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EDITORIAL

You might recall that in our last issue we introduced the Responsivity Project to check that we had a readership! I am pleased to say that seven people replied (THANK YOU Ros Playforth, Mark Clayton, Louise Blue, Christine Franks, Anne Arnold, and Elizabeth Watson), and OUR WINNER IS … Heather Jenkins, who received a hamper in appreciation! Thank you all for your encouraging and prompt feedback.

It has been a singular pleasure to work on this journal and especially to connect with so many people who are committed, like we are, to the provision of high quality educational supports for people with additional needs. It has now been 10 years and the time has come to give someone else a turn at leading the journal. We announce that we have advised AASE NSW Chapter that after Issue 2 of this year, Special Education Perspectives will no longer be produced by us.

We are delighted to note that we have a strong Editorial Committee and solid protocols for the review, revision and delivery of practical, research-based papers, and have no doubt this tradition will continue under the next Editorial team. Special thanks go to our enthusiastic colleagues who week in, week out review and comment on papers and especially, Jennifer Stephenson, who, in her role as Associate Editor has made Practically Speaking happen as a vital feature of this journal. Thanks also to Greg Robinson, Bob Conway as Director of the Special Education Centre, and Phil Foreman, Head of the School of Education here at The University of Newcastle, for a strong commitment to the production of the journal and the staff working on it.

This issue again contains a pleasing balance of contributions. Our first Practically Speaking piece, by Sue Crossling, contains some excellent insights into how Canadian and American educational systems and teachers support students with reading challenges. This is followed by Kathleen Tait’s perceptive case study report that connects aspects of behaviour and communication and highlights several critical issues in intervention and support.

Following our regular MUSEC Briefing, we are pleased to include three refereed papers.

First, Barbara Fisher, Merle Bruce and Cedric Greive provide valuable data on the relative effectiveness of two instructional approaches to spelling instruction with primary-aged students. Next, Merree Reynolds, Kevin Wheldall and Alison Madelaine report on the outcomes of a pilot study targeting young students at risk of literacy problems, and more particularly, the impact of the MINILIT program on
their reading and spelling skills. Our special congratulations to Meree and her colleagues, as Joint recipient of the 2006 Lee Mills Award (see photo below).

Finally, Emmaley Weaven and Brian Hemmings explore the experiences of pre-service teachers on internship in a paper that will be of special interest to colleagues working in teacher preparation.

With our good wishes to you for an enjoyable read, as always.

Michael Arthur-Kelly
and Genevieve Farrell
Editorial Team
Special Education Perspectives

Congratulations to Meree Reynolds (with Kevin Wheldall and Alison Madelaine), joint recipient of the 2006 Lee Mills Award, pictured receiving her award from Dr Checka MacLaurin recently.
INTRODUCTION
Over recent years there has been much research into exploring and assessing the efficacy of different approaches to the remediation of reading acquisition problems. The critical components of effective remediation for students with reading problems have been identified, and effective methods of reading instruction for children at risk for reading acquisition failure have been defined. Whilst it is acknowledged that such interventions do lead to student improvement, the improvement is often restricted to the specific skills being trained, and there is little generalisation of gains to other aspects of reading acquisition. I have found this to be frustratingly true in my day-to-day work as a reading support teacher. For example, a teacher may systematically teach a set of identified skills for reading to the point of student mastery, only to have the student fail to transfer the skills to their general reading ability level and/or class literacy tasks.

The issues of generalisation and transfer-of-learning have been of research interest to Lovett, Lacerenza, Borden, Frijters, Steinbach, and Palma at The Hospital for Sick Children in Toronto, Canada. The researchers have developed the Phonological and Strategy Training (PHAST) Program which combines direct and dialogue-based instruction, teaches sub-syllabic segmentation and multiple decoding strategies. The program is for children who have significant reading problems, and emphasises strategy instruction and a flexible approach to word identification. Researchers at the hospital have also developed other interventions for students with reading difficulty such as the Retrieval, Accuracy, Vocabulary Elaboration and Orthography (RAVE-O) Program, which improves word retrieval, vocabulary knowledge and spelling. This research is of particular interest to me as I feel it recognises the complexity of teaching reading and the importance of the gains made through specific intervention, to be generalised and sustained in the long term.
I was very encouraged by my initial interpretation and trialling of some of the strategies outlined in the research. Wanting to investigate the program in more depth motivated me to apply for the opportunity to view the program first hand through the Premier’s Scholarship scheme. The month long scholarship trip saw me travel to Toronto, Boston, and New York. I witnessed the program being taught across a variety of settings, student backgrounds, group sizes and program component combinations. There was ample opportunity for me to discuss the program with class teachers and with members of the research design team.

**PHAST in Toronto and Boston schools**
The PHAST Program is currently in its ninth year of a ten-year, multi-million dollar grant from the National Institute of Childhood Health and Development (HD 30970). Over this time, the research team has been replicating the program under different treatment conditions. I felt that I was witnessing the fruits of this nine-year endeavour and was seeing the program being taught in its “prime”. The final results from the ten-year study are due to be published after 2006. The program will be ready for publication and purchase at the project’s completion. However, whilst the actual program components are not yet available, there is much to learn and apply from the overall approach.

PHAST involves 120 hours of instruction, delivered daily in one-hour sessions, thus addressing the reality that learning to read takes time. The program does not rely on homework or parental support. The results gained are from carefully planned instruction delivered by expert teachers in a supportive learning environment.

The full details of the program are not included here, but interested readers can consult the resources listed at the end of this article. It is more useful at this stage to reflect on which elements make this program unique and worthy of immediate and future attention.

- **PHAST makes blatantly explicit to the struggling reader what good readers do implicitly.** Much time is devoted to students talking out loud about strategy choice and confirmation. The cumulative nature of the program shifts the instructional onus from the teacher to the learner. The students learn from each other, with the teacher moving from instructor to coach many times throughout each hour-long lesson. Metacognition features strongly in every lesson. When the students finish the program, the much practiced self-talk about reading strategy becomes implicit and internalised to support them as confident and independent readers. I consider this to be the key to the program’s success with generalisation.
• **PHAST shifts the emphasis on the use of context** from readers using context to help predict and decode unknown words, to readers using context to confirm decoding attempts. PHAST advocates would equate the former approach to guessing. PHAST makes students confident decoders who are flexible, persistent, persevering, and reflective. The students are systematically and explicitly taught five strategies in the following order:

1. **Sounding out**
   The direct instruction program, Reading Mastery, is used for this purpose. This approach is referred to as synthetic phonics.

2. **Rhyming**
   Students use analogy to help decode words which have a similar spelling pattern. The spelling patterns are specifically taught via 120 selected keywords. The words are so called, as they are the “keys to help unlock other words”.

3. **Peeling off**
   The students are taught to recognise 75 prefixes and suffixes. “Peeling off” helps to make a word shorter by getting to the root word where a different decoding strategy can be applied.

4. **Vowel alert**
   Students are taught to try known vowel alternatives until they are satisfied with their decoding attempt.

5. **Spy**
   This strategy is deliberately left to last, as it is the closest strategy to guessing. It is being able to “spy” words already known within a word, similar to compound word reading.

• **PHAST is student-friendly and fun.** Each of the above strategies has its own verbal strategy description and coding recording process that help to reinforce and clarify student learning. The students become proficient at both verbalising and using the symbols which minimises instructional time re-explaining strategies. Time is maximised on student engagement in decoding and clarifying. The program is intrinsically rewarding for students. Student learning is cumulative and each lesson is so designed that student success is almost guaranteed. The joy on a second grade student’s face when he independently worked out the word “permissible” was testament to PHAST’s instructional integrity (not to mention the shock on my face, when I knew my students back in Sydney were still struggling with the word “miss”!).
There is a close pedagogical alignment between PHAST and the NSW Quality teaching model. PHAST treats learning to read effectively “as something that requires active construction and requires students to engage in higher-order thinking and to communicate substantively about what they are learning” (Quality teaching in NSW schools: Discussion paper, 2003, p. 9). PHAST promotes high levels of intellectual quality.

**Summary of PHAST strategy reinforcers**

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PHAST establishes a high quality learning environment where expectations are high and explicit, and the focus is clearly on every student’s learning success. The learning environment is refreshingly positive, challenging and rewarding for all stakeholders.

PHAST makes clear the significance of the instruction by making it meaningful and important to the students. In recent years, PHAST has been combined with some of the elements of RAVE-O. The inclusion of multiple meanings for words embedded in context has strengthened the connectedness element of the program. PHAST + RAVE-O is referred to as “The Triple”, and is being trialled as a program combination variation. Initial results from the combined program are very encouraging.

**CONCLUSION**

PHAST definitely has something to offer the struggling reader. It empowers students to decode rather than “to have a good guess”, and to get on with the business of comprehending the text. It tackles the difficult task of decoding multisyllabic words and encourages students to be confident in their strategy choices. I am convinced of its effectiveness by what I saw and the trialling of the adaptations I have made in the absence of the program yet being available. PHAST has proven its effectiveness in making weak readers strong and confident without the added expectation of parent support.

**Resources**

For more detailed information on the PHAST and RAVE-O program visit: http://www.sickkids.ca/ldrppublic/section.asp?s=Overview+&sID=3900

Helpful journal articles include:


General sources on effective reading instruction:


For more information about RAVE-O:
Practically Speaking

PROBLEM BEHAVIOUR OR JUST A COMMUNICATION BREAKDOWN?

Kathleen Tait
University of New England

Introducing Ashley
Ashley is a young child of 4 years of age who had received a confirmed diagnosis of cerebral palsy from a paediatrician. As a result of his physical impairment, Ashley required a wheelchair for mobility. He had also been diagnosed with epilepsy and a mild visual impairment. Ashley lived at home with his mother, father, and 6-month-old sister. He attended a local non-government preschool with 19 other children, 3 mornings per week, and also received monthly therapy services from a community service agency.

The preschool was set up as a two classroom unit. That is, there were two separate preschool classes, each with a teacher and a teacher assistant. Ashley was enrolled in Miss B’s class. Although Ashley’s teacher had been working at this unit for the past 5 years, she had had no experience with a child with a severe communication impairment. Nonetheless, Miss B had happily accepted Ashley into her class.

Ashley appeared to enjoy attending his preschool sessions. However, his teacher had noticed that the child was becoming more frustrated at not being able to communicate his wants and needs to both his teacher and his peers. Initially, this inability to get his message across resulted in a passive response. That is, Ashley would smile and wait patiently until someone attended to his needs.

However, over a matter of weeks, Ashley began to exhibit a range of disruptive behaviours (e.g., loud crying, fist banging and body rocking) if his needs were not met almost instantly. This situation was becoming very upsetting for all concerned, and it was beginning to affect Ashley’s social acceptance by his class peers. Consequently, Miss B decided to undertake an assessment of the situation, in an effort to design an intervention to address what she considered was a potentially “out of control” behaviour problem.
Step one: Fact finding
In an effort to provide some initial information about Ashley’s language development, a speech pathologist from the community agency who had known the child for more than 6 months, assessed Ashley’s language skills, adaptive skills and also undertook a behavioural assessment. Descriptive data was collected using the second edition of the Receptive-Expressive Emergent Language Scale (REEL-2) (Bzoch & League, 1991), the Topeka Association Assessment System (TARC) (Sailor & Mix, 1975), and the Abberant Behaviour Checklist (ABC) (Aman & Singh, 1994). A summary of the results of Ashley’s assessments and a brief description of each instrument is outlined below.

The Receptive-Expressive Emergent Language Scale (REEL-2)
The REEL-2 (Bzoch & League, 1991) is a developmental checklist for infants and toddlers up to 3 years of age and is an effective device for documenting language delay for research purposes. It was considered appropriate for use in this case because of the severe nature of Ashley’s communication impairment.

The REEL-2 consists of 66 descriptive items with informants asked to provide a score for each item on the assessment depending on their observations of a child’s communicative behaviour. Observations are recorded by using a plus (+) if the item was typical of the child’s behaviour, a minus (-) if the skill was not observed, and a plus/minus (+/-) if the skill was partly observed or just emerging. Separate scores were derived for receptive language age and expressive language age. Ashley’s expressive language on the Receptive-Expressive Emergent Language Scale (REEL-2) (Bzoch & League, 1991) was measured at the equivalent of 12 months and his receptive language at 33 months.

The Topeka Association Assessment System (TARC)
The speech pathologist also completed the Topeka Association for Retarded Citizens (TARC) Assessment System (Sailor & Mix, 1975) to assess Ashley’s self-help, motor, communication, and social skills. In this test, sub-scale scores for each skill area are calculated together with an overall standard score. The TARC was standardised on a sample of 283 institutionalised children with severe disabilities from 3 to 16 years of age. Ashley’s overall standard score on the Topeka Association Assessment System (TARC) (Sailor, & Mix, 1975) was 93, indicating that he had a substantial deficit in adaptive behaviour.

The Aberrant Behaviour Checklist (ABC)
In order to identify if Ashley had any significant problem behaviours, the Aberrant Behaviour Checklist (ABC) (Aman & Singh, 1994) was used. The ABC provides a reliable assessment of challenging behaviour when used by parents and teachers of young
children with development disabilities. The ABC is an informant-based scale with 58 items describing maladaptive or inappropriate behaviour. Each item is scored on a 4-point scale, from 0 (not at all a problem) to 3 (the problem is severe in degree). These items are grouped in five behavioural categories: Irritability (15 items), Lethargy (16 items), Stereotypy (seven items), Hyperactivity (16 items), and Inappropriate Speech (four items). Scores can range from 0 to 174, with higher scores indicating more severe problem behaviour.

**Preliminary assessment results**
Specifically, Ashley’s results from the Abberant Behaviour Checklist (ABC) (Aman & Singh, 1994) assessment showed a slight level of concern in the area of Irritability. Overall, the information gathered from the three assessments indicated that Ashley had a mild intellectual impairment, a severe communication impairment, and significant deficits in adaptive functioning.

**Step two: Additional fact finding**
Armed with this preliminary assessment data on Ashley’s abilities, the classroom teacher proceeded to investigate the child’s escalating behaviour problem. Specifically, *what was really happening regarding Ashley’s increasingly disruptive classroom behaviour?*

**Potential communicative acts**
A potential communicative act (PCA) has been identified as being any behaviour that is interpreted by another as a form of communication. The behaviour may or may not be intentional on the part of the child. However, if others consistently recognise and respond to the behaviour as if it were intentional, then the PCA may have the potential to develop into true or intentional communication. PCAs may take the form of, but are not restricted to, body movements, facial expressions, gaze, vocalisations, and informal gestures.

To recognise and respond to PCAs consistently, assessment of these behaviours is an important first step. One technique for profiling children’s PCAs is to interview caregivers and others who know the child well. Thus, Ashley’s teacher was interviewed using the Inventory for Potential Communicative Acts (IPCA) (Sigafoos et al., 2000), a structured interview protocol to determine potential target communication behaviours.

**Overview of the IPCA**
The version of the IPCA used in this study consisted of 40 questions about 9 communicative functions (such as social convention, answering, requesting more of something, choice
making, etc). For example, to assess the communicative function of Social Convention, the teacher was asked to, “describe how Ashley (a) greets you, (b) farewells you, (c) farewells others, (d) responds to his name”. For the communicative function of Answering, the teacher was asked to, “describe how Ashley tells you (a) “that he is making a choice, (b) answering yes, (c) answering no”.

Step three: Reflect and interpret
The results of the IPCA alerted the teacher to 2 forms of communication behaviour that were being exhibited by Ashley but that had clearly been misinterpreted as problem behaviours in the classroom. Specifically, the teacher identified through the IPCA interview that when Ashley requested assistance (from his teacher), or if he wanted more of something (for example, more play dough or wooden blocks), that he would produce a quiet sound (e.g., “Ee, Ee, Ee”) to attract the teacher’s attention. Further, the classroom teacher believed that the reason Ashley’s behaviour was becoming increasingly more difficult was a result of Ashley not getting his message understood quickly enough in class. For example, if the teacher was delayed in attending to Ashley’s needs, his behaviour would escalate (e.g., he would cry softly, then bang his fist on his tray table, then cry very loudly, body rock in his chair, and finally he would end up being in a very agitated and distressed state).

Step four: Confirming a hunch
In an effort to confirm if indeed the child’s disruptive behaviour was in response to the frustration of not getting his needs met, a set of opportunities were set up to confirm or to verify that this was the case. The contexts in which this verification procedure were conducted were morning break/little lunch, and socio-dramatic or make-believe play (e.g., playing tea parties or shops, etc.). This was done to make the assessments as naturalistic as possible. In each of these contexts, Ashley was provided with 10 opportunities to indicate the selected communicative functions of (1) requesting help, and (2) requesting more of something.

Procedures for creating communicative opportunities for Ashley
1. Requesting help at morning tea
In the first scenario, at morning tea time, the teacher left some food that Ashley was known to like (e.g., cheese sandwiches) near by, but just out of his reach. The teacher waited 30 seconds and then recorded what Ashley did. If Ashley sought eye contact with the teacher and vocalised a quiet “Ee! Ee!” sound (as identified by his teacher on the IPCA), then the child was scored as having requested help.
2. Requesting more of something during socio-dramatic play
In the second scenario, when playing cooking, the teacher placed a large piece of play dough out of Ashley’s reach, but within his visual range. Ashley was given a very tiny piece of play dough and encouraged to make something (e.g., a cake) for a proposed tea party game. Once Ashley had made a cake, the teacher asked him to put some cherries on top of his cake. The teacher waited 30 seconds and then recorded what Ashley did. If Ashley responded to the question by pointing to the large piece of play dough, saying “Ee! Ee! Ee!” (as identified on the IPCA), he was scored as having asked for more of the play dough.

Step five: Reflect and interpret
For the most part, the communicative behaviours identified by Ashley’s teacher during the IPCA interview were consistently observed during the verification exercises. This suggested that Ashley’s existing and perceived “problem” behaviours could be conceptualised as social-communication responses related to his requesting help and requesting more. That is, when Ashley’s communication behaviours were correctly interpreted and responded to by his teacher, the child did not engage in any disruptive crying or agitated behaviour.

However, one of the social development goals for children attending a preschool program, is to encourage children to become as independent as they are able. Thus, it would not be to Ashley’s advantage to encourage a dependence on his teacher as his sole interpreter of communicative acts. The class teacher was keen to teach Ashley an alternative or replacement communication behaviour to his current behaviour, in an effort to allow him to get his communication needs met as well as to enjoy the freedom to be as socially independent as possible.

Step six: Planning the intervention
The intervention goal involved replacing Ashley’s current behavior (i.e., saying “Ee, Ee Ee” and/or crying) with a more symbolic form of communication. The intervention goals were determined in collaboration with Ashley’s parents to maintain a consistency with the child’s communication program at home and at school.

It was decided that Ashley would be taught to point to a HELP symbol rather than vocalise “Ee, Ee” when he could not reach a preferred item. His vocalisation was a whining-like noise. Vocalising “Ee, Ee” and pointing to a HELP symbol could be viewed as functionally equivalent ways of gaining access to a preferred item.
Ashley’s preschool classmates were also involved in the intervention program. For example, if Ashley pointed to the symbol MORE while he was playing at the play dough table, his peers understood that this meant that they were to give Ashley some more play dough. Further, if Ashley pointed to the HELP symbol while with his peers, that meant that either a child could draw the teacher’s attention to Ashley to offer him assistance, or a child could offer Ashley assistance, if appropriate.

**Step seven: Implementing the intervention**

To encourage the replacement behavior for “Requesting Help” or “Requesting More”, it was important to provide Ashley opportunities to communicate. This was done in the preschool setting by assembling all of the relevant materials that were required and teaching each replacement behaviour using explicit instructions.

For example, when teaching Ashley to “Request Help”, some attractive toys were gathered for Ashley to play with as well as taping a card with the symbol “HELP” onto his tray table. Ashley’s attention was gained by the teacher before presenting the communication opportunity. The teacher then placed a toy in front of, but out of the reach of, Ashley, and then the teacher showed Ashley the symbol card for “Help”, providing one single, clear and consistent verbal cue.

*Encouragement example:* “Ashley, if you need me to help you, you must point to the ‘Help’ symbol.”

The class teacher then oriented herself to Ashley’s eye level with an expectant facial expression. The teacher was careful to maintain this expectant look for 10 seconds, unless Ashley responded correctly within that time. If Ashley pointed to the “Help” symbol then the teacher would praise his behaviour with a verbal acknowledgement (see example below) and then react appropriately (i.e., she would help him).

*Acknowledgment example:* “Good pointing to the ‘Help’ symbol. You told me that you wanted help!”

If Ashley did not point to the “Help” symbol, the teacher would prompt his use of the replacement behaviour.
Prompting example: “If you need me to help you, you must point to the ‘Help’ symbol.” The teacher would react to Ashley’s correct use of the replacement behaviour immediately after he pointed to the “Help” symbol.

Reaction example: If Ashley was communicating, that he wanted some help with the toy on offer, then the appropriate reaction from the teacher would be to assist him.

A similar intervention strategy was used when teaching Ashley to request for more of something by pointing to a “MORE” symbol. With intervention, indicating HELP and indicating MORE increased, and crying and fist banging decreased. This was because pointing to a HELP symbol and pointing to a MORE symbol was prompted and reinforced by access to the item that Ashley was requesting, whereas crying was no longer being reinforced.

Step eight: Interpret the data
The successful results of this intervention program show that by reacting to Ashley’s attempts to communicate his request for assistance or to obtain more of a play item (via pointing to the symbols HELP or MORE) assisted in the reduction of his previous distressed behaviour as a form of communication. Overall, Ashley showed an increase in the replacement behaviour and a corresponding decrease in his previous socially inappropriate behaviours during intervention. The changes in this child’s behaviours were closely associated with the correct use of the intervention procedures by the preschool teacher. These results suggest that the intervention was effective in creating a positive change in this child’s communication skills.

Information of this type would seem to be critical when implementing procedures to replace problem behaviours with alternative and more advanced forms of communication. Indeed, the present intervention was dependent upon an initial assessment of the forms of functions of the child’s existing communication behaviours. Once these initial forms of communication were identified, replacement forms consisting of more advanced or precise forms of communication could be selected that served the same function as the existing problem behaviour.

Conclusion
Efforts to enhance communication skills should be a major priority in early intervention programs for young children with a developmental and physical disability. This priority is warranted for at least two reasons. First, it is an area of critical need in that most children with developmental and physical disability have limited speech and language abilities.
Second, without explicit intervention, such children are unlikely to acquire other formal modes of communication that could serve as alternatives to speech. Limited communication skills can restrict a child’s ability to express his or her wants and needs, and participate in meaningful social interactions with others.

It is important for teachers to investigate the reason(s) behind potentially disruptive child behaviours. In this instance, Ashley’s teacher was proactive in contacting the non-government therapy service and the child’s parents to collaboratively engage in obtaining information about the child. That is, the speech pathologist was engaged to assess the child’s current language skills, and the child’s mother was consulted to determine a communication intervention goal that could be utilised in the classroom and at home. Consultation and collaboration with family members and specialist colleagues are important first steps in providing effective intervention programs for children with special needs.

Further research should examine the possible link between misinterpreted disruptive actions and the emergence of severe behaviour problems in children with developmental disabilities in the regular classroom. The results of this case study suggest that regular class teachers can learn to use a variation of functional communication training to replace apparent problem behaviours with efficient and more effective communication skills for children with severe communication impairments and developmental disabilities.

**Resource list**


Reading Recovery for young struggling readers

Kevin Wheldall and Mere Reynolds

Statement of the Problem
A significant minority of young students enters Year 1, following one initial year of instruction in school, with very poorly developed reading and related skills.

Proposed Solution/ Intervention
Reading Recovery aims to identify and ‘recover’ these young struggling readers by providing specific one-to-one literacy instruction from a specially trained Reading Recovery teacher for half an hour each day for up to 20 weeks. The Reading Recovery teacher follows a specified series of literacy activities in each lesson. The aim of the program is to return the recovered readers to their regular class functioning at the average literacy level for the class.

The theoretical rationale — how does it work?
Reading Recovery is based on a constructivist model of reading instruction developed by Dame Professor Marie Clay in the 1970s that is consonant with many of the tenets of ‘whole language’ philosophy. Explicit phonics instruction is eschewed in favour of an implicit approach in which children learn about letters and sounds as they occur in texts and in their writing. Teachers also encourage students to focus on non-alphabetic cues to the meaning of written text such as guessing on the basis of contextual or pictorial referents.

What does the research say? What is the evidence for its efficacy?
Most of the research on Reading Recovery has been completed by RR enthusiasts who have not employed rigorous experimental procedures but who have favoured ‘one shot’ studies in which efficacy was usually determined by assessing students on Clay’s own battery of literacy measures, including her preference for ‘running records’ of reading performance. Research by independent researchers who have employed control group designs and who have used standardized assessment instruments have typically found that RR students make statistically significant gains but that these gains are more modest, are typically made by students with less severe reading difficulties, and that this occurs at considerable financial cost. The most methodologically sophisticated study completed in Australia found that RR was probably effective for only one in three children who entered the program, since one child in three did not benefit appreciably while another child would have been recovered without the intervention.

Conclusions
Reading Recovery appears to be mildly effective but possibly not as effective as it should be given its high cost and limited utility.

Alternative option
Interventions for at-risk Year 1 readers have been suggested and trialed using more explicit teaching of phonemic awareness and phonic decoding and in small groups of about three children instead of one-to-one instruction.

The MUSEC Verdict:
Probably only mildly effective

Key references may be found at:
www.aces.mq.edu.au/musec_co_brief.asp
LOOK-SAY-COVER-WRITE-SAY-CHECK AND OLD WAY/NEW WAY – MEDIATIONAL LEARNING: A COMPARISON OF THE EFFECTIVENESS OF TWO TUTORING PROGRAMS FOR CHILDREN WITH PERSISTENT SPELLING DIFFICULTIES

Barbara Fisher, Merle Bruce, and Cedric Greive
Avondale College

ABSTRACT
The goal of this research was to compare the effectiveness of the Look-Say-Cover-Write-Say-Check and Old Way/New Way – Mediational Learning approaches to spelling remediation. Prior to commencing the research program, selected third and fourth year Bachelor of Education (Primary) pre-service teachers were trained by the first author in tutoring methods in both spelling remediation approaches. Participants consisted of 25 students, ages 7–12, from local community schools, who were randomly allocated to one of the two treatment conditions. The program involved one-on-one tutoring by the trained pre-service teachers, under the mentorship of the first author. Statistical analysis of the pre- and post-test results indicated significant improvement for both groups, but one method did not emerge as superior to the other.

Current research supports the commonly held belief that progress in school may be affected by poorly developed spelling skills (e.g., Graham, Harris, & Fink-Chorzempa, 2003; Sipe, Walsh, Reed-Nordwall, Putnam, & Rosewarne, 2002). Not only does poor spelling impede academic progress by impacting on the ability to transmit meaning in written form (Graham et al., 2003), but it is also linked with problems with reading at the word level (Ehri, 2000; Graham et al., 2003). In turn, poor decoding skills
frequently place comprehension processes at risk (Stanovich, 1992). Furthermore, the shame and embarrassment encountered by students who struggle with spelling and decoding often leads them to resist or avoid situations that involve reading and writing, thus further compromising academic progress (Sipe et al., 2002). However, a positive research finding is that instruction in the underlying structure of the alphabetic system for students who are struggling with spelling leads to significant gains not only in spelling ability, but also in word-level reading ability, even when no direct instruction in reading is provided (e.g., Bhattacharya & Ehri, 2004; Graham et al., 2003).

Implications for learning to spell
Given the critical role of spelling in the overall development of literacy, it is important to determine the most effective instructional methods for children who are challenged spellers. A growing body of research has highlighted a number of important principles underlying best practices in spelling instruction and remediation, including the following: (i) using a combination of traditional and language-based approaches (Bear & Templeton, 1998; Hammond, 2004; Schlagal, 2002; Westwood, 1994); (ii) student self-correction of errors (Baxter, 2000; Goddard, & Heron, 1998; Wirtz, Gardner, Weber, & Bullara, 1996); (iii) targeting the instructional level of the child (Morris, Blanton, Blanton, Nowacek, & Perney, 1995; Schlagal, 2002), and (iv) strategy training (Bruce & Chan, 1989; Westwood, 1999). Each of these principles will be discussed below.

A combined approach. The combined approach to spelling instruction seeks to incorporate the best out of both the “instruction-centred” traditional and the “child-centred” whole language approaches (Hammond, 2004). For example, while the combined approach uses formal weekly spelling lists, as in the traditional approach, it has reconceptualised spelling as “more than simply learning the correct sequence of letters in a word” (Bear & Templeton, 1998, p. 239). Rather, spelling lists organised to highlight some linguistic feature of English spelling become the basis for explicit, intense and systematic word study of common spelling patterns, rules and generalisations, through activities such as word analysis, word sorts, and syllabification of words (Bear & Templeton, 1998; Hammond, 2004; Knight & Smith, 2000; Westwood, 1999). The combined approach also includes incidental and opportunistic spelling instruction, as in the whole language approach, as children are encouraged to apply and practise the principles learned in formal spelling lessons, by engagement in meaningful reading and writing activities (Hammond, 2004; Knight & Smith, 2000). Such a balance in instruction enables children who are poor
spellers to make the link more easily between the underlying language base of the English spelling system, and the development of clear visual mental representations of the spellings of words (Treiman & Bourassa, 2000). In this context, the traditional Look-Cover-Write-Check method of learning spelling has been reconceptualised as Look-Say-Cover-Write-Check (Hammond, 2004; Westwood, 1994), or variations thereof (Keller, 2002; Knight & Smith, 2000), thus supporting in visual memory the link between the phonological and orthographic aspects of the word.

Interestingly, Hammond (2004) describes a school in Western Australia where all the teachers are committed to just such combined methods of spelling instruction, and where young graduate teachers are inducted by the older, more experienced teachers into the school’s philosophy of teaching spelling. This school draws its students from a variety of low to medium socio-economic backgrounds, and yet consistently, in the annual government standardised literacy assessment for Years 3, 5 and 7, upwards of 87 per cent of students exceed the state benchmark for spelling. These results would seem to speak for themselves.

Self-correction of errors. A number of research studies have highlighted the powerful effects of immediate self-correction of errors in improving the spelling performance of students with learning disabilities (e.g., Baxter, 2000; Goddard & Heron, 1998; Sipe et al., 2002; Wirtz et al., 1996). Wirtz et al., for example, found a self-correction method to be superior to traditional spelling instruction for a group of third grade students with learning disabilities, not only in learning new words, but also in maintaining their ability to spell previously learned words. Goddard and Herron (1998) have summarised a number of benefits for self-correction strategies, including (i) empirical validation and replication; (ii) active involvement of students in their own learning through a problem-solving approach; (iii) individualisation of instruction; (iv) immediate feedback of correct spellings so that students are less likely to practise the wrong spelling, as so often happens with other methods of correction; (v) the focus on checking correct sequences of letters in words which supports the development of visual memory of orthographic patterns; and (vi) students liking the process and feeling that it helps them to learn better.

Targeting the instructional level of the child. One valuable insight arising from the whole language approach is the recognition of the fact that in any one grade children at a number of developmental levels may be represented, necessitating close monitoring of each child’s level of proficiency and his or her immediate need for instruction (Westwood, 1994). Accordingly, the value of individualising spelling instruction based on analysis and close monitoring
of the individual’s current knowledge, skills and use of strategies, rather than the lock-step method of teaching all children from the same grade-level materials, has received considerable attention in recent literature (Bear & Templeton, 1998; Morris et al., 1995; Schlagal, 2002; Westwood, 1999). Morris and his colleagues stress that students should be instructed at their “instructional level”, rather than at their “frustration level”. They define the frustration level as being a score of 40 per cent or below on a grade-level spelling test. Their research demonstrated that children taught at their instructional level in below grade-level texts significantly outperformed a comparison group who were taught in grade-level materials at their frustration level. Furthermore, they scored no worse than their normally achieving peers in the grade-level post-test which contained words in which the intervention group had not been instructed. Morris et al. hypothesised that when students were taught at their instructional level, they were better able to consolidate their knowledge of the spelling system at a lower level of complexity, which, in turn, allowed them to learn something about grade-level words though incidental reading and writing.

However, to individualise instruction so as to ensure that every member of the class makes optimum progress can be a difficult and time consuming task, which may become overwhelming for many teachers (Schlagal, 2002; Westwood, 1994). A number of strategies can be used to minimise the burden of individualised instruction, including peer tutoring (e.g., Burks, 2004; Keller, 2002), and grouping children who are currently on the same instructional level (Schlagal, 2002).

**Strategy training.** Insights from cognitive and metacognitive research have highlighted the value of strategy training in helping students gain conscious control over their own learning (Bruce & Chan, 1989; Westwood, 1999). This may be particularly important for poor spellers, who, in comparison to skilled spellers, have been found to be less efficient in their use of strategies and commonly attribute their successes and failures to factors beyond their control (Ralston & Robinson, 1997). Strategy training packages make use of self-instructions in the form of questions, statements, or mnemonics to guide the student through the task. Training follows a process of modelling and verbalisation of instructions by the teacher, guided practice and feedback as the teacher and student perform the task together, and independent practice as the student internalises the procedures (Bruce & Chan, 1989). Strategy instruction specific to spelling provides students with a plan of action whereby they can take their knowledge about words (phonological, orthographic, and morphological) and apply it to the task of learning a new word, or checking the spelling of a word (Sipe et al., 2002; Westwood, 1999).
The research program
The research described in this paper involved the comparison of the effectiveness of two strategy training programs, both of which contain elements of the instructional principles described above; namely, attention to a combination of visual and language-based strategies, self-correction of errors, and individualised instruction targeted at the spelling age of the child and carried out in a one-on-one tutoring situation. The two training approaches compared in this research were Look-Say-Cover-Write-Say-Check and Old Way/New Way – Mediational Learning.

Look-Say-Cover-Write-Say-Check. The Look-Say-Cover-Write-Say-Check study method is a variation of the popular Look-Say-Cover-Write-Check method, which, along with other variations, has been widely promoted in the literature as being an effective means of helping students learn new words (Keller, 2002; Knight & Smith, 2000; Schlagal, 2002; Westwood, 1994). It is widely used in Australian schools (Knight & Smith, 2000; Hammond, 2004), being recommended by several state Departments of Education (e.g., Board of Studies NSW, n.d.). The Look-Say-Cover-Write-Say-Check study method used in this study involved the student (i) looking carefully at the structure of the word and noting salient orthographic, morphological, or structural features; (ii) saying the word aloud so as to focus on spelling-sound correspondences within the word. If necessary the pronunciation of the word may be exaggerated so as to highlight the correct spelling for the “schwa” sound, e.g., “chock-O-late”, or “sep-AR-ate”; (iii) covering the word while endeavouring to retain within memory the relationship between the spelling and the sound of the word; (iv) writing the word from memory; (v) saying aloud what has been written so as to check the match between spelling and sound; and (vi) uncovering the original spelling of the word and visually checking to see that his or her spelling attempt is correct. If the word is spelt incorrectly the process is repeated.

Old Way/New Way – Mediational Learning. Old Way/New Way – Mediational Learning, is promoted as a very effective way of correcting persistent spelling errors (Baxter, 2000). The procedure, developed by Lyndon (1989), has been designed to overcome what has been termed “proactive inhibition”, or the interference effect that previous learning has on the ability to acquire new learning, or to “unlearn” an incorrect response (Baxter, 2000). The program uses the child’s errors as a starting point for instruction in the following procedure: (i) the student writes the word in the incorrect form; (ii) the teacher and student agree to call this the old way; (iii) the teacher demonstrates the correct spelling for the word and calls this the new way; (iv) the teacher explains the differences between the old way and the new way, e.g., “ar” not
“er”; (v) the student writes the word again in the old way, underneath the first old way; (vi) the student writes the word again in the new way, underneath the first new way and explains the differences; (vii) the student repeats the last two steps five times; (viii) the student writes six short sentences using the newly learnt way of spelling the word (Baxter, 2000). Baxter claims that if the procedure is followed correctly, the student will, in future, spell the word the correct way 80 per cent of the time. There is a great deal of anecdotal evidence testifying to the effectiveness of the Old Way/New Way – Mediational Learning program (Personal Best Academy, 2005), but no research was discovered which compared its effectiveness with other spelling remediation programs. However, studies of similar programs involving error imitation and error analysis followed by modelling and practise of the correct spelling are described in the literature (e.g., Goddard & Heron, 1998; Sipe et al., 2002; Wirtz et al., 1996).

The broad aim of the research project reported in this paper was to compare the effectiveness of Look-Say-Cover-Write-Say-Check with the effectiveness of Old Way/New Way – Mediational Learning for improving the spelling performance of children in the middle to upper primary grades who are poor spellers. A secondary aim was to explore student attitudes to the effectiveness of the program.

The research was undertaken as a small-scale pilot study whereby volunteer primary-aged students from the local community were tutored by volunteer BEd Primary teacher education students from the local tertiary institution. The tutoring was done under controlled conditions with the first author acting as mentor for the tutors.

**METHOD**

**Participants**

The participants were 25 students from Years 3 to 6, ranging in ages from 7 to 12 years, who were experiencing difficulty with spelling. For the purposes of this study, spelling difficulty was defined as having a discrepancy of twelve months or more between chronological age and spelling age. Parents and caregivers of the students responded to a brochure left at each of the local primary schools offering free after-school-hours spelling tuition at the tertiary institution as part of a research project into effective spelling programs. The responsibility of parents/caregivers was to transport their children to and from the venue at the designated times for the program. The schools from which the participants were drawn were located in areas of mixed middle and low socio-economic status in a semi-urban district of NSW, Australia.

Thirty-four students actually took part in the intervention program. However, seven had to be withdrawn from the statistical analysis when results of the pre-test revealed that they were not actually remedial students, another withdrew part way through the
program and so did not complete the post-test, and another (one of the youngest children in the group) was withdrawn from the analysis because his extremely low scores on both the pre-test and the post-test indicated that he required far more intensive remediation than was available in this research project. This left a total of 25 students who were poor spellers and who had valid data available for statistical analysis.

As far as possible, the 34 students who took part in the program were randomly allocated to one of two groups: Condition One in which students were trained in the Look-Say-Cover-Write-Say-Check procedures, and Condition Two which involved Old Way/New Way – Mediation Learning. However, constraints of when parents were available to transport their children to the institution and of when pre-service teachers were available for tutoring, meant that the two groups were uneven in number right from the start. Originally there were 13 participants in Condition One and 19 participants in Condition Two. After data for some of the participants were withdrawn from the analysis for reasons described above, there were 10 participants in Condition One and 15 participants in Condition Two. Characteristics of participants in each of the conditions as they were finally organised are presented in Table 1.

Tutors
The 13 tutors were volunteer pre-service BEd Primary education students in the third or fourth year of their course. All were currently undertaking, or had already undertaken, a class in Curriculum Studies.

Table 1
Descriptive Statistics for Participants in Condition One and Condition Two

<table>
<thead>
<tr>
<th>Condition One</th>
<th>Age in Years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 8 9 10 11 12</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>0 0 0 3 2 0</td>
<td>5</td>
</tr>
<tr>
<td>Males</td>
<td>0 0 1 1 1 2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>0 0 1 4 3 2</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition Two</th>
<th>Age in Years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 8 9 10 11 12</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>0 1 1 1 1 3</td>
<td>7</td>
</tr>
<tr>
<td>Males</td>
<td>1 1 3 2 0 1</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>1 2 4 3 1 4</td>
<td>15</td>
</tr>
</tbody>
</table>

Grand Total 25
English, taught by the first author, in which they studied effective methods for teaching literacy skills to students in the middle to upper years of primary school. Prior to the commencement of the intervention program, tutors were trained by the first author in tutoring methods for both of the spelling remediation programs, and were closely supervised by her during the program. All tutors were given the choice of either being paid to carry out their responsibilities, or of receiving academic credit for their services, in which case they were not paid. Depending on circumstances and availability at the specified tutoring times, tutors tutored between one and four children, with most tutoring only one. In five cases, tutors were involved in teaching children in both Condition One and Condition Two.

**Experimental design**

An Instructional (2) x Testing Occasion (2) repeated measures design was employed, with testing occasions (pre-test and post-test) being the within-subject factor. Instruction took place after-school-hours in four 20-minute time-slots, with a 5-minute break in between each time-slot. The first 20-minute time-slot commenced at 3.45 p.m. and the last one finished at 5.20 p.m. The first and third of these time slots was devoted to *Look-Say-Cover-Write-Say-Check*, and the second and fourth to *Old Way/New Way – Mediation Learning*. Each subject was involved in one 20-minute session per day, for four days per week, for four weeks (16 sessions in total). The pre-test occurred on the first day of the intervention, and the post-test on the last day, leaving a total of 14 days for instruction.

**Measures**

As a measure of improvement in spelling achievement, participants were pre- and post-tested with the South Australian Spelling Test (SAST) (Westwood, 1999). The SAST is an orally administered, standardised test of spelling achievement designed for students in the age range from 6 years to 15 years. It consists of 70 words, graded in difficulty, each with an accompanying sentence to put the word in context. The text may be administered individually or to a class group. The test was normed on large representative samples of children in South Australia in 1978 and again in 1993. Test-retest reliability for students in the Year 3 to Year 7 age range was calculated at .96 (Westwood, 1999).

As a measure of attitude to the effectiveness of the intervention program, students were post-tested with a short questionnaire developed by the first author. Each of the items on the questionnaire was set against a four-point Likert scale using faces ranging from “smiley” to “frowny” (see Figure 1 for typical questions in the Student Attitude Questionnaire).
The training program

Training of the tutors. Prior to commencement of the intervention the volunteer pre-service teacher education students were trained in both methods of remediation by the first author. They were also supplied with enough worksheets applicable to the intervention program they would be teaching (Look-Say-Cover-Write-Say-Check or Old Way/New Way – Mediational Learning) for each child they would be tutoring, and with a list of instructions outlining the procedures to be carried out for each of the 16 sessions of the intervention (see Figure 2 for an example of a worksheet proforma). Because the procedure for Old Way/New Way – Mediational Learning required more writing than did the procedure for Look-Say-Cover-Write-Say-Check, the worksheet for the latter included other activities such as sentence writing and alphabetising the spelling words. The tutors were also familiarised with the spelling section of the book What, When, How to Teach English K–6 (Webb, 1998), which is a teacher resource book developed specifically to support the teaching of English curriculum in NSW primary schools.

Training of the participants. The intervention took place in a large classroom in the tertiary institution for four 20-minute sessions per day with a 5-minute break in between. Participants in the first and third sessions for the day were those who had been allocated to Condition One (Look-Say-Cover-Write-Say-Check), while participants in the second and fourth sessions for the day had been allocated to Condition Two (Old Way/New Way - Mediational Learning). In each session there were several tutor/tutee pairs working in various corners of the room at the same time. If parents/caregivers wished,

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Figure 1. Typical items in the Students’ Attitude Questionnaire.
they could sit in the back of the room and watch the proceedings, and many chose to do so. The first author was present at all times to provide support, guidance and modelling for the tutors as necessary, and also to answer any questions that parents might have.

Using the training methods as outlined above for the respective conditions they were in (Look-Say-Cover-Write-Say-Check or Old Way/New Way – Mediational Learning), tutors in each condition followed the same weekly routine.

**Week one:** On day one of the first week, tutees were pre-tested with the South Australian Spelling Test (Westwood, 1999), and that night the tests were marked by the tutors. The approximate spelling ages were determined from the standardised tables accompanying the test. Based on
their approximate spelling ages, tutors also worked out the grade level that their tutees were working at. On days two and three the tutor selected three words per day which had been wrongly spelt on the pre-test, making a total of six words for the week which were learnt according to the respective training methods. On the fourth day tutees were tested on all six words. They were also tested on a proofreading test developed by each tutor, based on the six words for the week.

**Weeks two and three:** For the first three days the tutor selected three words per day from the appropriate core list in the teacher’s resource book *What, When, How to Teach English K-6* (Webb, 1998), being careful to select words at the grade level corresponding to the tutee’s spelling age. On the fourth day, tutees were tested on the spelling of all nine words and tested on a proofreading test developed by each tutor, based on the nine words for the week.

**Week four:** For days one and two the tutor again selected three new words per day, and on day three the tutees were tested on all the new words from weeks 1 to 4. Day four was allocated to the administration of the South Australian Spelling Test.

An important feature of the intervention was that as new words were being learned according to the respective procedures, the tutors actively prompted the tutees in applicable spelling strategies and spelling rules, e.g., “Exaggerate the sound in the tricky part of the word”, or “What letters usually make the *or* sound?” If the tutors could not think of an appropriate strategy or prompt, the first author was immediately available to prompt and mentor them.

**RESULTS**

Results of the pre- and post-tests of spelling ability were analysed using a Condition (2) x Testing Occasion (2) repeated measures design, while elements of the questionnaire were presented using box plots.

At the conclusion of the program, the participating students were again tested for spelling (Spelling Post-Test). The results for the spelling pre-test and the spelling post-test for both the control and the experimental groups are found in Table 2. Despite the small size of each group, the effect sizes (Cohen’s, 1988, coefficient d) for Condition One and Condition Two were found to be 1.1 and 0.8 respectively.

It can be seen, based on raw scores from the SAST, that in general, students subjected to Condition One scored more highly in both the spelling pre-test and the spelling post-test than did their counterparts who were subjected to Condition Two.

Table 3 indicates that while the difference in pre-test means was significant at the 0.05 level, $F(1,24) = 6.9$, $p < .05$, the
corresponding difference in post-test means was not significant. Further, for students in each of Condition One and Condition Two, the mean of post-test scores was significantly higher than the mean of pre-test scores (see Table 4).

In addition, the students were asked to complete a short questionnaire related to their experiences in the program. Each of the items in the questionnaire was set against a four-point Likert scale using faces ranging from “smiley” to “frowny” (see Figure 1 for typical questions found in the Student Attitude Questionnaire).

Four items questioned participating students about their feelings for the spelling remediation program (4, 7, 8 and 16). These were averaged to provide a single attitudinal score. Item 11 questioned students about the way they felt about spelling at school. These

Table 2
Means and Standard Deviations for the Pre- and Post-Tests for Condition One and Condition Two

<table>
<thead>
<tr>
<th></th>
<th>Condition One</th>
<th></th>
<th>Condition Two</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>M</td>
<td>SD</td>
<td>Number</td>
</tr>
<tr>
<td>Spelling Pre-test</td>
<td>10</td>
<td>33.90</td>
<td>4.53</td>
<td>15</td>
</tr>
<tr>
<td>Spelling Post-test</td>
<td>10</td>
<td>40.40</td>
<td>7.17</td>
<td>15</td>
</tr>
</tbody>
</table>

[Note: Condition One = Look-Say-Cover-Write-Say-Check. Condition Two = Old Way/New Way – Meditational Learning]

Table 3
Significance of Mean Differences for Spelling Pre-Test and Post-Test by Condition Membership

<table>
<thead>
<tr>
<th>Spelling Pre-test by Condition Membership</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Squares</th>
<th>F ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>243.2</td>
<td>1</td>
<td>243.2</td>
<td>6.90</td>
<td>0.015</td>
</tr>
<tr>
<td>Within Groups</td>
<td>810.6</td>
<td>23</td>
<td>35.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1053.8</td>
<td>24</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spelling Post-test by Condition Membership</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Squares</th>
<th>F ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>266.7</td>
<td>1</td>
<td>266.7</td>
<td>4.0</td>
<td>0.058</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1535.3</td>
<td>23</td>
<td>66.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1802.0</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
minor attitudinal scores are represented by box plots in Figure 3. At face value, the results indicate that students indicated feeling happier about the special spelling program than they did about learning to spell at school (median of “feel about learning to spell at school” is 2.0 and median of “feelings about special spelling program” is 3.25).

Figure 4 shows a plot of the results for the spelling pre-test and spelling post-test for both the Condition One students and the Condition Two students. It must be remembered that the intervention treatment was different in each group. The Condition One procedure involved *Look-Say-Cover-Write-Say-Check*. In contrast, the Condition Two procedure involved *Old Way/New Way – Mediational Learning*. Figure 4 shows that the post-test results for both Condition One and Condition Two are greater than the corresponding pre-test results. Table 5 indicates that there were significant main effects for spelling (pre-test and post-test) $F(1,23) = 84, p < .01$, and for condition (Condition One and Condition Two) $F(1,23) = 5.4, p < .05$. This is consistent with the information in Tables 3 and 4 that provided information about the specific significance of these differences. The importance of this information lies in the fact that there was a significant improvement in spelling scores.
for students under both conditions. However, the lack of significant interaction between the pre-test and post-test results against group membership indicates that neither intervention treatment appeared to be more effective or less effective than the other.

In order to confirm this contention, the following index was calculated for each student.

\[ \text{Index} = \frac{\text{spelling post-test} - \text{spelling pre-test}}{\text{spelling pre-test}} \]

Table 6 shows the mean values in measures of this index against the students within the two conditions. An analysis of variance indicates that the minor difference in mean results for the measures of this index for the two conditions was not significant. Further, the effect size \((d = 0.35)\) indicates that

\[ \text{Figure 4. Mean raw scores of the experimental conditions for the South Australian Spelling Test across testing occasions.} \]
the probability of predicting the condition membership for a particular participant from his or her index score would be virtually equivalent to tossing a coin. This suggests that, while both interventions clearly influenced student learning, neither one was more or less effective than the other.

**DISCUSSION**

Research has indicated a number of principles which underlie best practice in spelling intervention for children who are poor spellers. As indicated in the introduction, these principles include (a) a combination of traditional and language-based practices, (b) the use of error-detection and self-correction procedures, (c) the individualisation of instruction at the instructional level of the child, and (d) the use of a strategy training package to help the child take control of his or her own learning. The present study, which was based on these principles, provides evidence for the value of an intervention based on current theory and research in spelling development. In a relatively short time (sixteen 20-minute sessions spread over a period of four weeks) participants in both Condition One (Look-Say-Cover-Write-Say-Check) and Condition Two (Old

**Table 5**

*Results for Analysis of Variance for Condition One and Condition Two Across Testing Occasions*

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tests Within-Participants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spelling Pre-Test Post-Test (Main Effects)</td>
<td>483.9</td>
<td>1</td>
<td>483.9</td>
<td>84.6</td>
<td>0.00</td>
</tr>
<tr>
<td>Interaction Spelling Tests * Condition Membership</td>
<td>0.3</td>
<td>1</td>
<td>0.3</td>
<td>0.04</td>
<td>0.85</td>
</tr>
<tr>
<td>Error</td>
<td>172.5</td>
<td>23</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tests Between Participants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>55135.0</td>
<td>1</td>
<td>55130.0</td>
<td>698.9</td>
<td>0.00</td>
</tr>
<tr>
<td>Condition Membership (Main Effects)</td>
<td>509.6</td>
<td>1</td>
<td>509.6</td>
<td>5.4</td>
<td>0.02</td>
</tr>
<tr>
<td>Error</td>
<td>2173.5</td>
<td>23</td>
<td>94.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 6**

*Significance of Mean Differences for Measures of Index by Condition Membership*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Sum Squares</th>
<th>Deg. of Freedom</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition One</td>
<td>10</td>
<td>0.188</td>
<td>0.085</td>
<td>0.013</td>
<td>1</td>
<td>0.013</td>
<td>0.75</td>
<td>0.40</td>
</tr>
<tr>
<td>Condition Two</td>
<td>15</td>
<td>0.233</td>
<td>0.152</td>
<td>0.387</td>
<td>23</td>
<td>0.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>0.215</td>
<td>0.129</td>
<td>0.400</td>
<td>24</td>
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</table>
Way/New Way – Mediational Learning) made significant mean improvement in their spelling scores from pre- to post-test.

When the mean raw scores were converted to spelling ages it was revealed that students in Condition One had improved their mean spelling ages by a total of 17 months, from a mean of 9 years 2 months at the pre-test to a mean of 10 years 7 months at the post-test. Students in Condition Two improved their mean spelling ages by a total of 13 months, from a mean of 7 years 10 months at the pre-test to a mean of 9 years and 1 month at the post-test. As discussed earlier, both groups showed significant improvement with effect sizes of 1.1 for Condition One and 0.8 for Condition Two.

One factor which most likely contributed to this significant improvement was the one-on-one tutoring by the pre-service teacher education students, in a situation in which they were applying knowledge of word-structure instruction gained from one of their teacher education subjects. Moreover, as indicated earlier, the first author, who was also the lecturer for that subject, was constantly available to provide support, guidance, and modelling for the tutors, as necessary. According to Spear-Swerling and Brucker (2004), initial training in the teaching of word-level skills, along with ongoing guidance are central to effective tutoring by novice teachers.

The findings, however, must be interpreted in the context of a number of limitations and considerations which would need to be addressed in any further large-scale studies designed to build on this one. First, the volunteer nature of selecting the participants caused some problems, as this made it impossible to form two instructional groups of approximately even numbers and approximately the same mean for spelling ages. As the program relied on parents to transport their children to and from the venue, the researchers had to accept that, because of home or work circumstances, some parents could only come at certain times. This meant that there were more participants in Condition Two than in Condition One. It also meant that participants in Condition Two (Old Way/New Way – Mediational Learning) were on average younger, and had lower pre-test scores, than did participants in Condition One. This may have had some effect on the outcome, as Old Way/New Way – Mediational Learning was the more intensive of the two interventions, requiring a lot more writing than did the other intervention. It was observed that some of the younger boys, in particular, found this to be rather onerous. It may be that the nature of Old Way/New Way – Mediational Learning is more effective for older students, and certainly anecdotal evidence from the first author would support this, as she has found Old Way/New Way – Mediational Learning to be very effective with individual pre-service education students who were having difficulty with spelling.
The volunteer nature of the program also meant that, to keep faith with the parents, all students who were brought along had to be accepted into the program, even though some proved not to be in need of remediation. This reduced the number of participants in each condition who could be included in the statistical analysis, hence the small number of participants must be considered when interpreting the results.

As alluded to above, in learning to spell, the actual process of handwriting itself may be another factor for future research. It was observed that virtually all of the children in the intervention program had problems with handwriting due to poor pencil grip. In fact, some of the instructional time was taken up with the tutors training the children how to hold their pencils correctly and how to form the letters neatly and accurately. Westwood (1999) suggests that kinaesthetic memory may be involved in the storage and retrieval of spelling patterns, and that spelling development may be inhibited by laboured handwriting and uncertain letter formation.

One factor to be considered in future studies is the process of selecting words to be learnt in the respective interventions. According to Baxter (2000), Look-Say-Cover-Write-Say-Check is an excellent way to learn new words, but Old Way/New Way – Mediational Learning is more suited for correcting persistent errors. Perhaps future research could look at selecting words which students persistently spell wrong in their written work as the basis for comparing the effectiveness of the two interventions.

Another limitation was that in this pilot study no attempt was made to liaise with the schools, either to discover what form of spelling instruction was being used in the respective classrooms, or to work with the teachers on transferring the skills learned in the intervention program into their written work at school. Anecdotally it was learned that at least one teacher had started using Old Way/New Way – Mediational Learning in her classroom, as a result of hearing about it from the parents of one of her students who was involved in the program. Future research could be aimed at collaborating with teachers in implementation of the respective programs in their own classrooms.

A further limitation was the actual timing of the intervention in after-school-hours. Anecdotal evidence suggested that a number of the boys, especially, would rather have been playing sport than learning spelling. Once again, a school-based intervention would help to alleviate this problem.

Finally, as alluded to earlier, there was no follow-up testing built into the design of this small-scale study, so there is no way of determining whether students maintained their new-found skills over time. It would be possible to build into a large-scale study opportunity for follow-up testing, maintenance, and generalisation of skills learned.
In conclusion, despite these limitations, this research has shown that an individual tutoring program involving either Look-Say-Cover-Write-Say-Check or Old Way/New Way – Mediational Learning may have significant and powerful effects, at least in the short-term, for improving the spelling ability of children in the middle to upper grades of primary school. Further research is recommended to determine the effects in the long term. Future research could also explore some of the other issues raised, such as the relationship between handwriting and spelling, the effect of different methods of selecting the words to be learned, and strategies for incorporating the tutoring programs into a classroom setting.

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Note: Examples of the teaching and testing materials used in the training sessions are available on request from Barbara Fisher, Faculty of Education, Avondale College, PO Box 19, Cooranbong, NSW, 2265.
DEVELOPING A RAMP TO READING FOR AT-RISK YEAR ONE STUDENTS: A PRELIMINARY PILOT STUDY

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Macquarie University Special Education Centre

ABSTRACT
As students who have difficulty in acquiring the basic processes in reading are significantly disadvantaged in later schooling, there is a need for effective interventions for young at-risk students. A field trial of MINILIT, a reading intervention for at-risk Year One students, was carried out with five Year One students to investigate the efficacy of the intervention. The students were identified by teachers in a Sydney primary school and attended tutoring sessions for 1 hour a day, four days a week, for 15 weeks. Pretesting of individual students was carried out prior to the intervention and testing was repeated after 15 weeks. Students who completed the intervention made significant and substantial gains in both reading and spelling. Results suggest that MINILIT may be a viable intervention that may achieve similar results to existing programs with greater cost-effectiveness.

INTRODUCTION
One of the prevailing failures of education is that a significant number of students fail to learn to read at an acceptable level. A literacy survey conducted in Australia in 1996 found that approximately 20 per cent of the population aged between 17 and 74 “could be expected to experience considerable difficulties in using many of the printed materials that can be encountered in daily life” (Australian Bureau of Statistics, 1997, How Good are Australians’ Literacy Skills?), while another 28 per cent of this population “could be expected to experience some difficulties” with literacy tasks (Australian Bureau of Statistics, 1997, How Good are Australians’ Literacy Skills?). Failure in reading has negative effects on success in later school learning (Daneman, 1991; Stanovich, 2000), on psychosocial wellbeing and health, and may limit life opportunities (National Inquiry into the Teaching of Literacy, 2005).
Despite general acceptance that it is critically important for students to get off to a good start in reading (Clay, 1991; Kameenui, 1993; Stanovich, 2000), a significant proportion of students have difficulty in acquiring literacy skills in the early years of schooling. An Australian survey found that 27 per cent of Year Three students and 29 per cent of Year 5 students were having difficulties with reading and writing and did not meet basic literacy standards (Department of Education, Science and Training, 1997). In the United States, a national assessment of reading achievement in 2000 found that an even larger proportion (37%) of Year 4 students had significant reading problems (National Institute for Literacy, 2001).

Research shows that students who fail to acquire reading skills in the early grades suffer drastic effects from the outset that are very difficult to overcome or rectify (Juel, 1988; Stanovich, 2000). While children who get underway in reading get “richer” in benefits, those who do not make early progress suffer from a cycle of negative effects in which they become “poorer” (Stanovich, 2000, p. 184). They read fewer words than students who are better readers, their vocabulary growth is limited, with collateral effects on their subsequent cognitive development. These are likely to result in the student avoiding reading and in lowered self-esteem (Stanovich, 2000). Juel’s (1988) longitudinal research indicated that those students who were poor readers in Year One were very likely still to be poor readers in Year Four. As these effects are so drastic, it is important to intervene as early as possible to prevent, or short-circuit, the onset of the cycle of failure by providing a “ramp” to reading. An intensive intervention for students struggling in the early stages of learning to read could increase the trajectory of literacy learning, so that they are more likely to catch up with their peers.

Recent reviews of research in the area of reading acquisition have established that there is a set of key components of early reading programs that, if present, will assist all students, including those at risk of failing, to get off to a good start in reading (Adams, 1990; National Inquiry into the Teaching of Literacy, 2005; National Institute of Child Health & Human Development, 2000; Snow, Burns, & Griffin, 1998). These have been described in various ways, but generally include a focus on word recognition with attention being paid to phonological awareness, letter-sound correspondences, the alphabetic principle, sight words, fluency and comprehension (Snow et al., 1998), combined with reading of text and writing (Adams, 1990). The report from the National Inquiry into the Teaching of Literacy (2005) indicates that the “basic building blocks of reading” include “letter-symbol recognition, letter-sound rules (phonemic awareness and phonological knowledge), whole-word recognition, and the ability to derive meaning from a written text” (p. 31).
Research indicates that students who are at-risk of developing reading difficulties typically have deficits in phonemic awareness and associated knowledge of letter-sound relationships and the alphabetic principle (Snow et al., 1998). This suggests that early intervention programs to overcome reading difficulties should ensure that these components are effectively taught.

Reading Recovery is, by far, the best known and most widely used early intervention program for students with reading difficulties. It has been extensively used for over two decades in schools in New Zealand, the United States, England, Canada, and Australia. Developed by Dame Marie Clay in the late 1970s, it is based on a holistic view of reading acquisition (Clay, 1991) and the program components and teaching methods reflect this. The program provides intensive, one-to-one, daily tutoring for young children who are identified as being at-risk of having literacy difficulties after having received a full year of schooling. In each 30-minute daily session, a trained Reading Recovery teacher carries out a number of set activities that are related to texts selected for the student’s reading level. These activities are re-reading one or more previously introduced texts, identifying letters and words, writing a story, hearing and writing sounds in words, cutting the story up and then reassembling and reading it, introducing a new book, and reading the new text (Clay, 1993b).

Although Reading Recovery has established a reputation as being a remarkably successful intervention (Askew & Frasier, 1997; Johnston & Allington, 1991; Lyons, 1997; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994; Reutzel, 1999), research indicates that it has not delivered all that it claims to deliver: long-term change for students and a reduction in demand for special education services in later years (Hiebert, 1994; Reynolds & Wheldall, 2007; Shanahan & Barr, 1995). An evaluation of Reading Recovery in NSW demonstrated that the program is probably effective for only one in three students (Center, Wheldall, Freeman, Outhred, & McNaught, 1995). Specifically, it does not appear to be as successful for students who enter with very poor skills (Haenn, 2000), and especially for those with poor phonemic awareness (Center et al., 1995; Chapman, Tunmer, & Prochow, 2001). This is not really surprising, given that the program does not teach phonemic awareness or decoding skills explicitly and, therefore, does not include all of the key elements of early reading that have been established by research.

Some authors suggest that Reading Recovery can be improved through changes to the existing program (Shanahan & Barr, 1995). A number of researchers consider that Reading Recovery would be more effective if it included explicit and systematic teaching in aspects of phonological processing (Chapman et al.,
Others suggest more drastic action. For example, Tunmer and Chapman (2003) recommend that Reading Recovery needs to make changes in 4 areas: “the theoretical underpinnings of the program, the assessment battery used in the program, the specific procedures and the instructional strategies emphasized in the program and the manner of program delivery (one-to-one instruction versus instruction in pairs)” (p. 355). However, the notion of altering Reading Recovery to include additional components or to vary the delivery model is not an option as its developer, Marie Clay, has been very firm in insisting that Reading Recovery cannot be tampered with and has trademarked the name (Reading Recovery Council of North America, 2004). It is, therefore, unlikely that a variation of Reading Recovery can be (legally) implemented.

Interventions such as Reading Recovery that require one-to-one tutoring by specially trained teachers are relatively expensive interventions (Hiebert, 1994; Shanahan & Barr, 1995). Iverson, Tunmer, and Chapman (2005) suggest that the cost of such interventions may be reduced if they are delivered to pairs of students. Elbaum, Vaughn, Hughes, and Moody (2000) found that, when they compared Reading Recovery with small-group interventions (one based on Reading Recovery), the latter produced similar outcomes to Reading Recovery. Similarly, Fawcett, Nicolson, Moss, Nicolson, and Reason (2001), who implemented an intervention for students in their third year at school, found that students achieved comparable results to students who were in the Reading Recovery program at about 20 per cent of the cost. The intervention, which included word building and phonics, was provided to two students at a time and they were given half-hour sessions twice weekly for 10 weeks.

Alternative early intervention programs to Reading Recovery have been developed and implemented in recent years (Haenn, 2000). One of these is Early Steps, a first grade intervention program like Reading Recovery that incorporates direct and systematic instruction in phonemic and orthographic analysis (Morris, Tyner, & Perney, 2000; Santa & Hoien, 1999). It is based on a similar philosophy to Reading Recovery, and includes one-to-one tutoring in daily 30-minute sessions that feature reading and rereading of “real” texts, writing, and word study (Santa & Hoien, 1999). It was found to be highly effective, especially for those students who “were most at risk” (Morris et al., 2000, p. 687). In an evaluation of Early Steps, Santa and Hoien (1999) found that the intervention was more effective for high-risk students, but that there was little difference between low-risk students in the experimental group and control group students who had received small-group instruction featuring reading and rereading of texts.
It is possible that preventative programs that use some of the features of Reading Recovery might be more effective and less costly. Some of the teaching strategies within Reading Recovery, such as daily text reading, word building, and daily monitoring of student progress, are common to many other programs. There is no reason why these cannot be incorporated into an alternative tutoring program that also features additional key elements identified in recent research into reading acquisition; that is, explicit and systematic teaching of phonological processing skills. An alternative early intervention program that has these features can be delivered in small groups, thereby making it more cost effective.

MULTILIT (Making Up Lost Time in Literacy) is a relatively inexpensive intervention for struggling readers which, although developed for remedial readers, includes many of the components that research has shown to be crucial in early reading programs such as explicit instruction in word attack skills, the alphabetic principle, sight words, reading fluency (Snow et al., 1998), and reading of text (Adams, 1990). This intervention, initially implemented as a one-to-one tutoring program, has proven to be effective with older low-progress readers (Wheldall & Beaman, 2000). In recent years (2003–2005) the intervention has been developed and trialled as a tutoring program for small groups. Previous exploratory research by the MULTILIT team has investigated whether MULTILIT might also serve as the basis for a possible cost-effective alternative intervention for struggling readers in Year One. These studies provided formative information about the necessary revisions that would make the intervention more suitable for young students.

The purpose of this study is to trial MINILIT (Meeting Initial Needs In Literacy), a revised version of MULTILIT for struggling beginning readers. This is a preliminary pilot study and has limitations as it is conducted without a control group, it has a small sample size, and the subjects are not representative of the population. However, it will provide information to enable the intervention to be refined further prior to a planned fully randomised experimental study in the near future. Ideally this will enable the literacy achievement of students in the new MINILIT program to be compared with the literacy achievement of a control group of students who participate in Reading Recovery or a similar program.

**METHOD**

**Participants**
The participants were five Year One students (4 girls and 1 boy) who were identified by their teachers as having poor reading skills in comparison with their peers. The students who participated in the study were drawn from a group of 8 Year One students identified by their teachers.
as having difficulty in getting underway in reading but who had not been selected for the Reading Recovery Program because there were other students who scored lower on the Observation Survey (Clay, 1993a). Curriculum-based assessments were given by a special educator to validate that seven of the eight students had reading difficulties. The eighth student was absent when this was carried out but was included in the study on the basis of the teachers’ recommendations. Parental consent was sought for the selected students to participate in the study and was gained for six of the subjects. One of the original six participants who began the program left the program after 7 weeks when his family moved from the district.

The study was carried out in the second semester of the school year. The mean chronological age of the five students in the study at pretest at the beginning of the semester was 6 years 5 months. All students who were included in the study were at least 6 months behind their chronological age on the Burt Word Reading Test (Gilmore, Croft, & Reid, 1981). Because of their young age and the nature of standardised assessments, however, it is difficult to be precise in determining levels of achievement, and it was evident that there were large variations between reading skills of the group of students at pretest stage.

Setting
The students attended a middle-sized state school in the metropolitan area of Sydney. The school had a high proportion of students from Aboriginal and non-English speaking backgrounds and participated in the Reading Recovery Program. Students travelled by bus to the site of the intervention. The intervention was conducted at a tutorial centre located within a 15-minute bus trip from the students’ school.

Design
The study was a one-group pretest-posttest design. As this was a preliminary study a control group was not used. The independent variable was the implementation of the MINILIT tutoring program and the dependent variable was student achievement as measured on standardised reading tests. Students were tested on a battery of reading tests prior to the intervention and re-tested using the same battery of tests after the intervention.

Pretest and posttest assessment instruments
The students were pretested on a battery of standardised tests prior to entry to the program to determine their reading skills. In addition, students were given the MINILIT/MULTILIT program placement tests. Posttests using the same standardised tests used in the pretests were conducted at the conclusion of the 15-week intervention. The tests used as pretests and posttests were:
a. *Burt Word Reading Test-New Zealand Revision* (Gilmore, Croft, & Reid, 1981)

The test was used because it is one component of the battery of tests used in the Observation Survey of Early Literacy Achievement (Clay, 1993a), and has also been used as a measure of achievement in other studies of interventions for Year One students (for example, Center et al., 1995). It is an individually administered test comprising 110 words to be read in isolation. The student is asked to read words presented on a card. Testing is discontinued when 10 consecutive words are read incorrectly. The test has high internal consistency (> .96) and test-retest reliability (> .95) (Gilmore et al., 1981), and has been shown to have good criterion validity. Significant and positive correlations (.90 – .98) have been shown between the Burt Word Reading Test and the Schonell Graded Word Reading Test, a similar measure of word recognition (Gilmore et al., 1981).

b. *South Australian Spelling Test* (Westwood, 1999)

This is a standardised test of real word spelling suitable for students with spelling performances from age 6 to 15 years. It is quick to administer either individually or in a group format. The test provides a spelling age and has Australian norms for students. It has been reported to have high test-retest reliability (.96) for students in Years 3 to 7 and good internal reliability (Westwood, 1999). It is suitable for Year One students as it has been standardised in Australia across the age range from 6 to 15 years.

c. *Test of Word Reading Efficiency (TOWRE)* (Torgeson, Wagner, & Rashotte, 1999)

This test measures word reading accuracy and fluency using two sub-tests: a test of “sight words” in which students read as many words as possible in 45 seconds, and a test of phonically regular nonwords in which students are given 45 seconds to decode as many nonwords as they can. The timed element of this test identifies those students who can decode, but are not fluent or automatic in word reading. This test has been reported to be highly reliable in relation to content, time, and scoring with all coefficient scores above .90 (Torgeson et al., 1999). High correlations (> .86) have been found with Woodcock Reading Mastery Tests-Revised (Woodcock, 1987), demonstrating that it is “a valid measure of word reading efficiency” (Torgeson et al., 1999, pp. 73, 84).

d. *Sutherland Phonological Awareness Test (SPAT-R)* (Neilson, 2003b)

This standardised test assesses students’ phonological awareness at the level of syllables, onset/rime, and phonemes. It has been designed for early literacy learners and includes 13 subtests: syllable counting, rhyme detection, rhyme production, blending CVC words, onset identification, final sound identification, segmentation of CVC words, segmentation of blends, deletion of onsets,
deletion of boundary sounds, deletion of internal sounds, nonword reading and nonword spelling (Neilson, 2003b). The test has high internal consistency ($r = .95$), has good inter-examiner reliability (99% agreement), and is highly correlated to the Astronaut Invented Spelling Test ($r = 0.86$) and the Woodcock Reading Mastery Test-Revised (Woodcock, 1987) ($r = 0.78$) (Neilson, 2003b).

e. Astronaut Invented Spelling Test (Neilson, 2003a)
This is a test of invented spelling and was selected because of the links between invented spelling and phonological awareness. Students are asked to try to spell the names of four astronauts presented in cartoon form. Each name contains one or two syllables and is made up of a range of consonants and vowels. Phonetically acceptable responses are scored as correct, with additional points gained for use of common spelling patterns. The test, which is presented in a game format suitable for young students, has been used successfully to screen the phonemic skills of students in the first three years of schooling. It has been found to be highly correlated with the SPAT-R (> .81), which is also a measure of phonological knowledge (Neilson, 2003a). It also has good inter-examiner scoring reliability of around 92% (Neilson, 2003a).

f. The MULTILIT Word Attack Skills Program Placement Test (Macquarie University Special Education Centre, 1998b)
This test determines the student’s skills and knowledge about letter-sound correspondences and blending of decodable words. Real words and nonsense words are arranged in an easy-to-hard sequence that matches the program and, thus, can be used to determine a starting point in the program.

Intervention
The intervention consisted of 60 one-hour MINILIT program sessions that were conducted over 15 weeks in the second semester of the school year. The sessions were carried out 4 days per week from 1.15 p.m. to 2.15 p.m. There were some delays while parents returned agreement forms and, therefore, not all students began the program at the same time. Three began in the first week, two began in the third week of Term 3, and one began in the following week. Thus, not all students received 60 sessions. The mean number of sessions attended by students was 53, with a range from 49 (82% of sessions) to 57 (95% of sessions).

The sessions were led by 2 tutors who had been trained to implement MULTILIT. For most activities, students were organised into 2 groups of 2 to 4 students during the sessions. Membership of the groups was flexible and depended on student achievement and mastery of specific skills during monitoring sessions. The tutors alternated between the 2 groups during each session.
The MINILIT intervention was a revised version of the MULTILIT Reading Tutor Program (Macquarie University Special Education Centre, 1998a, 1998b; Wheldall & Beaman, 2000) that had been trialled in the same setting with two different groups of students in the preceding 12 months. Each session comprised the following: phonemic awareness or sight words, word attack activities, text reading using the Fantastic Phonics program or Ginn Reading 360 readers, group listening, and oral comprehension activities. Progress of individual students was monitored on word attack skills and sight words (if relevant) during each session if possible, but at least once a week.

Phonemic awareness activities were used in the initial stages of the program, but after students completed the first level of the word attack skills program, the phonemic awareness component of the program was replaced by the sight word program. The tutoring sessions were structured as follows:

1. **Phonemic awareness/sight words (15 minutes)**

Phonemic awareness activities were developed specifically for this program and were based on the levels of difficulty suggested by Adams (1990). They included clapping syllables in words, recognition of beginning and final sounds, blending and segmentation of words with and without letter cues. A typical set of phonemic awareness activities for a lesson is provided in Appendix A. Activities to teach phonemic awareness were only used while students were on the first level of the word attack skills program in which they were learning letter-sound correspondences and initial blending skills.

When the majority of students moved to Level 2 in which they could demonstrate that they could read all single sounds and decode cvc words, all students began the MULTILIT Sight Word program (Macquarie University Special Education Centre, 1998a). This program includes 300 high frequency words, arranged in 30 lists of 10 new words and also in revision lists. The program provides scripted activities that involve reading, spelling, writing, and using each word in context. In MINILIT, each of the lists was split into two, with five words being introduced at any one time.

If students had difficulty learning new sight words, a match-to-sample procedure was implemented with these lower-performing students to provide more intensive support for learning. Match-to-sample techniques have been shown to be effective in teaching students with intellectual disability a variety of tasks, including reading (Sidman & Cresson, 1973). The procedures, which teach stimulus equivalence through conditional discrimination (Rehfeldt & Hayes, 1998), rely on the learner making an overt response which selects or matches a given stimuli from a simultaneous presentation of a least two,
and often more, stimuli. When used to teach sight words there are several dimensions from which match-to-sample activities can be selected: the matching of the written word with the same written word, the association of the written word with the oral label, and linking meaning (through use of a picture representing the word) with the written word or the oral label (Layng & Chase, 2001; Sidman & Cresson, 1973). These tasks can be arranged in an easy to difficult sequence. The difficulty can also be controlled through the number of new words presented and the degree of orthographic and phonological difference between the choices. The match-to-sample activities selected for use with lower-performing students in MINILIT were chosen on the basis that they would facilitate learning, yet not be overly intrusive. These focussed on developing the written and oral components of the list of sight words that the student was working on. Match-to-sample procedures used in MINILIT sessions are provided in Appendix B.

2. Word attack skills (15 minutes)
The MULTILIT Word Attack Skills tutoring program (Macquarie University Special Education Centre, 1998b) was used with revisions to make the program more applicable to young students. The program provides scripted lessons in an easy to difficult sequence. It focuses on teaching letter-sound relationships and having students use the processes of blending and segmentation to decode and write words. One variation made for MINILIT was that the fluency component of the MULTILIT Word Attack Skills program was not used because the students were still in the initial stages of acquisition of word attack skills. Other changes involved slight alterations to the books in which the students recorded words. The books were reformatted so that records of each lesson were kept on a single page, ensuring that there was sufficient space for young students to write letters.

3. Text Reading. Fantastic Phonics/Ginn Reading 360 Program (15 minutes)
In the first 5 weeks, the Fantastic Phonics scheme (Early Reading, n.d.) was used for text reading. This is a resource providing 60 sequential stories based on a phonics sequence that is available online at http://www.early-reading.com/home/index.cfm. It was developed to build on research into early reading in the United States by the National Institute of Child Health and Human Development. The first 20 books focus on introducing and practicing common single sounds and blends. These were discontinued because the sequence of introduction of sound/letter combinations was different from the Word Attack Program sequence and did not contain sufficient cumulative practice for Year One students. During the program they were replaced by the Ginn Reading 360 readers, beginning at the lowest level.
Text reading sessions occurred in small groups and, in general, a new book was introduced every 2 days. Each new book was introduced with discussion of the title, cover pages and illustrations. Depending on the level of the students and text, the tutor either read a short section of the text and asked students to read after her, or students read short sections individually. The tutors encouraged students to use word attack skills to work out new words and to recognise sight words that had been treated. During and after the reading of the text for the session, students’ understanding of what had been read was developed through teacher discussion and questioning.

4. Story-time and individual reading/data taking (15 minutes)

In each session one tutor conducted a group storybook reading while the second tutor assessed individual students on word attack skills and sight words during the latter part of the intervention. This took approximately 5 minutes per student and each student was assessed at least once per week. In most cases, all students were assessed on a daily basis. Each day a new book was selected for storybook reading on the basis of interest or connection to other aspects of the tutoring program. The tutor introduced the book, activating background knowledge, and asked literal and inferential comprehension questions of the students throughout the reading. Where relevant, students’ attention was drawn to phonological, orthographic, or pictorial features of the text.

Prior to the intervention the tutors had been trained in the procedures used in the MULTILIT and MINILIT programs, including the use of effective teaching (Rosenshine, 1995) and Positive Teaching strategies (Merrett & Wheldall, 1990; Wheldall & Merrett, 1989). The MINILIT program is based on an explicit (or direct) model of delivery as espoused by Rosenshine (1995). This includes use of Rosenshine’s six functions for teaching well-structured tasks: review, presentation, guided practice, corrections and feedback, independent practice, and weekly and monthly reviews (1995). Positive Teaching provides a set of strategies for managing the behaviour of a class or group of students, and is based on the principles of “applied behaviour analysis and observed classroom processes” (Wheldall & Beaman, 2000, p. 6). One feature is the provision of extensive positive reinforcement for students who behave appropriately (Wheldall & Beaman, 2000). In MINILIT sessions the tutors incorporated the following strategies used in Positive Teaching: arranging student seating to facilitate learning, establishment of a small number of classroom rules, revision of rules at the beginning of each lesson, praise for students who follow the rules, and use of extrinsic reinforcement (for example, stickers).

RESULTS

One of the limitations of the study is the small number of students in the intervention group. Because of this, data has been
presented as both group data and as individual data. This section begins with an overview of group results on pretest and posttest measures, followed by data on student achievement for each retest and posttest measure.

The means and standard deviations of the raw scores of the students on each standardised test in the pretest and posttest phases are presented in Table 1. Pretest scores indicated that several of the participants scored below the norms. However, raw scores indicated that there was variability between students in the pretest phase. For example, on the Burt Word Reading Test, several students had results just 1 point below the threshold of 20 (the lowest score for which norms are available), while another student had a score of 6, 14 below the threshold. As it is difficult to measure progress in terms of reading or spelling age growth under these circumstances, the students’ results have been shown in Table 1 as mean growth in raw scores and the effect sizes have also been calculated on the basis of the difference in raw scores. One-tailed \( t \) tests of raw score gains have been used for each measure.

Table 1

<table>
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<th>Measures</th>
<th>( N )</th>
<th>Pretest ((SD))</th>
<th>Posttest ((SD))</th>
<th>Gain ((SD))</th>
<th>( t )</th>
<th>( p )</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Burt Word Reading</td>
<td>5</td>
<td>15.80 (5.81)</td>
<td>26.20 (2.39)</td>
<td>10.40 (3.91)</td>
<td>5.95</td>
<td>&lt;.01</td>
<td>1.80</td>
</tr>
<tr>
<td>S. A. Spelling</td>
<td>5</td>
<td>8.60 (5.94)</td>
<td>18.80 (4.55)</td>
<td>10.20 (6.53)</td>
<td>3.49</td>
<td>&lt;.02</td>
<td>1.72</td>
</tr>
<tr>
<td>TOWRE: Sight Words</td>
<td>5</td>
<td>12.80 (6.57)</td>
<td>23.00 (4.36)</td>
<td>10.20 (3.03)</td>
<td>7.52</td>
<td>&lt;.001</td>
<td>1.55</td>
</tr>
<tr>
<td>TOWRE: Phonemic Decoding</td>
<td>5</td>
<td>1.60 (2.30)</td>
<td>6.80 (3.70)</td>
<td>5.20 (3.70)</td>
<td>3.14</td>
<td>&lt;.02</td>
<td>2.26</td>
</tr>
<tr>
<td>SPAT-R</td>
<td>5</td>
<td>17.60 (6.35)</td>
<td>37.50 (8.91)</td>
<td>19.90 (6.46)</td>
<td>6.86</td>
<td>&lt;.01</td>
<td>3.1</td>
</tr>
<tr>
<td>Astronaut Invented Spelling</td>
<td>5</td>
<td>18.90 (12.23)</td>
<td>35.80 (5.30)</td>
<td>16.90 (8.12)</td>
<td>4.65</td>
<td>&lt;.01</td>
<td>1.38</td>
</tr>
</tbody>
</table>
Refereed paper: At-risk Year One students

As a group, the 5 subjects made statistically significant gains on all measures. On average, students made mean gains of 10.40 (SD = 3.91) and 10.20 (SD = 3.03) words as measured by the Burt Word Reading Test (t = 5.95, p < .01) and the TOWRE Sight Word Efficiency subtest (t = 7.52, p < .001) respectively. They also increased the mean number of words spelled correctly by 10.20 (SD = 6.53) as measured by the South Australia Spelling Test (t = 3.49, p < .02) and improved their mean raw scores on the Astronaut Invented Spelling Test by 16.90 (SD = 8.12, t = 4.65, p = < .01). Students’ raw scores on the Sutherland Phonological Awareness Test-Revised (SPAT-R) also increased by an average of 19.90 (SD = 6.46, t = 6.86, p < 0.01), while mean scores on the TOWRE Phonemic Decoding Efficiency subtest increased by 5.2 (SD = 3.70, t = 3.14, p < .02). This was despite the fact that the group size was small and, therefore, that a statistically significant effect was less likely to be found. Moreover, large effect sizes (Cohen’s D, ranging from 1.38 to 3.1) were found on all measures.

The effects of MINILIT on growth in achievement in reading and spelling have been summarised in Table 2. The average growth of all students has been calculated by converting the growth in mean raw scores of those tests that provide age-norms (the Burt Word Reading Test, the South Australian Spelling Test, and the Test of Word Reading Efficiency) to a growth in spelling or reading age. The Phonemic Decoding Efficiency subtest of the Test of Word Reading Efficiency (TOWRE) was not included as testing was discontinued for three of the students during the pretest, since they did not pass the practice items.

The results for each student on individual measures provide information about whether the intervention is effective for all components measured in the pretests and posttests. Raw scores of each student on the Burt Word Reading Test in the pretest and posttest are shown in Figure 1. Comparison of these scores before and after the intervention indicates the increased

Table 2
*Means and Growth in Achievement on Standardised Pretests and Posttests*

<table>
<thead>
<tr>
<th>Test</th>
<th>Pretest Raw Score Mean</th>
<th>Posttest Raw Score Mean</th>
<th>Change in Raw Scores</th>
<th>Growth in Achievement/Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burt Word Reading</td>
<td>15.80</td>
<td>26.20</td>
<td>+ 10.4</td>
<td>+ 10 months</td>
</tr>
<tr>
<td>S. A. Spelling</td>
<td>8.60</td>
<td>18.80</td>
<td>+ 10.2</td>
<td>+ 10 months</td>
</tr>
<tr>
<td>TOWRE: Sight Words</td>
<td>12.80</td>
<td>23.00</td>
<td>+ 10.2</td>
<td>+ 6 months</td>
</tr>
</tbody>
</table>

As a group, the 5 subjects made statistically significant gains on all measures. On average, students made mean gains of 10.40 (SD = 3.91) and 10.20 (SD = 3.03) words as measured by the Burt Word Reading Test (t = 5.95, p < .01) and the TOWRE Sight Word Efficiency subtest (t = 7.52, p < .001) respectively. They also increased the mean number of words spelled correctly by 10.20 (SD = 6.53) as measured by the South Australia Spelling Test (t = 3.49, p < .02) and improved their mean raw scores on the Astronaut Invented Spelling Test by 16.90 (SD = 8.12, t = 4.65, p = < .01). Students’ raw scores on the Sutherland Phonological Awareness Test-Revised (SPAT-R) also increased by an average of 19.90 (SD = 6.46, t = 6.86, p < 0.01), while mean scores on the TOWRE Phonemic Decoding Efficiency subtest increased by 5.2 (SD = 3.70, t = 3.14, p < .02). This was despite the fact that the group size was small and, therefore, that a statistically significant effect was less likely to be found. Moreover, large effect sizes (Cohen’s D, ranging from 1.38 to 3.1) were found on all measures.

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Figure 1. Comparison of raw scores on pretests and posttests of all students on the Burt Word Reading Tests.

Figure 2. Comparison of raw scores on pretests and posttests of all students on the South Australian Spelling Test.
Figure 3. Comparison of raw scores on pretests and posttests of all students on the TOWRE Sight Word Reading Efficiency subtest.

Figure 4. Comparison of raw scores on pretests and posttests of all students on the TOWRE Phonemic Decoding Efficiency subtest.
M. Reynolds, K. Wheldall, and A. Madelaine

word identification skills of each student. Raw scores of each student on the South Australian Spelling Test on the pretest and posttest are presented in Figure 2. Comparison of these scores before and after the intervention indicates the improvement in spelling skills of each student. Student 2 did not score on the pretest and, therefore, the graph shows the substantial growth she made on this measure during the intervention.

Raw scores of each student on the TOWRE Sight Word Reading Efficiency subtest and the TOWRE Phonemic Decoding Efficiency subtest in the pretest and posttest are shown in Figures 3 and 4 respectively. Students’ improvement in word recognition and use of decoding skills on novel words are evident through comparison of scores before and after the intervention. As three students had zero scores in the phonemic decoding subtest, the posttest bar on the graph represents total growth in this component during the 15-week intervention.

Raw scores of each student on the Sutherland Phonological Awareness Test-Revised (SPAT-R) in the pretest and posttest are shown in Figure 5. Comparison of these scores before and after the intervention indicates the increased word identification skills of each student.

Figure 6 shows comparisons for each student of scores at pretest and posttest on the Astronaut Invented Spelling Test. The difference between scores gives an indication of each student’s growth in knowledge of invented spelling.
DISCUSSION
The purpose of this pilot study was to determine whether the revised version of the MINILIT intervention would be effective in increasing the reading and spelling achievement of a small group of struggling readers. The results show that all students have clearly made gains in raw score on all measures of phonemic awareness, phonemic decoding, sight words, and spelling, and that the mean gains on raw scores all have large effect sizes (between 1.38 for the Astronaut Invented Spelling Test and 3.1 for the Sutherland Phonological Awareness Test-Revised). The data on each measure show that all students progressed on each measure and that, in many instances, students have more than doubled their scores during the intervention. However, as the study did not have a control group, claims cannot be made that the students’ improvement in reading and spelling were due to the intervention and not due to maturation. However, the very large effect sizes suggest that it is highly likely that these results were not due to maturation alone.

The aspect of literacy acquisition that had the largest effect sizes was phonemic processing. This was assessed by two measures: the Sutherland Phonological Awareness Test-Revised (ES = 3.1) and the TOWRE subtest of Phonemic Decoding Efficiency (ES = 2.26). This indicates that the strategies used in MINILIT were

![Figure 6](image)

*Figure 6. Comparison of raw scores on pretests and posttests of all students on the Astronaut Invented Spelling Test.*
successful in facilitating growth in this area that has been deemed to be a crucial feature of early reading programs for students who are at-risk (Snow et al., 1998, p. 248).

Overall it could be said that the students’ progress has been accelerated and that, as a group, they are now achieving at expected levels for their age. At the time of the posttest, the mean chronological age of the 5 subjects was 6 years 9 months. When the students’ reading and spelling ages on posttests are compared with the students’ chronological ages, the students are now achieving at the level of their peers or relatively close to this (the group means on all tests are within a month of the mean chronological age). The acceleration that the students have experienced during the MINILIT intervention may be likened to a ramp that enables them to quickly rise to a level where they are now able to use their initial reading skills to work out new words and read more, placing them in the positive cycle of reading development.

The finding that students, as a group, were at average grade level at the conclusion of the intervention is encouraging, given that a previous pilot study had found that an earlier version of the intervention showed gains, but not sufficient for the students to return to average grade levels. This difference may have been caused by a number of factors as the earlier trial used the MULTILIT intervention without change and only lasted 10 weeks. The results, while showing strong group gains, should be interpreted cautiously when planning for ongoing support for students. Individual student data indicate that not all students were at the same level at the conclusion of the intervention, and that one student would benefit from further intervention. Overall, all students made gains in raw scores for all measures. Three students had posttest results that were at, or above, their chronological ages on measures that provide reading and spelling ages. One student (Student 4) had comparatively low pretest scores and made reasonable progress on raw scores for almost all tests, but was still at a less advanced reading level than the other students at the conclusion of the intervention. This student still did not score highly enough on the South Australian Spelling Test at posttest to gain a spelling age, even though he almost doubled his pretest raw score at posttest.

The fact that Student 4 has ongoing needs for intervention after completing the 15-week program raises questions about whether the intervention is sufficiently intensive, or powerful, enough for all students, especially those with very poor pre-intervention skills. Other questions relate to whether the program could be more flexible to cater for students with differing entry points and whether it could have the capacity for extension into a longer intervention for some students, if needed. One possibility for future implementation
of MINILIT may be that criteria are set for the end of the intervention and that these are based on curriculum expectations at particular points in the school year. If students achieve these earlier, they may exit the program, leaving the students who have progressed more slowly to have a higher student-teacher ratio and more individualised attention.

Student 5 also made gains but did not achieve reading or spelling ages commensurate with her chronological age on some measures. She did, however, gain more than 13 months on the South Australian Spelling Test but only 6, 6½ and 7 months on other measures, and was still 1 to 3 months below the norms on these tests. As this student was the oldest student in the group by 2 months and her achievement was at a similar level to the mean for students in the program in most posttests, she is probably not in need of further intervention. However, it is suggested that her progress is monitored regularly.

The use of small-group instruction in interventions is supported by research by Elbaum et al. (2000) who conclude that, when interventions are well designed and implemented by well-qualified teachers, students have similar achievement regardless of whether they are taught in one-to-one settings or in a group of 2 to 6 students. Given similar student achievement to Reading Recovery, it is estimated that an intervention with 3 students per tutor for 1 hour per day for 4 days a week would be nearly twice as cost effective as Reading Recovery. Given that MINILIT has been designed so that each tutor could work with 4 to 6 students at any one time, it has the potential to provide a cost effective alternative to current programs.

It is likely that the study was affected by the fact that students had different commencement dates. Four students began the MINILIT intervention in the first week, with another student beginning in week 2 and another in week 4. It is likely that students who started later may have missed some crucial aspects that may have had to be retaught to the whole group or to individuals.

In this study the lowest achieving students in the school had been selected for Reading Recovery and, therefore, the participants in the study were the next lowest students. While the intervention has been shown to be successful in increasing students’ raw scores in reading and spelling and in assisting the students to return to average levels of reading and spelling (as measured by comparing reading and spelling ages with chronological ages), it is important to recognise and to acknowledge that these were not the poorest Year One readers in the school. It is possible, then, that MINILIT may be more suitable for this group than for the lowest achieving students. Future studies that feature experimental designs are warranted to provide further information about the relative effects of MINILIT and other available interventions.
The results of the current study support future implementation of the current version of MINILIT with several refinements and changes. Suggestions for future implementation include provision of criteria for exiting the program, improvements to the phonemic awareness program, use of match-to-sample techniques from the beginning of the program to provide additional instruction for students who are not making progress in learning sight words or letter-sound correspondences, and the use of Ginn Reading 360 texts for the text-reading component of the program.

The inclusion of daily phonemic awareness activities in the beginning weeks is in response to the overwhelming research evidence about the importance of phonemic awareness in early reading programs (Ehri et al., 2001; Snow et al., 1998). Research findings by Ehri et al. (2001) that instruction is more effective when taught with letters and focuses on teaching blending and segmentation rather than multiple skills, have informed the selection of activities which could be further refined prior to use in the future. Ehri et al.’s (2001) research supports other aspects of instructional planning in the current study; namely, that optimal training programs in phonemic awareness take between 5 and 18 hours and are conducted in small-group settings.

Another change that was made during the 15-week program was the inclusion of some additional strategies to teach sight words. These were included because there were several students who were consistently making errors in sight words. The strategies, which were only used with the lower performing students, incorporated an extra process that included match-to-sample techniques based on a S-S expectancy model of learning theory (Thorley, Hotchkis, & Martin, 1991). Thorley et al. (1991) suggest that these strategies have the following benefits: they give the instructor control over the learning process; they facilitate early success; they assist in diagnosis and task analysis; they allow the instructor to plan “longitudinal expansions of a learner’s repertoire within a domain”; and they induce a “learning-to-learn” effect (p. 173). These intensive procedures were used to teach sight words in the latter part of the intervention, but may be introduced earlier (if they are needed) to provide more powerful teaching strategies as soon as a pattern of errors indicate that a student or students need additional support.

During the intervention a change was also made to the text used for text reading. This change was made because the sequence of introduction of word attack skills in Fantastic Phonics (Early Reading, n.d.) moved very quickly, not allowing time for consolidation, and did not match the sequence of word attack skills in the MULTILIT program. Therefore the Ginn Reading 360 series of early reading texts, which is highly structured and provides cumulative practice, was substituted.
This study has a number of limitations. The small sample size in the study limits the extent to which the findings can be generalised to a larger group (Bisesi & Raphael, 1995). In addition, as the study did not feature a design with a control group, it is impossible to say that the students would not have made progress without the intervention.

It could, however, be argued that the students were experiencing difficulties after having received 18 months of instruction (a year in Kindergarten and six months in Year One) and that these difficulties could be expected to have continued without intervention.

It is suggested that future study regarding the efficacy of MINILIT features an experimental design in which MINILIT is compared to an alternative reading intervention designed for students in the early years of schooling such as Reading Recovery. This would include random assignment of subjects to the intervention groups.

This study has highlighted several issues that, if addressed, would facilitate the implementation of a program such as MINILIT. Firstly, there is a need for an objective and equitable means to determine which students need intervention. Typically, students have been placed in interventions on the basis of relatively subjective methods. For example, Reading Recovery is provided for the lowest students in the students’ school, regardless of the students’ achievements. In effect, though, what can occur is that students selected for Reading Recovery in one school might be among the highest achieving students in another school. A more objective and equitable model could target a specific percentage (for example, the bottom 25%) of students in an education system.

There is also a need to have a clear idea of whether an intervention works. Currently, as there are no empirically validated goals for improvement, educators have limited means of determining when students have made sufficient progress for them to be considered to have adequate foundational literacy skills and to be no longer “at-risk”. In Reading Recovery, for example, as students exit the program when they reach the average of students in the class, there can be significant variation in levels of student achievement at discontinuation. It would be far more equitable to have a measure of expected student achievement at the beginning, middle, and end of Year One to compare student achievement in intervention programs.

In addition, there is a need for a general outcome measure to track student progress regularly during the intervention. For example, in the evaluation studies of the MULTILIT Program, the Wheldall Assessment of Reading Passages (WARP) (Wheldall, 1996) has been used as a general outcome measure (Wheldall & Beaman, 2000). The WARP, which
features a series of passages of connected text that are 200 words in length, has been shown to be sensitive to small changes in student progress for older low-progress readers (Wheldall & Beaman, 2000). The development of an alternative measure that is a precursor to the WARP would be useful for use with students in the first 1 to 2 years of reading development where the main focus is on word identification (Stanovich, 1991). Fuchs, Fuchs, and Compton (2004) suggest that there is a strong case for use of a word identification fluency measure, rather than a nonsense word fluency measure, such as a curriculum-based measure, with Year One students. They also suggest that a measure of word identification fluency, if used frequently, could assist in identifying students who are at-risk of having difficulties in acquiring early reading skills (Fuchs et al., 2004). This type of measure may also provide a reliable means of determining a point or level at which students no longer need an intervention.

CONCLUSION
If education systems are to reduce the rates of reading failure within their schools, they need to ensure that they provide the most powerful and cost-effective interventions that are available. There is now strong evidence that programs to teach reading in the acquisition stage should include components which have been firmly established though scientifically based research (National Inquiry into the Teaching of Literacy, 2005). These sub-skills include the teaching of letter-sound correspondences, phonological awareness and knowledge, sight word recognition, and “the ability to derive meaning from written text” (National Inquiry into the Teaching of Literacy, 2005, p. 31). MINILIT may be an intervention that assists in solving the large-scale problem of reading failure, as it combines the crucial features of early reading programs with an explicit and positive teaching approach.

This study has provided preliminary evidence of the efficacy of the revised version of the MINILIT program as an intervention that has the capacity to accelerate (or “ramp-up”) young students’ progress in reading during the acquisition phase. As an exploratory study, it has established that MINILIT may be a viable alternative to other available programs, although there are aspects of the intervention that could be altered or improved. Further research, using a true experimental design, is needed to compare its efficacy with that of other programs that are available for use with young struggling readers.

REFERENCES


APPENDICES

Appendix A. Sample phonemic awareness activities used in a session

Activity 1: (2 mins)
Students use body percussion (e.g., tap knees) to clap/tap the syllables in a nursery rhyme. The tutor introduces one line at a time by modelling, first asking students to watch and listen, then having students do it with her. When all lines have been done separately, they do it all together. Then students repeat the whole rhyme using a different type of body percussion (e.g., snap fingers).

Activity 2: (5 mins)
Play Sound SNAP using sounds. The tutor says 2 words that begin with a single consonant. If they start with the same sound, the students say “snap” and snap their fingers. If the two words don’t start the same, everyone will be quiet.
E.g., Tutor says “bat” and “ball”… The students say “snap” and snap their fingers.
Tutor says “book” and “table”… Everyone is quiet.
Tutor says “apple” and “ant”… The students say “snap” and snap their fingers.

Activity 3: (5 mins)
The tutor tells students that she is going to break a word into its separate sounds and that students must put the word back together by sliding the sounds together quickly. Begin by saying the sounds for simple words (with one syllable and at least 3 sounds) aloud, pausing between each sound. Then ask students to tell the group what the word is by saying “What word?” The tutor models the first, then asks students to do it after her.
Words: r..a..n, m..a..n, f..a..n, c..a..n, p..a..n, D..a..n, t..a..n, v..a..n, J..a..n
t..i..n, p..i..n, s..i..n, b..i..n, w..i..n, f..i..n, ch..i..n, sh..i..n
c..o..t, p..o..t, r..o..t, l..o..t, sh..o..t, j..o..t
s..o..ck, l..o..ck, sh..o..ck, d..o..ck, r..o..ck, m..o..ck, t..o..ck

Activity 4: (3 mins)
Give students letter cards for a..m..s..t..i.. (in any order). It is preferable that each student has them arranged in a different order. The tutor asks students to listen to the words and to point to the beginning sound for each word she says.
Words: mat, tell, sit, in, man, and, sell, sun
Appendix B. Sight word presentation: Incorporating a match-to-sample procedure

Objective: To read, as a whole, five sight words.

1. Match words

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Hand out students’ sheet and cards.) I want you to lay out the cards beside your sheet. (Holds up a word.) 1. The word is “the”, what word? 2. Find “the”. Put “the” on “the”.</td>
<td>(Students lay out cards.) the</td>
</tr>
<tr>
<td>Teacher repeats steps 1 to 2 for remaining four words.</td>
<td>(Students match the word.)</td>
</tr>
</tbody>
</table>

The tutor monitors each student’s matching performance and assists if necessary.

2. Select words

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>We are going to take off the cards and put them in a pile. 1. Take off “to”, what word? 2. Take off “the”, what word?</td>
<td>to (take off “to” and place it beside the sheet) the (take off “the” and place it on top of “to”)</td>
</tr>
<tr>
<td>Teacher repeats steps 1 to 2 for remaining eight words.</td>
<td></td>
</tr>
</tbody>
</table>

The tutor monitors each student’s response and assists if necessary.
3. Hear, see and say words (group responses)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Shuffles cards and presents cards to students.</em>)</td>
<td></td>
</tr>
<tr>
<td>1. The word is “the”, what word?</td>
<td>the</td>
</tr>
<tr>
<td>2. The word is “to”, what word?</td>
<td>to</td>
</tr>
<tr>
<td>Teacher repeats steps 1 to 2 for remaining eight words.</td>
<td></td>
</tr>
</tbody>
</table>

Correction procedure
Listen: The word is “the”. What word?

4. See and say words (group and individual responses)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are going to read these words without my help. Remember, don’t say the word until I say “What word”? <em>(Shuffles cards.</em>)</td>
<td></td>
</tr>
<tr>
<td>1. <em>(Hold up “the”.</em>.) What word?</td>
<td>the</td>
</tr>
<tr>
<td>2. <em>(Hold up “to”.</em>.) Child’s name, what word?</td>
<td>to</td>
</tr>
<tr>
<td>Teacher repeats steps 1 for remaining four words, alternating between individual and group responses.</td>
<td></td>
</tr>
</tbody>
</table>

Correction procedure
Listen: The word is “the”. What word?
5. See, say, spell and write words (group responses)

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now we are going to spell and write these words.</td>
<td>the</td>
</tr>
<tr>
<td>1. <em>(Hold up “the”.</em> What word? <em>(signal)</em></td>
<td>the</td>
</tr>
<tr>
<td>2. I’ll spell “the”, t-h-e</td>
<td>t-h-e</td>
</tr>
<tr>
<td>3. You spell “the”</td>
<td>(students write “the”)</td>
</tr>
<tr>
<td>4. Spell “the” while you write it</td>
<td></td>
</tr>
<tr>
<td>5. Continue presenting words in random order on the current word list. Remind students that they can look back at the card the teacher is holding. After one or two demonstrations fade out Step 2 and go straight to Step 3.</td>
<td></td>
</tr>
</tbody>
</table>

**Correction procedure for Step 1**
The word is “the”. What word? “the”

**Correction procedure for Step 4**
The word is “the”. What word? “the”

Now we’ll write “the”

<table>
<thead>
<tr>
<th>First letter?</th>
<th>Write it</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>(student writes t)</td>
</tr>
<tr>
<td>Next letter?</td>
<td>Write it</td>
</tr>
<tr>
<td>h</td>
<td>(student writes h)</td>
</tr>
<tr>
<td>Next letter?</td>
<td>Write it</td>
</tr>
<tr>
<td>e</td>
<td>(student writes e)</td>
</tr>
</tbody>
</table>
PRE-SERVICE TEACHERS’ VIEWS ABOUT AN INCLUSIVE EDUCATION INTERNSHIP: A QUALITATIVE STUDY

Emmaley Weaven and Brian Hemmings
Charles Sturt University, Wagga Wagga

ABSTRACT

In this article, the authors report on a study examining the experiences of teacher interns working with children in inclusive settings. The study was designed to seek answers to three questions: How does an inclusive education internship affect the attitudes of interns towards inclusive education? What are the advantages and disadvantages of working in an inclusive setting as perceived by interns undertaking an inclusive education internship? What coping strategies do interns employ during their inclusive education internship? In order to answer these questions, the authors collected interview data from three interns. These data were analysed using qualitative procedures, guided by the principles of Grounded Theory (GT). The results showed that the data could be grouped within 15 categories of response and that these could be subsumed within three major themes; namely, positive realities, negative realities, and coping strategies. The interns’ stories are then told, by the authors, through these themes and some of the corresponding categories. The authors conclude their article by framing a set of recommendations that has implications for tertiary course designers, practicum/internship personnel, supervising teachers, future interns, and researchers.

INTRODUCTION

Teacher education programs that prepare students for employment in schools include significant periods in classrooms. During these periods teacher trainees are engaged in observations, research projects, and practice teaching. The aim of these experiences is to assist in the production of resilient, knowledgeable, and reflective practitioners. Those who conduct research in this area...
Refereed paper: Pre-service teachers’ views

(see, for example, Johnston & Goettsch, 2000; McMeniman, Cumming, Wilson, Stevenson, & Sim, 2000) use a number of taxonomies of teacher knowledge to chart professional growth and development. The categories of knowledge commonly include content knowledge, curriculum knowledge, pedagogical knowledge, knowledge of learners and their characteristics, and knowledge of educational ends, purposes, and values.

Experience alone is not sufficient to promote the growth of professional knowledge, dispositions, and skills. Teacher education students need to engage in a number of types of reflective behaviour in relation to that experience (Farrell, 1998). Practical teaching experiences may be given a specific focus through the use of assigned tasks or the selection of particular settings. Jobling and Moni (2004) designed activities to enhance the capacity of teacher trainees to teach students with special needs, an area that is not usually emphasised in general teacher preparation programs. Their particular focus was on “knowledge of learners and their characteristics”.

As a consequence of such learning in authentic settings, students are able to make informed decisions about their suitability for teaching and those who ultimately join the profession are more likely to be retained. Teacher retention is a critical issue, with the Commission on Teaching and America’s Future recommending that teacher preparation “should be oriented around building subject and pedagogical knowledge, providing clinical practice and entry-level support.” (Rebora, 2003, p. 1).

The research study reported here had a dual focus: life experiences during an extended practicum and the development of insights about an inclusive classroom. It was conducted as part of a 10-week internship, which was included in the seventh semester of a four-year teacher preparation program. The practicum involved classes that included one or more children with special needs. It had a specific focus on knowledge of such learners and their needs and becoming familiar with addressing these needs in the context of a regular classroom. The material that follows examines the literature related to inclusive classrooms.

**Literature review**

Although the bulk of the research literature pertaining to inclusive education is pointing to an increase in the positive perceptions of general education teachers towards the concept of inclusion, a body of literature has identified some areas of concern for inclusive practice. For instance, many teachers do not believe that they have sufficient time in both their personal and professional lives to effectively include a student with special needs. They argue that time is required for constructing students’ IEPs, establishing a routine for teaching the general and individualised programs, and developing
the required materials and resources for meeting the individual requirements of the included students (see, for example, Brown & Shearer, 1999; Connor, 2001; Cornoldi, Terreni, Scruggs, & Mastropieri, 1998). Given these time constraints, some teachers are left feeling that the task is too daunting, and ultimately this will have a detrimental effect on the included students in the regular classroom (Bennett, Deluca, & Bruns, 1997; Brotherson, Sheriff, Milburn, & Schertz, 2001; Kavale & Forness, 2000; Wright & Sigafoos, 1998).

Studies across the United States of America (USA), Italy, and Australia have also identified other areas of concern for teachers: an inadequacy in both pre- and in-service training (Scruggs & Mastropieri, 1996; Westwood & Graham, 2003); a lack of appropriate funding (Westwood & Graham, 2003); the threat of violent attacks, outbursts, or behaviours by included students with challenging behaviours (Engelbrecht, Oswald, Swart, & Eloff, 2003; Forlin, 1997); a paucity of human and physical support (Bennett et al., 1997; Westwood & Graham, 2003); and a lack of continuation of inclusive programs within the student’s home life by family and carers (Bennett et al., 1997; Engelbrecht et al., 2003).

It needs stressing, however, that discussion about the positive perceptions of inclusive education by general education teachers is also prevalent in the extant literature. For example, it is evident that teachers are becoming more aware of the benefits that can be accrued by both general and included students through the practice of inclusion of students with mild to severe disabilities. One such benefit is the increase in social interactions between included students and general students (Hendrickson, Shokoohi-Yekta, Hamre-Nietupski, & Gable, 1996; Salisbury, Gallucci, Palombo, & Peck, 1995). Some authors suggest that the inclusion of students with mild to severe disabilities is allowing such students to have greater levels of sustained contact with their non-disabled same-aged peers, build richer friendship networks, develop more independence towards adult functioning with respect to social competencies, improve interpersonal skills, be accommodated in the same school as their siblings, and promote their communicative and emotional development (Brown & Shearer, 1999; Salisbury et al., 1995; Sontag, 1997).

There is another corpus of literature relating to the benefits which inclusion provides for general students. Increased acceptance and reduction of a negative stigma associated with students with special needs and the delivery of special educational services, a willingness to form friendships with students with mild to severe special needs, development of responsibility in taking part in the socialisation process of these students with special needs, and the formation of
empathy for others, have been identified as views forged by general students through having a mild to severely disabled student included in their classroom (Favazza & Odom, 1997; Hendrickson et al., 1996; Rademacher, Wilhelm, Hildreth, Bridges, & Cowart, 1998; Weiner, 2003).

However, research such as that conducted by Sale and Carey (1995) has identified conflicting views in regards to the benefits of inclusion for both the special needs and non-disabled students. Their study indicated that students with special needs were chosen as the least popular and least liked of their same-aged peers by general students in their classroom. These results were obtained within a classroom context where the students were often placed in an inclusive setting; perhaps indicating that inclusion itself does not change perceptions and preference order with regard to the attitude held by the general student population towards special needs students. This finding probably suggests that there are other variables that affect the development of positive attitudes and actions towards people with disabilities in non-disabled students. The results of the study also indicated that most of the social interactions by students with special needs were mainly with the classroom teachers and support personnel, rather than with their same-aged peers. It has been suggested by Llewellyn (1995, cited by Nowicki & Sandieson, 2002) that children with physical disabilities can also find the social aspect of school difficult, and such children are often bullied by their classmates in inclusive settings.

Research has shown that, in order to manage with the increasingly difficult and intense demands of having an included student (regardless of severity), teachers have developed two separate strategic approaches. The first strategy involves organisation and management. O’Donoghue and Chalmers (2000) outlined the process general classroom teachers in Western Australian schools undertake to manage their class when one member of the class has a severe or profound disability. The process is a sequential one and includes the following steps: first, teachers gather information on inclusion (via in-service and professional development training or through informal conversations with people who have experience in the area); second, these teachers check and scrutinise the information to reconcile their understanding and assess the likely impact of inclusion on the class; third, the teachers then select teaching elements they will change in response to the inclusion (these may be organisational and curriculum changes); and finally, the teachers evaluate the processes they have used and once again modify their classroom approaches accordingly. Other Australian school systems have similar approaches in place to support students.
with special needs during transition, enrolment, and placement phases (see, for example, New South Wales Department of Education and Training, 2006).

Several studies have shown that general classroom teachers who have displayed positive attitudes with regard to making instructional adaptations for students with disabilities are, in fact, unlikely to actually implement these adaptations (see, for example, Scott, Vitale, & Masten, 1998, documented in Harrower, 1999). It could be argued, therefore, that although teachers are aware of actions they might implement in their classrooms for an effective inclusive environment, the increased workload involved in this strategy may prevent the teacher implementing those actions. This could explain, to some degree, the need for teachers to use the second strategy identified within the literature, namely, coping.

Forlin (1997) conducted a study within one region of Queensland, and identified a number of personal/internal coping strategies that general education teachers saw as the most useful when incorporating an included student within their classrooms. These strategies were reported as the following: developing and following plans of action; discussing ideas with specialists and colleagues; drawing on past experiences; looking on the bright side; and seeking professional help for both the included and general students. However, a list of less useful, but, nevertheless, possible strategies employed by some teachers when coping with inclusion in their classrooms was also revealed as a result of the study. These strategies included taking sick or stress leave, resigning from teaching, using alcohol and medication, and deceiving others concerning the difficulties they were in reality facing.

Even though many experienced teachers, who are competent in the management of the normal range of student abilities, expressed doubts about their ability to provide effective and adequate education for students with mild to severe disabilities in regular classrooms, it is surprising to find that very little research has been undertaken into the development of pre-service teachers’ views towards inclusive education.

Researching within a British context, Hastings and Oakford (2003) found that attitudes towards inclusion were affected by the nature of the special needs of children, with emotional and behavioural problems seen in the most negative light by pre-service teachers. Reber, Marshak, and Glor-Schieb (1995) also found that pre-service teachers’ views towards inclusion were significantly different depending on the nature of a student’s disability.

Shade and Stewart (2001) carried out a study in the USA in order to determine whether a single special education subject can
significantly change pre-service teachers’ attitudes towards inclusion. The study indicated that a single subject studied at university was beneficial to pre-service teachers. In fact, the attitudes towards the included students’ behaviour and the self-concepts of the pre-service teachers improved significantly.

The findings of the Australian studies have shown that a mixture of a single subject and a partially-guided practicum had a positive impact on the attitude development of pre-service teachers towards inclusive education and people with disabilities per se (see, for example, Carroll, Forlin, & Jobling, 2003; Konza & Harris, 1994). The research suggests that by the end of their respective courses, pre-service teachers are less frustrated about not knowing how to help, are less fearful about and show less pity toward people with disabilities, develop confidence and competencies in providing inclusive education, and are more likely to notice the person rather than the disability.

However, it must be noted that the partially-guided practicums undertaken by the pre-service teachers in the Australian studies were no more than two hours in length and were supervised by the regular classroom teacher. None of the students was given responsibility for the whole classroom, but rather single students and small groups. It is equally important to note that these studies drew mostly on quantitative techniques and did not delve deeply into why and how attitude shifts occurred.

The results of a recent qualitative study by Withers and Cocklin (2003) into the effects of an inclusive extended practicum on pre-service teachers’ attitudes differed in its findings when compared to the previously mentioned Australian studies. The study focused on three pre-service teachers’ post-practicum reflections of attitudes towards inclusion following a 10-week practicum where they were given full responsibility for their respective classrooms. The study’s findings indicated that the relatively little support received during a practicum of this type impacted negatively on the three students, with one student considering a change in career. It needs to be emphasised, however, that the views of these students were only canvassed after the practicum rather than before and/or during it.

A review of the relevant literature points to the need for more research that targets pre-service teachers and their experiences with respect to inclusive education. More specifically, this research should focus on the attitudes of these pre-service teachers as they begin, participate in, and complete a self-directed and lengthy practicum, and the day-to-day realities of undertaking such a practicum. In order to fill a related void in the literature, the research needs to concentrate on the coping strategies that
these pre-service teachers employ in and outside their classrooms during this time. Consequently, the current study is directed at answering the following questions:

1. How does an inclusive education internship affect the attitudes of interns towards inclusive education?
2. What are the advantages and disadvantages of working in an inclusive setting as perceived by interns undertaking an inclusive education internship?
3. What coping strategies do interns employ during their inclusive education internship?

METHOD

Participants

This study drew on the responses of three pre-service teachers (interns) who were enrolled in the 2004 Charles Sturt University (CSU) Internship Program. In the fourth and final year of the Bachelor of Education (Primary) course at CSU-Riverina, pre-service teachers participate in an internship program. The internship is undertaken in Term 2 of the New South Wales (NSW) school year, with the interns taking full responsibility for their class during the 10-week term.

Each intern is assisted by three support personnel—a mentor, a project teacher, and a liaison lecturer—whilst undertaking the internship. A mentor is an experienced teacher appointed by the intern’s school as the designated support person for the intern. The project teacher is the class teacher released from the intern’s class to carry out a professional development project approved by the NSW Department of Education and Training (NSW DET). Each intern is allocated a liaison lecturer from CSU. This lecturer visits the intern when required and assists with school–university reporting functions.

The 2004 internship cohort was approached by the researchers in the first week of Term 1, 2004, during an initial lecture about the internship. They were informed about the study’s purpose, what their participation would entail, and that their participation would be entirely voluntary with the right to withdraw at any time. From a group of eight volunteers whose classrooms satisfied particular selection criteria (viz., age, gender, class level, and number/type of included students), three interns were chosen as participants. The final selection decision was made partly on the basis of travel and associated costs in collecting data from the participants. A profile of the three interns (including pseudonyms) is presented in Table 1 below.

Procedure

The researchers chose to conduct a qualitative study as it would be more sensitive to the lived realities of the interns, consider the interns’ development, and concentrate on the meanings the interns
placed on the events, processes, and structures of their inclusive education internship (Gay & Airasian, 2003; Miles & Huberman, 1994). Smith (1987, cited by Wiersma, 2000) argues that qualitative research is based on the notion of “context sensitivity”—the belief that the particular physical and social setting has a large bearing on human behaviour. This is an argument consonant with the purpose of the current study.

Several techniques, namely, interviews, a reflective journal, and telephone conversations, were used to help gather data. The interviews conducted with the interns either followed a semi-structured or an unstructured format. Not only did this approach permit a better understanding of what each intern was feeling and thinking about his or her internship and inclusion, it also helped to maintain flexibility, thus allowing information to be pursued from whatever direction seemed to be appropriate. The unstructured format, for example, allowed for questions to be individualised to establish in-depth communication and responsiveness (Kvale, 1996; Patton, 2002).

The interviews with the interns drew on information obtained from each of the intern’s reflective journals. The interns participated in three interviews: one at the start of the internship (Weeks 1–2), one midway through the internship (Weeks 5–6), and one at the end of the internship (Week 10). The interviews lasted approximately one hour and were run by one of the researchers (subsequently referred to as the investigator). All the interviews were audiotaped to facilitate later transcription and analysis (Wiersma, 2000). Brief notes were also taken as an accompanying record of any significant non-verbal activity.

Journalling is a popular form of data collection in qualitative studies (see, for example, Bentley-Williams, 2000; Creswell, 1998). As a result, the interns

<table>
<thead>
<tr>
<th>Name/Pseudonym</th>
<th>Age Range</th>
<th>Gender</th>
<th>Year Level</th>
<th>Number of Students with a Disability/Type of Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seamus</td>
<td>21–25</td>
<td>Male</td>
<td>3/4</td>
<td>1. Severe ADHD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Behavioural disorders</td>
</tr>
<tr>
<td>Elise</td>
<td>41–45</td>
<td>Female</td>
<td>4</td>
<td>1. Intellectual disability and communication disorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belle</td>
<td>21–25</td>
<td>Female</td>
<td>Kindergarten</td>
<td>1. Autism</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Physical and intellectual disabilities</td>
</tr>
</tbody>
</table>
were provided with a journal and asked to record their feelings, experiences, concerns, strategies, and any significant events related to inclusion and the internship. Reflection, and the subsequent reporting of those reflections in a journal, was encouraged through three processes. Schön (1987) identified two of these processes: “reflection on action” and “reflection in action”. The interns were asked to reflect on things which happened in their classroom after they had occurred (reflection on action). They were also required to think in the moment about the issues that were emerging as they taught (reflection in action). A third reflective process encouraged was the proactive “reflection for action”. This required reflection about past and present experiences in the classroom, and the development of strategies and aims for the future, whilst also identifying what these incidents meant for future growth (Conway, 2001).

Throughout the internship, telephone conversations were also carried out as a means of maintaining contact between the investigator and the interns. The telephone conversations served as a way of establishing times and places to conduct interviews, allowed the investigator to establish a rapport with each of the interns and gain a small insight into how each intern’s internship was progressing, providing a direction for future interviews.

Ethical issues were dealt with according to processes outlined by both CSU and the NSWDET. Guidelines relating to competence, anonymity, confidentiality, consent, and data storage were strictly followed (see, for example, Fassinger, 2005; Fraenkel & Wallen, 2000; Haverkamp, 2005).

The data collected in this study were analysed using principles of GT. Because “...grounded theory makes its greatest contributions in the area [where] little research has been done” (Chenitz & Swanson, 1986, p. 71), it was deemed appropriate that GT be used to guide the data-analytic process in the current study due to the limited literature on the topic of inclusive education internships. GT was also considered to be the most effective way to tell the interns’ stories the way they expressed them (Fassinger, 2005).

The first stage of the GT data analysis involves identifying categories and their properties, and this process of identification is known as coding (Dey, 1999). The categories are then “sensitised” in order to provide a “meaningful picture” that “helps the reader to see and hear vividly the people in the area under study” (Glaser & Strauss, 1967, pp. 37–38, as documented in Dey, 1999).

In the first instance, the data were coded using open coding. In this process, the data are “…broken down into units of meaning (concepts), labelled (often with words close to those of the participant), and interrogated” (Fassinger, 2005, p. 160). The next coding step is known as axial coding. During this process the data are put back together in
new ways by making connections between categories and grouping these categories into more encompassing categories (Fassinger, 2005; Glaser, 1992). The final coding step is termed *selective coding*, which is “the process of selecting the core categories systematically relating it to other categories validating those relationships, and filling in categories that need further refinement and development” (Strauss & Corbin, 1990, p. 116). This process is followed until theoretical saturation is reached; that is, where no additional data are being found or achieved to enrich a category (see, for example, Glaser & Strauss, 1967). It needs to be stressed that the data-analytic process was carefully audited in line with the procedures outlined by Fassinger (2005).

Table 2

*Themes and Final Categories Emerging From the Data Analysis*

<table>
<thead>
<tr>
<th>Themes</th>
<th>Categories</th>
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<tr>
<td><strong>Important support</strong></td>
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<tr>
<td><strong>Positive impact</strong></td>
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<tr>
<td>1. Positive realities</td>
<td>Consistent classroom practice</td>
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<td></td>
<td>Internal compass</td>
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<td></td>
<td><strong>Professional growth</strong></td>
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<td><strong>Divergent experiences</strong></td>
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<td></td>
<td>Classroom dynamics</td>
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<tr>
<td>2. Negative realities</td>
<td>Negative classroom behaviour</td>
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<td></td>
<td><strong>Unsupportive school culture</strong></td>
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<td></td>
<td><strong>Practicum stress</strong></td>
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<td><strong>3. Coping strategies</strong></td>
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<td></td>
<td>Organisation</td>
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<td></td>
<td><strong>Relaxation</strong></td>
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<td><strong>Essential communications</strong></td>
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<td></td>
<td>Reflection</td>
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<td><strong>Self-help</strong></td>
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RESULTS
The open coding revealed 105 categories. At the end of the first stage of axial coding, these categories were delimited to 28 categories. The subsequent analyses showed, once theoretical saturation was reached, that 15 categories of response were evident. These categories and the three themes that they fall within are presented in Table 2.

The three themes and their corresponding categories will be illustrated by drawing on parts of the interns’ stories. Each theme will be highlighted, but, for the sake of brevity and to tease out the relevance of the themes to the research questions posed, only some of the categories will be discussed in the following section. These particular categories have been bolded in Table 2.

Theme 1: Positive realities

**Important support**
Although support networks should be in place to assist the interns within a school environment, there are many others who can contribute to the school’s learning and support community. For example, Seamus was given extra support via the NSW DET regional office. His school was provided with a behaviour specialist and this specialist worked with several of the students in his class. The second intern, Belle, had a trained aide in her classroom each morning and she considered herself “…very lucky to have her” as the aide was a constant source of support. Initially, Belle thought that the presence of an aide would be confining, frustrating, and result in confusion. However, the reality was the opposite. As the internship progressed, Belle began to view the collaborative role she developed with the aide as critical to general classroom and individual student success. In fact, Belle remarked how her development as a teacher, and growing advocacy for inclusion, was rooted both in the relationship she struck with the aide and the positiveness achieved within a collaborative classroom.

The external support for the interns was just as important as the internal school support network. To exemplify, both Belle and Elise saw the university as a reliable source of support. Not only did they gain a sense of comfort and security from knowing that their lecturers could be approached about difficult matters, they also could draw on the support of peers enrolled in their university course.

**Positive impact**
Generally speaking, the interns were apprehensive about what they might encounter in their respective classrooms. However, it became apparent through the course of their internship that apprehension turned into more positive thoughts. These positive views were principally shaped by the way the general students in the classroom responded to the included students, in both the classroom and in the playground, and

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how the interns’ relationships with an included student developed throughout the internship. Belle, for instance, described how her Kindergarten students longed to work and socialise with her two included students. This is apparent in the quotation that follows.

“They would fight to who would sit next to them. It brought a close feel to the class … having them so happy to be around the girls … I don’t think the kids thought that she was any different.”

For Elise, however, establishing a positive relationship with her included student was a difficult and, at times, daunting task. Elise was the most anxious of the three interns, especially during the first few weeks of the internship. In fact, it was not until the final few weeks of her teaching stint that a positive relationship was fostered between her and her included student. This point is illustrated in the ensuing extract.

“I had a good relationship with [him]. On the last day he told me that he didn’t want me to leave and that he didn’t think he would like me when I first came but he found out he did … It was really lovely. It blew me out of the water. It was nice to hear.”

As a result of their internships, all three interns came to the same realisation about inclusion and how to implement inclusive education policy in their classrooms. This realisation is evident in the following two quotes.

“To me, being inclusive is just there, doing the same work. It’s just going to be on a different level.” (Belle)

“…the whole idea of inclusiveness is the fact that they go into a classroom and that they get treated like all the other children as much as possible and they have the same learning opportunities.” (Elise)

Professional growth
As a consequence of their internship, the interns showed a significant amount of growth as teachers. They all learnt a great deal about the realities of working not only in an inclusive classroom but also in a “normal” classroom on a full-time basis. To illustrate, dealing with students who had behavioural and emotional disorders was an eventuality which Seamus had never encountered previously, nor had he been in a position where he was a full-time unsupervised teacher for such a length of time. For him, it was learning about how to manage the behaviour of these children in which he grew most as a teacher. As Seamus grew in this area of his professional development so did his successes and confidence as a teacher. The students began to respond to him and his behaviour management strategies and a mutual classroom respect developed. He also contributed to IEP meetings and became the prime mover for several after-school activities.
It is important to note that this was the first inclusive education practicum placement for all the interns. This meant that they lacked a great deal of experience working with students with specific special needs. The only focused training they had received to work with these types of students came from their compulsory special needs subject in their second year at CSU and from lecturers’ tips in other subjects.

One area in which Belle and Seamus commented that they grew as teachers was in the area of professional reading. Both these interns undertook research in order to better understand general requirements for working with included students and to glean specific information about different disabilities and associated teaching modifications. Belle drew extensively on books and videos supplied to her by her mentor and her project teacher. She also read reports from the physiotherapist about a student’s condition, progress, and the evaluation of an action plan. Seamus sought resource material from the Internet and the NSW DET behaviour specialist. Interestingly, by the mid-way point of their internships, both Belle and Seamus no longer saw inclusion as being an additional task to regular teaching per se.

**Theme 2: Negative realities**

*Divergent experiences*

Elise offered many comments about her limited teaching experience and the comparatively wide experiences of her project teacher. Her project teacher’s experience in this school was seen as a real advantage, given previous contact with students during non-class time and knowledge of the school’s human and physical resources. Not having an established knowledge of, and relationship with, the included students before starting the internship was viewed as a difficulty by Elise. She contended that the slowness in achieving her goal of making the class work effectively and positively as a team was related to her not being armed in the first place with specific context-based skills and understandings. Elise was also somewhat negative about her previous university coursework and how this did not adequately and effectively equip her for an inclusive setting.

> “…I have to say as far as university, yes I don’t think that I learnt that much on how to deal with students with diverse needs.”

A lack of experience regarding long-term planning was a key influence on Seamus’ views about inclusion and the internship. Even though he spent a considerable amount of time researching information that he could incorporate in his teaching, he found programming for an inclusive classroom difficult and somewhat intimidating. As a result of his programming difficulties, Seamus had to complete an additional but short-term practicum (observation only),
following his internship, to learn more thoroughly about long-term planning, assessment, and reporting.

Unsupported school culture
As reported earlier, having support throughout a longer-term inclusive practicum/internship was important to help the interns cope with the intense demands and pressures. However, for Elise, her internship was conducted within a school where she received relatively little internal support. Elise felt that she was isolated in the school and received minimal support from her mentor, project teacher, and the teaching staff. The following extract sheds light on this claim.

“I have had no support. I am totally isolated there … Look, I don’t have a pigeon hole. I don’t have anywhere to sign on. I don’t get included in anything. I go to the staff meetings and I sit there and someone takes minutes and they don’t even write that I was in attendance. They have a special luncheon for the staff next week and apparently the canteen is making quiche for the staff. There is a big notice on the board with everyone’s name on there except mine. I thought, oh, I mustn’t want quiche.”

As a result of her disconnection from the school, Elise undertook self-imposed isolation. This was in order to protect herself from the negativeness she felt when she attempted to become an active part of the school community. The excerpt below is typical of Elise’s comments:

“I don’t go down to the staff room. I stay in the classroom for recess and lunch. If I do duty I go out and do duty and go straight back to the classroom because I don’t, I just don’t like it down there. It’s such a hostile environment.”

Elise had a part-time aide in her classroom. However, the support she received from the aide left Elise with more nervous tension than support. During Elise’s internship, the aide, and her support allocation, was under review by the school and, as a result, the aide spent a lot of her allotment writing detailed notes about her duties and experiences rather than offering support to Elise and her students.

A lack of support from parents was a constant source of concern for both Belle and Seamus. For instance, when Belle had parent helpers in her classroom she felt like she was under constant scrutiny and did not receive support from them at all. For Seamus, it was the lack of support from the parents of his included students that caused him the most annoyance and dissatisfaction. He saw that without parental support, it became more difficult to work with his included students. Seamus argued that as the parents showed less and less interest in their children’s schooling and the feedback he was providing, their children’s classroom misbehaviour was exacerbated.
Practicum stress

During the internship, there are many factors which the interns needed to deal with other than those directly involving the classroom-based experience. For example, both Belle and Seamus had to travel away from home to undertake their internship. This posed a number of financial difficulties, for example, paying two lots of rent for their permanent home as well as their temporary lodgings during their practicum. Throughout this time they also made frequent car trips home to visit family and friends, costing them additional money in petrol. Added to this, was also the pressure of having to leave their part-time jobs for 10 weeks.

In addition to these sorts of financial pressures, daily physical exhaustion was faced by the interns themselves. As a beginning teacher, a lack of experience and other knowledge results in late nights programming, making resources, and thinking through strategies to employ in the classroom. This meant that the interns were spending many nights staying up late preparing for their classrooms, particularly to meet the individual needs of certain students. This was also a common theme across weekends with the interns, who would go out to their schools and work in their rooms throughout most of the weekend. Trying to mix family life with these internship demands was difficult. With a great deal of additional work being carried out by the interns, lack of sleep soon followed and, as a consequence, they became extremely exhausted. This constant exhaustion caused them a great deal of stress. Belle stated that she was “exhausted all the time” and that there were days when she found it hard to get out of bed. There were days towards the end of term when she found she had a “short fuse” when faced with problems with her students. She was aware that this was partly a result of her constant exhaustion. All the interns commented that the 10 weeks was a very long time for a practicum. Belle argued that the practicum should have been about seven weeks and this would have helped to reduce stress and potential burnout.

Theme 3: Coping strategies

Relaxation

For all the interns, relaxation was a basic way to cope with the stress and demands of working in an inclusive classroom. While a majority of these relaxation techniques were individual to each intern, there were some which they all had in common. One of these was appropriate rest and proper sleep. Sleep was essential for each participant to cope with the demands of a long day or a day yet to come. The ensuing comment is indicative of the need for, and importance of, sleep.

“I’m usually right once I sleep on it, but sometimes when I go home I am really frustrated.” (Seamus)

Taking time out was another common approach to relaxation. Time out was specific to each intern. For instance, Belle...
relied on affection and private time with her partner. She found this “wind down” period especially soothing after a long day. “It’s nice to come home and cuddle someone … I need a hug so much when I get home … it’s so nice to have someone there.”

Seamus used a mix of meditation and martial arts to calm himself when he reached home. Periodically he played some golf with close friends to further relieve stress.

**Essential communications**
Communication was another prominent coping strategy identified by the interns. Communication ranged from formal verbal discussions to more informal conversations with peers, family, and friends. These conversations allowed the participants to reduce the stresses, pressures, and difficulties which they were facing.

For the interns, the main people with whom they communicated about their experiences in their inclusive classroom were other interns. For Seamus and Belle, they were at an advantage, as compared to Elise, as they shared a house with other interns who were placed in nearby schools. This meant that once they reached home, they instantly had someone that they could talk to and could also relate to them. The quote that follows from Belle illustrates this point.

“I get home every night and it’s really nice to have four other people here and we just go: ‘well, this… happened to me today’, ‘well, you think that’s bad, this happened to me today,’ and it helps you put it into perspective and maybe my day wasn’t that bad.”

For Elise, communicating with other interns was also an important mechanism for coping with her classroom. Throughout the practicum, Elise indicated that she “talked a lot to other friends that were interns”. The idea that the interns were most comfortable talking with other interns is an interesting one. The reasoning behind this choice is most clearly indicated by Belle:

“Having the other four people to talk to everyday was an advantage; being able to let everything out. Whereas, if I was here [home town], no one else in my life would want to hear about it, because the only people who want to hear about it are teachers. There is no way you would want to sit there and listen about someone else’s job all day. We are the only ones who can understand each other’s pain. So it was really good, having that support there, especially being away from home.”

**Self-help**
All the interns seemed to use self-help strategies as a way of reducing stress. The main strategy was to keep things in perspective and to focus on positive experiences or even accentuate the positive. According to Seamus, when you keep
things in perspective, you also begin to think more positively about your life in general as well as your specific day-to-day classroom experiences. In fact, he drew some inspiration from several of his included students, especially in the way they had overcome or were confronting personal hardship.

Experience within classrooms of any description, let alone inclusive ones, was not a luxury which the interns had in order to help themselves cope with their new demands and pressures. Alternatively, for them, it was positive reinforcement and feedback from other school personnel, such as project teachers, mentor teachers, and aides, which became a primary source of confidence. This confidence, ignited by positive reinforcement and support, enabled them to cope with the dynamics of their inclusive classrooms, especially at times when they were experiencing difficulties. For Belle, this positive reinforcement came from her mentor, and it made a dramatic change to how she saw herself in the classroom and reacted to her experiences.

“I’ve had some really positive feedback this week and stuff so I had a big smile on my face all week. It’s just so nice to get positive feedback for a change.”

DISCUSSION
This study aimed to fill a void in the literature pertaining to pre-service teachers and their experiences regarding inclusive education. Specifically, the results of the study were used to answer three questions: How does an inclusive education internship affect the attitudes of interns towards inclusive education? What are the advantages and disadvantages of working in an inclusive setting as perceived by interns undertaking an inclusive education internship? What coping strategies do interns employ during their inclusive education internship? These three questions and their responses will now be considered in turn.

Generally speaking, the results of the data analysis showed that the intern’s attitudes towards inclusive education grew more positively as their internship progressed. It became apparent that with greater exposure to an inclusive classroom and students with special needs, the attitudes of the interns towards inclusive practice took on a more positive tone. Support for this finding can be found in numerous studies (see, for example, Carroll et al., 2003; Konza & Harris, 1994; Rademacher et al., 1998; Reber et al., 1995). These studies indicate that pre-service teachers, who participate in both inclusive in-school experiences as part of general subjects and guided practicums, are provided with more direct contact with special needs students, and therefore develop more positive attitudes towards both inclusive education and included students.

Even though previous studies concerned with pre-service teachers have shown attitudinal change with respect to inclusion,
there has not been any convincing evidence that these same beginning teachers have modified their behaviour towards included students. However, in the current study, the teaching practices of the three interns changed over the course of their practicum. For example, interns who worked closely with teacher aides and other school-based personnel during their internship practised more specific behaviour-management approaches. Additionally, these interns adopted a strong advocacy role for their included students by attending IEP meetings, parent conferences, and various school-based sessions as a teacher and advocate. The role of an advocate is normally played by the classroom teacher and not a pre-service teacher, but because of the intern’s higher status within the school he or she can elect to perform such a role.

It must be also noted, however, that whilst the internship did help to develop more positive attitudes towards inclusive education by the interns, this was also dependent upon the type of special need encountered in the classroom. Although two of the interns formed positive attitudes towards the notion of inclusive education as a whole, they also developed a somewhat negative attitude to including students with behavioural and emotional disturbance. Their experiences with these included students and the negative impact on their attitudinal development towards their inclusive education is shared by many pre-service and in-service teachers. Many studies have shown that students with emotional and behavioural difficulties cause more concern and stress than any other type of special need, ultimately leading to negative attitude developments toward inclusion of these students (see, for example, Avramidis, Bayliss, & Burden, 2000; Bartak & Fry, 2004; Hastings & Oakford, 2003).

The answer to the second question can be seen by reviewing the first two themes, namely, positive realities and negative realities, and their related categories. The major advantages about participating in an extended inclusive practicum, as indicated by the interns, were the support they received from others; the formation of positive attitudes towards inclusion; being able to see the positive impact of inclusive education for both included and general students; the development of consistent and effective teaching and behaviour strategies; and, finally, professional growth through practical experience. Studies by Carroll et al. (2003), Konza and Harris (1994), Rademacher et al. (1998), and Reber et al. (1995) all lend some support to this finding. Taken together, these studies have shown that practicum experiences involving students with special needs have helped pre-service teachers to gain confidence and to be more capable when working with students with such needs.
The interns indicated that the main disadvantages of an internship were a lack of experience in both general and inclusive classrooms; large class size making it difficult to meet the number of varying needs; fear that the general students will be disadvantaged by the special needs students’ demand of their attention; the inappropriate behaviour of both the special needs and general students; isolation in the schools; and, lack of support and stress (regarding lack of money and distance from family and partners). Again, these results are consistent with other studies (Bennett et al., 1997; Brown & Shearer, 1999; Scruggs & Mastropieri, 1996; Shade & Stewart, 2001).

In terms of the third question, it was clear that there were five distinct coping strategies employed by the interns in order to deal with their inclusive classrooms. These coping strategies employed by the interns were labelled as Organisation, Relaxation, Essential communications, Reflection, and Self-help, and link, to a certain degree, to similar strategies identified in previous studies. To exemplify, the pre-service teachers described in the Hemmings and Hockley (2002) study were inclined to employ self-help, relaxation, and communicative strategies. Interestingly, these pre-service teachers, compared to the interns in the present study, did not draw on different forms of reflection to help them counter the stressors faced in their classrooms. It could be argued that interns working with included students expend considerable more effort on meeting the needs of particular individuals, and thus are more likely to think deeply about the consequences of those efforts and rely more on reflection as a coping strategy.

Based on the results of this study, six recommendations that have implications for a number of stakeholders, including tertiary course designers and practicum staff, are suggested. Firstly, teacher education course designers should integrate special needs and inclusive education strategies and information, as well as short inclusive education experiences, within core university subjects. This should initially include short stints of practical work in inclusive classrooms (not just observations) with the number of stand-alone days eventually increasing to more lengthy inclusive education experiences for pre-service teachers. Secondly, these same course designers should include more specific inclusive education subjects within pre-service teacher education courses. Thirdly, subject coordinators need to plan subjects with a greater emphasis on teaching students with behavioural and emotional disorders. This would assist in producing teachers who are less negative about including students with these specific needs in their general education classrooms. Fourthly, practicum and internship personnel should plan and run stress management workshops.
prior to the undertaking of inclusive education practicums, which would assist interns, in particular, to develop more effective coping strategies for the demands of teaching in an inclusive classroom. Fifthly, practicum and internship personnel should evaluate schools and individual classrooms for their appropriateness in an internship program. Proper caution needs to be exercised if classrooms with high numbers of special needs students, limited support, or behaviourally and emotionally disturbed students are nominated by schools for use. Alternatively, classrooms with behaviourally and emotionally disturbed students could be used to demonstrate effective practices in early practicums. Sixthly, practicum and internship personnel should establish an allocation system that ensures all pre-service teachers experience at least one inclusive practicum during their university studies. Moreover, fostering partnerships with particular schools by education faculties would enable all pre-service teachers to be given first-hand experiences in an inclusive classroom before their first in-service teaching placement.

From a future research perspective, the findings of this study suggest that researchers could conduct a comparison study of the realities of an inclusive practicum for interns dependent upon length of practicum to determine if there is a critical time-frame for developing suitable appreciation about inclusion. For example, researchers could compare the reality experienced by a pre-service teacher conducting a three-week practicum in an inclusive classroom to that of an intern in order to determine whether the length of time in an inclusive classroom is an additional factor in developing teachers with more positive attitudes towards people with disabilities and inclusive education. In addition, researchers might undertake a study using interns who have completed additional special needs subjects (perhaps as part of an elective choice) in order to compare their attitudinal development and their teaching behaviour to those interns who have only completed the one compulsory subject.

This study had several limitations. To begin with, the number of participants was small due to data collection constraints and, as a consequence, caution needs to be exercised about the generalisability of the results. Further, the design of the study did not permit a pre- and post-test analysis of attitudinal change. In fact, as no systematic observation of the three interns and their interactions with certain students occurred, some care is required when considering the extent and the type of attitudinal and behavioural change reported.

The results of the study that dealt with both students’ lived experiences during an extended practicum and their growth and mastering of challenges in an inclusive classroom have not only extended previous
research findings but have also offered valuable insights. In particular, the resilience showed by the interns and the kinds of mechanism they used to cope with daily challenges is worthy of closer examination. One very important message that has been signalled from this investigation is that effective and strategic preparation of pre-service teachers is paramount if they are to gain from and contribute appropriately to an internship. Furthermore, it could be then argued that if the internship is both positive and satisfying, it is likely that as new teachers they will show a full range of professional competencies and coping strategies required for teaching in contemporary times.

REFERENCES


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Welcome to Sydney and AASE’s 2007 National Conference. Coogee, and its surrounds provides a wonderful location for this major professional learning experience which caters for the needs of all those interested and involved in the education of children and young people with special learning needs.

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Keynote Speakers

Edward Kame’enui
Commissioner, National Centre for Special Education Research, Washington DC
Ed is a “down-to-earth, dedicated and passionate champion of children with special education needs, particularly in areas related to reading.” He will provide the opportunity for delegates to further their understanding of quality reading programs—especially for students with special education needs.

Tim Lewis
Professor of Special Education, University of Missouri
Dr. Tim Lewis’ research focuses on social behavior problems among students with disabilities and those at-risk. He will address a continuum of behavioral support strategies (e.g., school-wide preventative practices, small group instructional strategies, individual systems) from projects conducted in the USA and Australia.

Karen Harris
Curry-Ingram Professor of Special Education & Literacy, Vanderbilt University
Karen has 30 years experience in special education. Her research focus is theoretical and intervention issues in the development of academic and self-regulation strategies among students who are at-risk and those with significant additional learning needs

Julie Hook
Education Consultant, Sydney
Julie has more than 20 years experience in working with students with complex education needs, their teachers and families. Her contribution to the conference will focus on quality education strategies for meeting the needs of students with complex needs.
**Book Review**


The title, *Supporting Children with Dyslexia*, belies the fact that it is, in essence, a book outlining broad teaching and learning strategies designed to support students with a wide range of learning difficulties which may include diagnosed dyslexia.

The Introduction to this book has specific relevance to the UK as it outlines The Code of Practice for Special Education Needs (DfES, 2001) and raises such issues as British Dyslexia Association accreditation to establish “dyslexia-friendly schools”, support from Special Education Needs Coordinators and the proposed move away from Statementing of students in order for them to receive additional support in schools.

The early chapters focus on assessment to identify individual student’s strengths and weaknesses and the building of supportive classroom environments through the implementation of a range of teaching and learning strategies. The authors acknowledge that while there are numerous definitions of dyslexia there is no single test to determine the condition. Students ranging from those who find print intimidating and need high levels of support in reading and spelling to those who simply demonstrate idiosyncratic spelling are considered by the authors, to be “dyslexic”. While indicating that teachers generally perceive “dyslexic children” as having greatly different needs to those “common or garden” poor reader and spellers, the authors conclude that this lack of distinction in diagnosis is “useful in that it reminds us that all children with literacy difficulties need the same kind of teaching to help them overcome these difficulties”.

Several hypotheses, from a range of sources, regarding the causes of dyslexia are presented and a suggestion made that these hypotheses should inform and guide the selection of areas targeted for assessment of a student’s strengths and weaknesses. The resulting, very broad assessment checklist includes areas such as speed of processing, memory, independence, reading, writing, spelling, coordination, organisation and behaviour. Some specific skills suggested for assessment include “ties shoelaces”, “dresses self”, and “rides a bike”; items which may be considered questionable when seeking to determine difficulties in areas related to literacy.

The latter chapters focus on organisational and planning skills, the link between dyslexia and dyscalculia, emotional support
and the importance of parents’ involvement in their child’s learning. Suggested formats for an Individual Education Plan and a Classroom Support Plan are presented. Differentiation of tasks, outcomes and levels of support are described, along with effective teaching approaches, the strategic positioning of students within the learning environment and the selective use of adult and peer support. In considering enhanced student access to the curriculum, the use of visual stimuli, coloured overlays, a range of computer programs and a device for magnifying groups of words on screen is proposed. Some of the areas focused upon have no firm, research-based evidence to confirm them as factors contributing to dyslexia, e.g., a visual deficit in which the glare of a white page against black lettering causes words to move on the page; nor is there firm evidence to support the claim that this can be successfully treated by the use of coloured plastic overlays.

Areas affecting learning and which are likely to be a result rather than a cause of difficulties in reading and writing, e.g., poor self-image, emotional difficulties and disengagement, are considered in the final chapters. Suggestions for raising self-image include having students identify and record their strengths and acknowledge their achievements. Strategies are suggested to assist students to develop coping strategies, become independent learners and overcome any negative perceptions.

The authors state that the aim of this expanded and updated edition is to enhance the skills of mainstream teachers and teaching assistants and improve the whole school’s capacity to meet the needs of all students and to this end it may be useful in providing a range of ideas and strategies for new and inexperienced teachers. The reoccurring use of the now seldom-used term, “dyslexic children” indicates focus on a condition or label rather than on the child’s individual learning needs and this raises some concern. Furthermore, using the term dyslexia to describe anyone who demonstrates any level of difficulty in reading and spelling may serve to encourage wider labeling of students and, as a consequence, contribute to limiting their own and others’ expectations of their achievements in school and beyond.

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