this background, in the class I observed, the teacher demonstrated little awareness of how to break tasks down for students or make the organisational structure and language features of different texts explicit to them. Students commented during the class that the task was 'boring' and too difficult, and they were disruptive and uncooperative as a result. A more collaborative and integrated approach to language across the curriculum using all available staff expertise may have made instruction more effective.

b. Blossom House, Wimbledon, London

This private school in London has an enrolment of approximately 105 pupils from preparatory grades through to Grade 8. Students are eligible for enrolment if they have an identified communication disorder in the presence of average intelligence. The aim is that in the course of time as many students as possible will return to a mainstream education. The philosophy of the school is to provide a caring, supportive, structured environment. A positive behavioural approach is adopted throughout the school so students are rewarded for appropriate behaviour and inappropriate behaviour is ignored or minimised whenever practicable.

Model

The students follow the National Curriculum with some modification to take into account the students' specific learning difficulties. Speech and language therapy is an integral part of the curriculum and each pupil has access to daily speech therapy either individually or as part of a small group. The school employs eight speech pathologists and 16 teachers. Physiotherapy, occupational therapy and music therapy are offered on an individual needs basis as additional sessions within the school day.

All content lessons follow a similar outline designed to maximise comprehension and learning. Lesson tasks are written on the board

accompanied by a pictogram for those whose literacy skills are weaker. Lessons begin with a review of previous material, new material is introduced and linked to learned material, activities give students a chance to apply or practice new material, material is reviewed. Short 'learning breaks' are incorporated into every lesson. All staff follow the same behaviour management strategies and some children have individual behaviour charts that they take with them from class to class. All classes have a teacher's aide attached to them.

Role of the Speech Pathologist

There is a deliberate attempt to blur lines between 'therapists' and teachers. There is no "Speech Therapy" department as such and staff do not have separate offices, just one staffroom with work stations. Pay scales are the same for all employees working with students.

Students are divided into groups or 'classes' of between 5 to 10 children of reasonably similar abilities. A Group Leader (who could be a teacher or a speech pathologist) is responsible for the day to day welfare of the students in her/his group and meets with the group at the beginning and end of each day. One of the groups that I observed was led by a speech pathologist and consisted of five, five year olds. One student was out in front, talking about a walnut he had brought in for "Show and Tell", three children attempted to sit still and listen to him (and were heavily rewarded for their efforts) while the fifth member of the group stood on a table, banging his feet and singing very loudly.

The timetable is planned to meet each group's specific needs and the speech pathologist is involved in taking individual and small group therapy sessions as well as participating in whole class activities. Sometimes groups will be combined and the speech pathologist will take out a number of the relatively more disabled children to deliver the content of the lesson in a small group setting to allow more individualised instruction, more time for each student to grasp the content, and more opportunities to participate in the learning activity.

Speech pathologists are also involved in literacy classes and teaching other subject areas on a team teaching basis.

Comment

- The Principal, Joanna Burgess, has qualifications in speech and language therapy, teaching and psychology. She founded the school and so the school philosophy and structure supports integration of teaching and therapy skills.
- All school staff are aware that communication is the prime difficulty for the students and therefore all are tuned into accommodating and scaffolding this in all activities throughout the day. This was observed in formal lessons and in the casual encounters between students and staff throughout the day.
- Teachers are hired less on experience and more on enthusiasm and interest. Ms Burgess believes her staff learn about the specific needs of the students through working with the students and learning from the experienced people on staff. All staff complete an induction course and regular formal in-services are provided either on site or through attendance at professional development events. Blossom House runs an accredited Graduate Teacher program which ensures they meet standards set by the Education Ministry.
- Because there are few barriers to teachers' and therapists' communication (e.g. joint staff room, team teaching, joint management of students) all staff seemed jointly skilled. Teachers were excellent at providing well scaffolded and supported lessons and communicating in ways that maximised comprehension and expression and therapists were skilled in classroom management and in delivering curriculum content.
- Of note was the informal and natural sharing of knowledge between teachers and therapists during the school day. Because all staff have responsibility for the children's learning the classroom is not 'owned' by

one profession and 'therapy' by another. I saw many instances over the visit where teachers and speech pathologists exchanged information, discussed ways of dealing with particular students, developed activities and otherwise skilled each other up. None of this was done in a formal setting although the school timetable allows for this. Rather it was done at break time, in the corridors and classroom and even occasionally in the bathrooms.

c. Moor House, Hurstgreen, Surrey

Moor House is a specialist residential school for children with specific language impairment. To be eligible to enrol, students must have a primary disability in the area of speech, language or communication, they must require intensive speech and language therapy, and the placement should allow the student to have a complete and successful experience of school in preparation for an independent future.

The school employs 11 fulltime speech pathologists (known as speech and language therapists in the UK), 12 teachers and 9 specialist teacher assistants as well as 17 residential staff. The school goes up to Year 10. Students then have to transfer to a college for the final two years of schooling. This may be a special needs college that caters for children with a variety of special needs (physical, intellectual, communication etc) or a mainstream college. The focus of the academic program is supporting children to access the National Curriculum. There is no general expectation that children will return to mainstream school placement but many would be expected to attend a mainstream college.

Model

The current model is one of full and "seamless" collaboration between teachers and speech pathologists. One therapist and one teacher are allocated to each class. A curriculum planning form is filled out each term to ensure each

member of staff has an understanding of the topics and concepts and objectives being targeted for the term. Therapy targets and curriculum objectives are linked to maximise opportunities for generalisation. Each teacher and therapist team has timetabled sessions in order to plan and review class and individuals' needs.

Role of the Speech Pathologist

The stated aim of the Speech and Language Department is for therapists and teachers to work collaboratively in order to provide effective and efficient intervention and learning. Speech pathologists and teachers work together as a team to plan and deliver lessons. The therapist may be involved in team teaching, working with a small group on a specific area of need or targeting individuals as the need arises. Therapy provision is organised into each of the Key Stages of the curriculum.

Key Stage 2.

Speech pathologists and teachers work together to implement the National Literacy Strategy. Within each team the therapist and teacher will take on different roles according to the content of the lesson and individual preferences of the team members. Numeracy and Science is supported by work on core concepts and vocabulary.

Key Stage 3.

Therapy focuses on building skills to become independent learners in preparation for Key Stage 4. Therapists work with the residential care department to extend pupils social interactions in a variety of contexts.

Key Stage 4.

Priority is given to study skills, life skills and independence training and preparation for work experience and college.

Comment

- The Principal, Alan Bathe, is a strong supporter of the collaborative model currently in place. He mentioned several times that his ideal would be to see a 'seamless' mix of support for students so that a visitor such as myself, could not tell who was the teacher and who was the therapist.
- Interestingly, the head of the Speech and Language Department, Aiofe Gallagher, was not as completely convinced that this was the ideal. In watching several teams at work and talking to them, it became apparent that teams worked differently depending on interests and strengths of individual team members. For example, a Grade 3 team had agreed that Fiona, the teacher, would take the classroom lessons with Liz, the speech and language therapist, pitching in as needed as Liz felt she did not have the skill or confidence in classroom management to take whole class lessons. Instead, she focused on small group and individual support. However, Fiona and Liz still planned all lessons together. The two had an obviously good working relationship and respect for each other's skills and Fiona mentioned how much she had learned from working with Liz. In contrast, Helen and Hilary who had been working together for many years did not have particular roles within the class. This team worked with older students so there was more emphasis on study skills and in class comprehension strategies so a joint teaching model appeared to work well. In the class that I observed, the teacher, Helen, led discussion while the therapist, Hilary, wrote up points on the board. Both adults used signing, both used different strategies to assist comprehension and expression, both used effective classroom management techniques. This was an example of the 'seamless' ideal of the Principal as I could not tell who was teacher and who was therapist. Ms Gallagher commented that each professional has skills and expertise and while both could learn from one another she was concerned that in this model the therapist may lose the therapeutic perspective which is central to her job.

- Even when not in specific literacy or language classes, all teachers attempted to use strategies to maximise comprehension and communication for students.
- A unique element of the administration was the official recognition of speech pathologists' role in teaching literacy by the appointment of both a teacher and speech pathologist as joint Literacy Coordinators for the school. These two staff members decided on the school-wide approach to literacy and the materials and procedures for implementing it.

Implications for a NSW context

The three schools described above all had different service delivery models ranging from the familiar consultative model at Greenwood School to the fully integrated model observed at Moor House. On paper the Moor House model would appear to be the ideal: a fully integrated, collaborative approach to curriculum delivery with flexibility within the therapist/teacher teams to accommodate individual strengths and professional skills. It was therefore very interesting to see this model in practice and realise that when taken to its logical end point there is the potential to lose or dilute the specific professional skills that make teachers teachers and therapists therapists. While this blurring of roles was seen as a possible weakness by some therapists, it was also, in my opinion, a great strength. The skill lies in walking the line between learning skills and knowledge from other professions while maintaining the skills specific to a particular profession. The knowledge base and skills of teachers and speech pathologists who work with school-aged children are complementary but not necessarily interchangeable.

The issue in NSW is that there are currently few opportunities for these complementary professions to work together to support the learning of students with language and literacy difficulties. The NSW Department of Education, Employment and Training does not employ speech pathologists. Teachers in the 43 Language Support Classes still in existence do not all have opportunities to

work with speech pathologists on a regular basis. There are no formal standards or criteria for a knowledge-base about language and its development to be a support teacher of a class of children who have been placed there because of specific communication deficits. In many cases the opportunities for teachers to meet with speech pathologists or other teachers of language classes are very limited and targeted professional development opportunities are few and often dependent on attitudes within individual schools or districts.

While not necessarily advocating that the answer lies in employing speech pathologists within DET, it is also not the answer to pretend that teachers can substitute for speech pathologists in terms of assessing and remediating language disorders. Consideration has to be given to how speech pathologists and teachers can develop stronger professional links, how teachers (both classroom and support) are to acquire more specific knowledge about normal language and reading development and language and reading disorders, and how students with language disorders and their teachers can access the specialist support of speech pathologists in order to assist these students' academic progress. Some of these issues can begin to be addressed through teacher training and professional development. The more teachers know about language, the more likely they are to accurately identify students who require specialist assessment and management, the more able they will be to implement management strategies and program recommendation within the classroom, and the better positioned they will be to both take and impart knowledge in professional exchanges with speech pathologists.

Aim 2

What teachers need to know in order to be effective teachers of reading and how issues of imparting this knowledge are currently being addressed by different programs in the United States.

Learning to read is a linguistic task. For speakers of English, the task is a particularly complex one, as written symbols in English can represent a range of levels of meaningfulness from single sounds to morphographs (Moats, 2000). For example, the letter 's' represents the phoneme /s/ but can also signal plurality; the letters 'ed' signal past tense but can be pronounced in three different ways. Teaching reading well requires a knowledge base that is not an automatic consequence of being literate (McCutchen et al, 2002; Spear-Swerling & Brucker, 2004). Indeed, a strong body of research indicates that teachers need specific and explicit training to acquire the knowledge of language systems that supports effective literacy teaching. In order to effectively teach reading to their students, teachers need to know about how the English language is constructed, how speech sounds relate to print and how poor phonological and orthographic awareness contributes to reading and spelling failure (Bos, Mather, Dickson, Podhajski & Chard, 2001; Moats, 2000; Moats & Foorman, 2003; Brady & Moats, 1997). Despite this recognition that reading requires expertise in language, there is evidence from research that teachers' knowledge base in this area is quite poor and suggests that teachers who are directly responsible for teaching children how to read had insufficient knowledge of important and relevant concepts about the English language (Bos et al, 2001; Cunningham, Perry, Stanovich & Stanovich, 2004; Moats & Foorman, 2003). Perhaps of even more concern are the results of the study by Cunningham and her colleagues (Cunningham et al., 2004) involving over 700 teachers, which calibrated teacher's perceptions of their knowledge in areas relevant to teaching reading and found that teachers tended to overestimate what they knew. In fact, the group of teachers who classified themselves as having either expert or proficient knowledge and skills in phonological awareness (PA) performed more poorly overall on tests of PA knowledge than the teachers who perceived themselves as having low knowledge in PA. The authors suggested that overestimating knowledge can limit or constrain one's level of receptivity to learning new information and concluded that as well as there being an issue of teachers not

being able to teach what they don't know, "it might also be the case that teachers don't know what they don't know" (p. 162).

Another study involving 252 student teachers and 286 K-3 teachers (Bos et al., 2001) found that 50% or more of student teachers could not answer questions related to phonics such as identifying voiced and unvoiced consonants, silent letters, consonant blends, and digraphs or give a definition of phonics. For items related to phonological awareness, 50% or less failed to identify deletion, segmentation and blending tasks, identify the second sound in 'queen' or distinguish between teaching phonological awareness and phonics. The trained teachers did somewhat better than their student counterparts and more than 50% of them could identify deletion, segmenting and blending tasks. However, they too struggled on items such as identifying voiced and unvoiced consonants, silent letters, and digraphs and defining phonics. Again, a majority of them could not identify the second sound in 'queen' and confused teaching phonological awareness with phonics. While the majority of the participants in the study indicated that they 'strongly agreed' that K-2 teachers should know how to teach phonics their scores on an assessment of phonics indicated that they did not have such requisite knowledge.

The study described above was conducted several years ago and the authors mentioned then their interest in how large-scale efforts in professional development and changes in certification requirements in some states such as Texas and California would affect the knowledge of teachers in these areas. In a discussion with Dr Louisa Moats on this point, she commented that there was still an enormous gap between the well recognised and legislated elements of good reading instruction, and teacher preparation courses which she felt continued to spend too little time on this essential teaching skill. Dr. Rebecca Felton, Education Consultant, North Carolina State Improvement Project, in a presentation at the 2005 International Dyslexia Association (IDA) conference, echoed these concerns when she said "A key factor in students' reading achievement is the quality of their teachers, yet teachers rarely come out of

graduate programs with a good foundation knowledge of reading”. In the study by Cunningham et al. (2004), almost 20% of the more than 700 teachers surveyed could not identify the correct number of phonemes in any of the 11 words presented to them and 37% could not correctly identify the sounds in ‘sun’. The impression I received from discussions and presentations at the 2005 IDA conference was that the inadequacy of teacher training, for student teachers and certified teachers, is a limiting factor in the implementation of recommendations offered by the National Reading Panel (2000) and Reading First initiatives, which specifically emphasise reading programs that involve systematic, specific and structured teaching in phonological awareness, phonics, fluency, vocabulary and comprehension, all of which require an explicit understanding of the structure of English language. As one presenter put it “Even with 30 years of evidence based reading research and the findings of the National Reading Panel most of our colleges and universities have not changed their practices in teaching the skill of reading for our future teachers.” (Maureen Henderson, Special Services Coordinator, Saucon Valley School District, PA.)

Teacher knowledge, and expertise in teaching reading, is a major theme of the recent National Inquiry into the Teaching of Literacy (DEST, 2005) which states in the Executive Summary that the quality of teaching provided is fundamental to children’s success in reading and concluded that “since the effective teaching of reading is a highly developed professional skill, teachers must be adequately prepared both in their pre-service education and during subsequent years of practice” (p. 12).

Training and professional development for teachers of reading in the United States of America.

a. No Child Left Behind

The stated purpose of the US federal government’s No Child Left Behind (NCLB) Act of 2001 is to close the achievement gap between high- and low-performing students, with a particular emphasis on the gap between minority and non-minority students and between advantaged and non-advantaged children.

The law is designed to bring all students to the 'proficient' level on state tests by 2013-2014. Some of the global features of the No Child Left Behind Act that affect education from K-12 are;

- Integrating scientifically based reading research into comprehensive core reading instruction for children in Grades K-3. A Reading First school must have a reading program which fulfils standards of methodology, data analysis, peer review and replication.
- Set and monitor yearly progress based on baseline data.
- Ensure that all classes are taught by highly qualified teachers by 2005-2006 school year. A highly qualified teacher is defined as someone who has passed the state teacher examination, has training in the subject they teach and holds a license to teach. Elementary school teachers must demonstrate knowledge of teaching maths and reading.

In an update and overview of the NCLB act, as it relates to reading programs, Smartt (2005) comments that while there have been some persistent complaints about issues to do with measuring academic performance, lack of sufficient funds, and sanctions against schools that do not reach targets, there is also some general consensus that the law has succeeded in raising awareness that every child deserves a chance to learn. On a practical level, it was apparent in the formal presentations and the informal discussions in the hallways at the Denver IDA conference that the findings of the National Reading Panel (2000), which had largely informed the reading recommendations of the NCLB Act, had been absorbed by the delegates at the conference. The issue that was exercising their minds was how this information could be best transferred to the teacher in the classroom. The Texas Reading First program is an example of how one state in the US is attempting to apply the principles of NCLB in ways that will build capacity across the state and ensure continuance once direct funding is over.

b. Texas Reading First

Reading First is one of five reading programs provided for in NCLB and is perhaps the most well known and attracts the largest amount of federal dollars. In 2003 the Texas Education Agency was awarded \$79 million in Reading First funding with the aim of using the funds to provide focused professional development and site-specific technical assistance to funded Local Education Authorities (LEAs). Expert guidance was to be provided in the following areas:

1. the implementation of a core reading program based on scientific research,
2. the use of valid and reliable screening, diagnostic progress monitoring and outcome assessment data to inform instructional practice and determine priorities for professional development and budget,
3. implementation of the 3-Tier Reading Model to differentiate instruction and support for students struggling with reading concepts.

Schools with the highest number of students reading below grade are the primary focus of efforts and receive intensive technical support for their efforts to improve the reading of their students.

To implement the Texas Reading First Initiative, The Texas Education Agency has partnered several agencies;

- The Centre for Academic and Reading Skills (CARS) is responsible for development and dissemination of research-based professional development and technical assistance materials (such as the Texas Primary Reading Instrument and its Spanish equivalent).
- The Texas Institute for Measurement, Evaluation and Statistics (TIMES) provides amongst other things, statistical support for measurement instruments, data analysis and evaluation activities.
- The University of Texas System is the fiscal agent and provides management and shared oversight for school-based technical assistance infrastructure.

- The Vaughn Gross Centre has a similar role to CARS but in addition is involved with Higher Education and with developing online professional development.

CARS and the Vaughn Gross Centre have particular responsibility for supporting the professional development and training of Reading Technical Assistance Specialists (RTAs) who are then responsible for working on-site in funded Texas Reading First (TRF) districts with administrators, curriculum supervisors, and local campus coaches. Local campus coaches (this position is mandatory for all schools funded by TRF) are then responsible for supporting and mentoring general and special education teachers at the school level.

Professional development is a fundamental component of the TRF strategy. According to the NCLB legislation, professional development is required to be high quality, sustained, intensive and classroom focused and have a lasting effect on classroom instruction and the teachers performance on the classroom. It does not include one-day or short-term workshops or conferences (Smartt, 2005). CARS is currently conducting research into the effect of the level of mentoring on teachers performance on tasks such as assessment and planning and implementation of differentiated instruction for beginning readers. The different levels of mentoring are (a) teacher alone; (b) website mentoring, where interpretation of students' scores and intervention ideas are given electronically; and (c) onsite mentoring, where the teacher works with a local master teacher to interpret scores and develop an instructional plan. The study is in its last year with data being analysed currently.

Implementing the goals of the Texas Reading First Initiative

- Goal 1. Implementation of a core reading program based on scientific research

RTAs, local campus coaches and teachers are trained in the key components of early reading instruction. According to Reading First guidelines,

these are phonemic awareness, phonics, vocabulary, fluency and reading comprehension. For each element, teachers are taught about what skills students need to acquire and how teachers can teach those skills using instructional methods and activities that are theoretically sound and research based. For example, teachers are told that instructional time spent on independent silent reading with minimal guidance or feedback has NOT been confirmed by research to improve reading fluency and overall reading achievement.

Emphasis is placed on understanding why these core elements are fundamental to the acquisition of efficient and effective reading skills, rather than on learning about a specific program or set of programs. During my visit to CARS, the research teachers based at CARS who were responsible for the training of RTAs and monitoring the trickle down effect to campus coaches and from there to general and special education teachers, commented that CARS staff spent 16 hours in initial training of RTAs covering topics such as reading development, theoretical and evidence-base for the inclusion of the five core components of good reading instruction and assessment, diagnosis, monitoring, and planning of instruction based on assessment. However, when out in the field observing how this knowledge is transferred to others they noted anecdotally that often this 16 hours of training ended up being compressed into an hour or sometimes even 30 minutes worth of in-service training for the classroom teacher. Clearly this was not ideal and part of the ongoing work at CARS is to look at factors that affect the quality of professional development provided by Train the Trainer programs.

In the TRF model, schools are free to choose their own reading program as long as it satisfies scientifically based reading research criteria. A tool for evaluating commercial programs for this purpose has been developed by Simmons and Kame'enui (2003) and is available through various web sites including those of IDEA and CARS. Thus schools may be able to use programs that they already have or supplement these programs in some form to bring them up to TRF standards.

- Goal 2. The use of valid and reliable screening, diagnostic, progress monitoring and outcome assessment data to inform instructional practice and determine priorities for professional development and budget.

The Texas Primary Reading Instrument (TPRI) is a valid and reliable tool that has been developed to support the principles of NCLB and TRF. It provides a screening assessment to be delivered to all children and procedures for further in-depth assessment and diagnosis of these students. It is designed to facilitate targeted teaching of the five core skills in reading development by identifying students who need additional support in each of these skills and monitoring students' response to instruction through regular progress monitoring. It directly feeds into the 3-Tier Reading Model.

- Goal 3. Implementation of the 3-Tier Reading Model to differentiate instruction and support for students struggling with reading concepts.

Multi-tiered approaches to reading instruction involve three or more layers. In a three-tiered model, the first tier consists of enhanced classroom instruction in which the teacher tries additional, focused instruction. Students' performance on the Texas Primary Reading Instrument assists teachers in grouping students according to skills they need to develop and/or setting up classroom instruction to focus on specific skills that the whole class needs to develop. According to Dr Jack Fletcher, Director of CARS, approximately 70% of students at risk for reading problems (i.e. the bottom 20% of the reading distribution) will respond to high quality instruction. This typically involves enhanced basal instructional materials and assessments, with enhanced professional development.

The second tier of support and instruction involves supplemental small group instruction provided in addition to quality classroom reading instruction. This should be effective for all but a further 2-5% of students who will show an inadequate response to Tiers 1 and 2. These students would then receive high

intensity and extended intervention either individually or in groups of two or three. This level of intensity would obviously be difficult for schools to deliver unless the number of students needing it was substantially reduced and the resources reserved for providing such services was maintained (Fletcher et al., 2005). The principle of Response to Instruction is fundamental to the TRF program and rests on achieving Goals 1 and 2, i.e. good basic instruction in reading skills, regular monitoring of progress in core reading skills, leading to greater instructional differentiation. The type of integration implicit in multi-tier models requires that both general and special education teachers assume responsibility for helping all students become proficient in reading. It also requires that both general and special education teachers become proficient in a knowledge base that will allow them to prevent many children developing reading problems and remediate effectively and efficiently those who don't respond to less intensive and individualised programming.

Implications for a NSW context

The 10th recommendation of the National Inquiry into the Teaching of Reading (DEST, 2005) states that the “key objective of primary teacher education courses be to prepare student teachers to teach reading” (p 20) and that this be done in ways that reflect the current understanding of evidence-based findings about the importance of explicit instruction in phonemic awareness, phonics, fluency, vocabulary and comprehension within an inclusive approach to literacy teaching. However, the same document states that currently less than 10% of time in compulsory subjects in teacher training courses is devoted to preparing student teachers to teach reading and in half the teacher preparation courses surveyed for the inquiry, less than 5% of total instructional time is given over to this task.

Without teachers who understand what they are doing and why they are doing it in terms of reading assessment and instruction, there is little likelihood that sound instructional practices are going to be implemented or sustained. It is

also clear that application of the NCLB definition of professional development has to be taken literally if the depth of teacher knowledge necessary to make and sustain changes that will impact on students' reading skills is to be achieved. Dr Moats commented to me that she felt one of the problems with Reading First is that professional development tended not to place enough emphasis on why elements of a program are important, nor on how these relate to each other and to spoken English. While it is better that teachers use scientifically sound programs than not, to be truly effective they must understand why these elements are important for reading development and how these fit in to a developmental framework. The National Inquiry into the Teaching of Literacy (DEST, 2005) also emphasises this need for in-depth teacher knowledge by stating that the content of in-service and pre-service teacher education should encompass a thorough knowledge of "what works, why it works and how it works" (p. 30) in relation to teaching reading. The National Inquiry also calls for the development of nationally consistent diagnostic screening tools to identify students' levels of development in auditory processing skills, speech and language, fine and gross motor coordination, letter identification and letter-sound correspondences. To be useful, teachers need to be able to interpret this information developmentally and in relation to the importance of these skills for academic success. The experience of the present writer in conducting in-services in phonological awareness, grammar, vocabulary and text level discourse issues to general and support teachers in non-metropolitan NSW, suggests that outcomes of a teacher knowledge survey in this state, such as that conducted by Moats and Foorman (2003) and Cunningham et al. (2004) would not be too dissimilar to the poor knowledge base reported in those studies. The level of teacher knowledge impacts on students' reading skills. However, currently teacher knowledge in language and literacy areas tends to reflect the emphasis placed on such knowledge by individual schools and education districts. Teachers in some education districts in NSW have a stronger knowledge base about language and literacy than teachers in other districts because of the

interest or expertise of particular administrative and teaching staff in a school or district. In districts where this is not a priority or where such professional development is not readily available, teaching staff are likely to have less explicit knowledge about the English language system, why this might be important to children's literacy development and how to implement suitable activities to develop such skills in their students.

Aim 3

Observation of the implementation of two reading remediation programs involving a focus on language beyond the phoneme.

a. PHAST (Phonological and Strategy Training) Track Reading Program
(Part 1 Lessons 1-70)

The Learning Disabilities Research Program (LDRP) at the Hospital for Sick Children in Toronto has one of the longest continual research programs directed at remediation for students with reading problems. In an overview of this research (Lovett et al., 2005) the authors describe the development of the current program. In an initial study children with severe reading disabilities were randomly assigned to one of two remedial reading groups or to a control group. The control group received training in study, organizational and problem-solving skills (Classroom Survival Skills – CSS). One intervention group received the PHAB/DI (phonological analysis and blending/direct instruction) reading program, which consisted of lessons that were modifications of direct instruction decoding programs such as Reading Mastery I/II and Corrective Reading. Subjects in the other intervention group received the WIST (Word Identification and Strategy Training) reading program, which had a metacognitive focus for word recognition. It taught children how to use and monitor the application of four metacognitive decoding strategies. The PHAB/DI program emphasized letter sound units while the WIST program focused on larger subsyllable units, particularly rime. Comparison of outcomes for the three groups indicated that both of the reading

intervention programs were more effective than the classroom survival skills program (the control group), as reflected in group performances on standardised and experimental measures of reading skills. Subjects in the two reading intervention groups also demonstrated generalisation of word reading skills to non-program words. Despite the significant response to instruction, subjects were not reading within the average range and a number of modifications were proposed and tested in a subsequent study.

First, the length of the program was increased from 35 hours to 70 hours of instruction. And second, PHAB/DI and WIST were combined to see whether this would result in better outcomes than either program alone. In a subsequent study, 85 children between 7 and 13 years of age with identified reading difficulties were randomly assigned to one of five groups;

1. PHAB/DI followed by WIST
2. WIST followed by PHAB/DI
3. PHAB/DI x 2
4. WIST x 2
5. CSS followed by Maths

Generalised treatment effects on standardised measures of word identification, passage comprehension and phonological decoding were demonstrated for all four reading instruction conditions. However, a combination of PHAB/DI and WIST proved more effective than either intervention alone, suggesting to the authors that phonological approaches alone are not sufficient to achieve optimal gains in remedial outcomes (Lovett et al., 2005).

Subsequent research by the LDRP group in Toronto has focused on developing the current program which combines elements of PHAB/DI and WIST (i.e. the PHAST [Phonological Awareness and Strategy Training] Track Reading Program), and implementing this program in school settings. I visited five schools in Toronto where the LDRP is currently involved in investigating the effectiveness of several combinations of remedial programs and subject groups. PHAST (Part

1) comprises 70 one-hour lessons that begin with direct instruction in phonological awareness and letter-sound training. Although currently the program typically uses Reading Mastery or Corrective Reading for this part of the program, it is designed to accommodate any suitable direct instruction decoding program. In talking to one of the authors, Dr Lea Lacerenza, the published program will not involve or specify a particular commercial program. Instruction in the four WIST strategies is gradually introduced over several weeks. For example;

1. Sounding Out						
2. Rhyming						
3. Peeling Off						
4. Vowel Alert						
5. I Spy						
Week						
1	2	3	4	5	6	7

1. Sounding Out

Students use their letter-sound knowledge learned in the PHAB/DI component to sound out unknown words.

2. Rhyming

Students identify the word or part of the word by analogy, using a bank of known keywords to decode an unknown word with the same spelling pattern.

3. Peeling Off

Students strip prefixes and suffixes from a multisyllabic word to get a smaller root word that can then be decoded using one of the other strategies.

4. Vowel Alert

Students try a variety of vowel pronunciations in the order of frequency with which these occur in spoken English to see which pronunciation gives a word the child knows.

5. I Spy

Students look for smaller parts of a word that they already know.

The students have many opportunities to practice applying a metacognitive Game Plan where they:

- Choose (select one or more strategies)
- Use (apply the strategies)
- Check (to see if applying the strategy correctly and if it is working. Yes? Keep going)
- Score /Rechoose (evaluate if strategy was successful and whether the word is identified, if not, the child chooses different strategies)

b. RAVE-O (Retrieval, Automaticity, Vocabulary, Engagement with language and Orthography)

The RAVE-O program was specifically designed by researchers at the Centre for Reading and Language Research at Tufts University in Boston to address the need for increased rate of processing and fluency among two hypothesized subtypes of children with reading disabilities; children with naming speed deficits alone and children with naming speed deficits in combination with phonological deficits – the double deficit subtype (Lovett, Steinbach & Fritjers, 2000; Wolf, Bowers & Biddle, 2000). RAVE-O was designed as a comprehensive, fluency based intervention to specifically target accuracy and automaticity in reading subskills, fluency in decoding and comprehension skills, and to encourage a positive engagement with written language in children with reading disabilities (Wolf & Katzir-Cohen, 2001; Wolf, Miller & Donnelly, 2000).

In its current form the program is designed for children identified as at risk readers in Grades 1 and 2 and is explicitly designed to follow and expand on a program that teaches systematic, phonological analysis and blending (Wolf, Miller & Donnelly, 2000). Children are taught a group of core words each week. Each core word is chosen on the basis of shared phonemes with the phonological treatment program, sequenced orthographic patterns and semantic richness (each core word has at least three different meanings). There is a strong emphasis on teaching explicit connections between the phonologic, orthographic and semantic systems. In the two lectures by Dr Maryanne Wolf that I attended, she was passionate about the importance of building vocabulary knowledge to support reading skills and a major premise of the program is that the more a student knows about a word, the easier it is to retrieve and read it. The program includes intensive work on rapid recognition of orthographic patterns, building word webs, learning word retrieval and comprehension strategies and builds fluency through rapid, repeated reading of “1-minute Mysteries” and “1-minute Adventures” that have been specifically written for the program and which incorporate the multiple meanings and syntactic uses of core words. Activities are presented in a game-like format and involve some computer games specifically designed for the program.

During my visit to Toronto and Boston I sat in on many groups involved in RAVE-O or PHAST or a combination of the two - informally known at the ‘Triple’ since it combines elements of the original PHAB/DI plus Word Identification Strategy Training, (i.e. PHAST), plus RAVE-O). Some classes were just beginning the intervention program, several had completed one year and were at the beginning of the second, most involved children in Grades 2 to 4 but in Toronto I saw several adolescent classes as well. From a Speech Pathology perspective, I was particularly struck with the strong metacognitive elements in PHAST and RAVE-O. I saw young, reading disabled students (many of whom had obvious language and attention issues as well) verbalising their strategies for identifying a word and monitoring the success of their attempts. These were not

random guesses at the word but considered, logical progressions through different levels of word analysis. In a class at Regent Park – Duke of York Public School in Toronto, the teacher, Mrs Markson, was giving feedback back to Justice about the strategies he had had to try before finally decoding the word. She asked at the end of each strategy review “...and did you give up?”. Each time Justice answered with a grin and a confident shake of his head. By giving students a range of strategies to deal with unknown words, they are not only likely to be more often successful but to be more resilient if they aren’t successful. They know they have a range of alternative ‘magic tricks’ up their sleeve that they can try if one is not successful. When I was asked to have a go at reading a word and did not get it out using my initial strategy, Justice and his classmates encouraged me to try another ‘Game Plan’ and were specific in the strategies they thought would be most successful. These students were in their second year of the program and all students that I saw at this level appeared to revel in their knowledge of the strategies and their ability to explain and apply them. I got the impression that Justice and his classmates felt quite sorry for me because I was so slow and inefficient in my working out of my word (‘spaces’). I felt these children and the others I saw during my visits demonstrated that the program was achieving its third and perhaps most difficult to implement goal, that of “changing the child’s attitude towards language and their perception of themselves as learners” (Wolf, Miller & Donnelly, 2000, p. 378).

Currently both PHAST and RAVE-O are the subjects of long term evaluation projects funded by the National Institute for Child Health and Human Development and running at three sites – The Hospital for Sick Children/University of Toronto under Dr Maureen Lovett, Tufts University, Boston under Dr Maryanne Wolf and Georgia State University under Dr Robin Morris. Initial results evaluating the effectiveness of two different, dual focus deficit-directed reading programs (PHAST - lessons 1-70 and PHAB/DI + RAVE-O) against an alternative control treatment (CSS + Maths) and a phonological treatment control group (PHAB/DI + CSS) indicate that both the PHAST and

PHAB/DI + RAVE-O programs were associated with equivalent gains across SES groups and IQ groups. These two programs were also found to achieve higher levels of word recognition and comprehension ability than students who received PHAB/DI with classroom strategies and all three of these programs were found to be more effective than the classroom strategies plus Maths program (Lovett et al., 2005; Lyon, Fletcher, Fuchs & Chhabra, in press).

The PHAST program continues to be developed and expanded in response to students' performance and needs. There is now the PHAST Reading Comprehension Track (Part 2 Lessons 71 -140) which focuses on teaching specific strategies for comprehension such as predicting, summarising, clarifying and questioning. Students learn about sentence, paragraph and text structure and how to use this information to understand different types of texts. PHAST PACES, a program for struggling High School readers and young adults is currently being trialled by the Catholic Schools Board of Toronto within several of its schools.

Implications for a NSW context

Both the programs discussed above are based on strong theoretical and research foundations. The RAVE-O program is specifically designed to promote fluency, which is seen as the key to proficient reading (National Reading Panel, 2000). As yet there is no strong evidence that RAVE-O produces larger gains in fluency at the word level than a program like PHAST (Lyon et al., in press). However, an important but as yet unanswered question of the ongoing evaluations of these programs is whether RAVE-O leads to more improvements in reading connected text, as well as comprehension. If it does it may be an efficient way of addressing basic word recognition skills as well as promoting functional skills at a text level.

In a comprehensive review of the intervention and prevention literature, Lyon et al. (in press), found that the most impressive gains were found with programs that were more intensive, explicit and systematic. Given these key

elements, they found that the program itself was less important than how it is delivered, concluding that programs that are explicit, teach to mastery, provide scaffolding and emotional support and monitor progress are particularly effective. Both PHAST and RAVE-O fulfil these requirements and may be of particular interest to schools with groups of students with identified and severe language and literacy difficulties who are not responding to less comprehensive and systematic programs.

CONCLUSIONS

Speech pathologists and teachers have complementary skills and knowledge that, when utilised in a collaborative way, can have a significant impact on the academic progress of students with specific learning difficulties. An explicit, metalinguistic knowledge of how the English language system works is a core knowledge requirement for effective teaching of reading. Teacher training programs both in Australia and in the United States seem to be moving to provide such information but there is a considerable way to go. Teachers in specialist academic support roles need to be specialists – they need to have expertise and sound theoretical knowledge in the area in which they are providing specialist support. Support teachers in the United States, Canada and United Kingdom are required to have specific credentials in language or reading in order to work with students who have identified specific difficulties in these areas. Currently no such formal requirement is expected in NSW except for teachers involved in the Reading Recovery program. Professional development for both general and support teachers needs to be research-based and classroom-focused and it needs to be sustained and intensive to make an impact on teachers' classroom performance.

RECOMMENDATIONS

1. All teachers and students in Support Classes-Language should have access to regular speech pathology services for assessment and programming.
2. Teachers of Support Classes-Language should have access to regular and targeted professional development.
3. Specific accreditation standards for teachers should be established for the required knowledge base and expertise of teachers of Support Classes – Language.
4. Teacher training programs should incorporate explicit instruction in the language systems of English, such as phonology, semantics, syntax and discourse, and how these impact on literacy acquisition.
5. Schools should have a specialist teacher on staff who has specific training or certification in reading development and remediation.
6. Adoption of the Response to Intervention model as a way of ensuring children's literacy needs are met early and effectively.

In order to further these goals the following actions will be undertaken by the writer:

- Set up meetings to discuss ways of building information exchange networks between Support Class-Language teachers and members of the Community of Practice in Education (COPE), a Speech Pathology Australia member network, through my role as the COPE NSW representative.
- Disseminate findings to Department of Health and DEET staff who are involved in negotiating a pilot program which will involve speech pathologists being employed by DEET to work in schools.
- To develop and implement professional development programs on language systems and deliver these to teachers in rural areas of NSW.

- Arrange targeted professional development events on teacher training issues through Dalwood Assessment Centre (e.g. visiting scholar Dr Louisa Moats to provide a one-day workshop in September, 2006).
- Compile information on the content of current teacher training programs in NSW as it relates to language, using resources of Speech Pathology Australia, COPE and Macquarie University, Masters of Communication Disorders.
- Use information gained through the fellowship to inform an early intervention/prevention program being developed by Dalwood Assessment Centre, Palm Avenue Special School and The Royal Far West Children's Scheme, which will be piloted at a school in rural NSW during 2006.
- Trial the use of DIBELS at the Dalwood Assessment Centre and Palm Avenue Special School.

Information and experience gained through this fellowship will be disseminated through:

- a presentation at the Speech Pathology Australia annual conference in Fremantle in May 2006,
- COPE meetings and newsletters,
- In-services to teachers in rural NSW,
- Presentations to local and rural speech pathology services involved in providing school-age intervention.

Since returning from my trip I have given summary presentations to staff at Dalwood Assessment Centre and to teachers at Palm Avenue Special School. I have set up a meeting with speech pathologists working with school-aged children to extend the COPE membership and develop strategies to increase links with Support Class-Language teachers and I have been invited to speak to an Area Health meeting about my fellowship project.

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