‘Mind the Gap’: Effective Literacy Instruction for Indigenous Low-Progress Readers

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A large gap is evident between the reading and related skills performance of Aboriginal students compared with that of their nonindigenous peers and this gap increases over the primary years of schooling. In this study, 34 students attended a tutorial centre in Sydney for older low-progress readers in Years 5 and 6, for two school terms. All students were referred by their schools on the basis of their reading difficulty and low socioeconomic status. The parents of 14 of these students self-identified as being Aboriginal. All students received an intensive, systematic skills-based remedial reading and spelling program (mornings only) and were assessed on a battery of literacy measures both prior to and following the two term intervention. The pre and posttest raw scores on all measures were analysed to determine the efficacy of the program. The group as a whole made large and highly significant gains on all measures of reading accuracy, comprehension, single word reading, nonword reading, spelling and oral reading fluency. There were no significant differences in gain between the two subgroups indicating that the program of instruction was equally beneficial for both Aboriginal and non-Aboriginal students.

Keywords: Indigenous, Aboriginal, literacy, reading, instruction, intervention

Aboriginal people continue to be the most disadvantaged group in Australia, with the poorest health and educational outcomes and highest incidences of poverty. In contemporary Aboriginal policy, there is an emphasis on improving the participation and educational outcomes of Aboriginal students in order to break this cycle of disadvantage. Without effective literacy skills, however, indigenous students experience severely restricted access to the full school curriculum. By secondary school, functional literacy skills are essential in order to succeed academically. Where students are not able to read and engage with their work effectively, frustration and continual failure can lead to behavioural problems, absenteeism and eventually dropping out.

In 2004, the New South Wales Department of Education and Training (NSW DET) and the New South Wales Aboriginal Education Consultative Group

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Incorporated (AECG) published a Report of the Review of Aboriginal Education (NSWDET & AECG, 2004), and reported that on average there was a 19-month gap between the reading performance of Aboriginal and non-Aboriginal students in the Year 3 Basic Skills Test. The gap by Year 7 corresponded to 58 months for writing skills and 60 months for language skills.

The National Benchmarks data also reflect this gap. In 2005, 92.7% of all Year 3 students met the reading benchmark compared to 78% for Aboriginal students. Similarly, 92.8% of all Year 3 students met the writing benchmark compared to 74% of Aboriginal students (Ministerial Council on Education Employment Training and Youth Affairs [MCEETYA], 2007). By Year 7, the difference in the percentage of students meeting the benchmarks remained stable at around 20 percentage points for writing, but increased to 26 percentage points in reading. The recent preliminary report of the first Australia wide NAPLAN testing confirmed these performance gaps (Ministerial Council on Education Employment Training and Youth Affairs, 2008).

In the discourse of the past 20 years, various suggestions have been made and targeted in policies as causes or contributors to the ongoing educational disadvantage of Aboriginal people. Aboriginal students have higher absenteeism, suspension, expulsion and dropout rates than non-Aboriginal students (NSWDET & AECG, 2004). There is also a range of health problems prevalent in the Aboriginal community that may effect Aboriginal students' full participation in school (NSWDET & AECG, 2004). In the classroom, poor nutrition may impact upon a child's concentration and cognitive ability (Department of Education, Science and training [DEST], 2000), while hearing problems may impact upon a child's ability to hear and actively participate in lessons. Early hearing difficulties may also affect a child's speech and language development (NSWDET & AECG, 2004).

Compounding these difficulties are the after effects of cultural dispossession experienced during the 'Protection' era of assimilation from the 1930s to 1970s. It is believed that the negative experiences and lack of opportunities experienced by the parents and grandparents of today's Aboriginal students may leave them feeling alienated from schools (Zubrick et al., 2006). Also, they may not necessarily have the skills or knowledge to assist in and support their children's learning, or an appreciation of the requirements for and benefits of schooling (NSWDET & AECG, 2004; DEST, 2000).

It has also been suggested that language differences may form a major challenge for many Aboriginal students. It is generally accepted that, even in urban areas where English is the majority language, Aboriginal English still forms part of the language mix (Mellor & Corrigan, 2004). Aboriginal English has identifiable Aboriginal characteristics in pronunciation, grammar and semantics, and is considered to be the majority language for Aboriginal people today (Malcolm, 2003). There are also 20 Indigenous languages that are still said to be strong (and 70 that are endangered) (McConvell & Thieberger, 2001), and two main creoles (Malcolm, 2003), mainly spoken in remote areas. It is interesting to note, however, that students from language backgrounds other than English achieved a result similar to that of the main cohort in all states except the Northern Territory in the National Benchmark results for reading and writing in 2005 (MCEETYA, 2007). This suggests that language differences alone are not responsible for the large gap in the achievement of Aboriginal students compared with the main cohort.

The problems of Aboriginal students' poor attendance and performance are often linked, in Aboriginal education discourse, to a lack of engagement and motivation stemming from the lack of culturally appropriate materials, teaching strategies and Aboriginal teachers in mainstream classrooms (NSWDET & AECG, 2004). It is

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suggested that student attendance will increase once Aboriginal students have a sense of belonging at school, and that this can be achieved through recognising and emphasising Aboriginal culture in schools (DEST, 2000; NSWDET & AECG, 2004). For some researchers, this includes changing classroom practices to account for Aboriginal learning styles (Clancy & Simpson, 2002; Dunn, 2001; Zeegers, Muir, & Lin, 2003) and focusing curricula and texts around Aboriginal culture and experiences to increase student interest (Exley & Bliss, 2004; Hannon, 2004). It is also suggested that Aboriginal students require more culturally relevant and localised texts in order to foster comprehension and meaning (Dunn, 2001; Zeegers et al., 2003). A focus on local experiences, language and traditions, however, would limit these children's opportunities to broaden their vocabulary, language and knowledge, and indeed their understanding of and ability to succeed in the wider community. When compared to students who are taught from a rich variety of texts and introduced to a range of cultural experiences, it would seem that this approach could actually be limiting and to the disadvantage of Aboriginal children.

Research on Aboriginal education is often dominated by an emphasis on the many possible causes and contributors to this achievement gap, rather than the instructional approaches that might make the most difference for these children. Further, there is an emphasis on the 'difference' of Aboriginal students and the wider scientific literature on teaching literacy skills is rarely referenced. Not only is the wider body of knowledge about the teaching of reading rarely considered in the Aboriginal literacy debate but also few empirical articles exist in the specific research area of Aboriginal literacy.

While it is commonly accepted that subgroups of the community require different approaches to instruction that specifically cater to their differences, research evidence has shown that there are instructional approaches that are effective for all students. A 'noncategorical' approach to teaching students with special learning needs focuses on the most effective instruction for students, rather than on the possible reasons for their low-progress (Wheldall, 1994; Wheldall & Carter, 1996). Wheldall and Beaman (2000) argue that regardless of the reasons for difficulties in learning to read, low-progress readers need quality teaching and classroom practice that is informed by the findings of empirical research. The findings of the Australian Government National Inquiry into the Teaching of Literacy (NITL), published in 2005, supported this view. The NITL Report, 'Teaching Reading', reported similar findings to the USA National Reading Panel Report in 2000 and the UK Committee on the Teaching of Reading Report in 2006 (Coltheart & Prior, 2007), that found *all* students learn best with an integrated approach to reading that explicitly teaches phonemic awareness, phonics, fluency, vocabulary knowledge and comprehension (DEST, 2005).

The NITL report found that too much emphasis is placed on a students' background and reasons for reading difficulty, rather than on *what* and *how* a teacher should teach (DEST, 2005). In the case of Aboriginal students, Torres Strait Islander academic Dr Martin Nakata (2003) has argued that the role that cultural differences play in the learning process has been overemphasised. While some teachers may claim that mainstream approaches are not effective for Aboriginal children, there is no evidence to suggest that the most effective mainstream instructional approaches have yet been systematically employed or tested with these students.

This article seeks to test the efficacy for Aboriginal students of an evidence-based intensive literacy program for low-progress readers known as MULTILIT (Making Up Lost Time In Literacy) (Wheldall & Beaman, 2000). The MULTILIT Program employs a noncategorical approach, using best practice instructional strategies as established in the

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scientific literature. An evaluation of MULTILIT completed for the Commonwealth Government (Wheldall & Beaman, 2000) reported the results of the MULTILIT Program across a range of locations and participants from 1996 to 1998. In particular, results from six cohorts assisted in a Tutorial Centre for disadvantaged students in inner Sydney suburbs (from 1996–1998) showed that the MULTILIT 'Schoolwise' Program was able to help older low-progress readers from disadvantaged backgrounds to make very large gains in reading and related skills. These findings have subsequently been replicated many times over subsequent years (Wheldall, 2009).

The aim of the present study was to compare the gains made by students whose families self-identified as Aboriginal with students from non-Aboriginal backgrounds, attending the same Tutorial Centre in 2004. All students attending the Tutorial Centre received a small group instruction version of the MULTILIT program.

Method

Participants

Participants comprised 34 low-progress readers attending the Schoolwise Program delivered at the Exodus Foundation Tutorial Centre in Ashfield, New South Wales. To be eligible for entry into the program, students were required to be at least two years behind what might be expected from their chronological age for reading, or in the lowest 25th percentile for reading accuracy as measured by Form 2 of the Neale Analysis of Reading Ability (3rd ed.) (Neale, 1999) and identified by school principals as being socio-economically disadvantaged, and at serious risk of disaffection from school. During parent and student interviews, 14 of the 34 families self-identified as Aboriginal (41%).

The mean age of the participants at initial testing was 11 years 4 months (136 months) with 13 students in Year 5 and 21 students in Year 6. Twelve students were female and 22 students were male. Of the 14 students identifying as Aboriginal, four were female and 10 were male compared to the non-Aboriginal sample where eight were female and 12 were male. Five of the Aboriginal students were in Year 5 and nine were in Year 6 compared to eight non-Aboriginal students in Year 5 and 12 in Year 6.

At pretest, the mean reading age for the whole group as measured by the Neale Analysis (Neale, 1999) was 7 years 6 months (90 months) for reading accuracy and 7 years 4 months (88 months) for reading comprehension. Overall, students were over 3½ years behind typical age peers in reading accuracy and 4 years behind in reading comprehension.

Measures

During the first two weeks of the program (Weeks 1 and 2, Term 3), students were given a battery of standardised tests of reading and related skills, administered by trained research assistants. The battery consisted of measures of reading accuracy and comprehension (Neale Analysis of Reading), single word recognition (Burt Word Reading Test), spelling (South Australian Spelling Test), oral reading fluency (Wheldall Assessment of Reading Passages) and nonword reading (Martin and Pratt Nonword Reading Test). Students were again tested on the entire battery during weeks 9 and 10 of Term 4, after two terms (about 18 weeks) of instruction.

The Neale Analysis of Reading Ability (3rd ed.; Neale, 1999). This test provides information regarding a student's ability in reading accuracy and reading comprehension. Six text passages of increasing difficulty are presented to the student who reads the passages aloud to an examiner. Errors are recorded and used to determine an accuracy score.

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Comprehension questions are asked by the examiner at the end of each passage. The number of correctly recalled responses determines a student's reading comprehension score. The Neale Analysis yields high levels of internal consistency for accuracy and comprehension with correlations ranging from 0.71 to 0.96 (Neale, 1999). A good relationship was found between the Neale Analysis for accuracy and comprehension and the Schonell Graded Word Reading Tests with Pearson product moment correlations ranging between 0.88 and 0.96 indicating good criterion-related validity (Neale, 1999).

Burt Word Reading Test (Gilmore, Croft, & Reid, 1981). This test is a measure of single word recognition skills. Students are presented individually with a card consisting of 110 words listed by increasing difficulty. They are instructed to read as many words as possible and are stopped when ten consecutive errors are reached. Students are then given the opportunity to look over the remaining words to see if they recognise any further words. The maximum reading age possible on the Burt is about 13 years. The Burt Word Reading Test has high test-retest reliability (>.95) and high internal consistency (>.96) (Gilmore et al., 1981). Significant and positive correlations (0.90–0.98) between the Burt Word Reading Test and the Schonell Graded Word Reading Test and the Oral Word Reading Test indicate that the test has high criterion validity (Gilmore et al., 1981). Wheldall and Beaman (2000) warn, however, that in some cases the Burt Word Reading Test has a tendency to overestimate reading age by 4 to 5 months.

South Australian Spelling Test (Westwood, 1979). This is a standardised test used to determine spelling age. It can be used with children in the age range 6 years to over 15 years and can be individually or group administered. The test manual reports good internal reliability with a test-retest reliability coefficient of .96 (Westwood, 1979).

Wheldall Assessment of Reading Passages (WARP; Wheldall, 1996). The WARP is a curriculum-based measure of oral reading fluency (Wheldall & Beaman, 2000). A subset of the twenty-one 200-word passages contained in the Experimental Edition of the WARP was used, as identified by Wheldall and Madelaine (2006). The reading passages have been shown to have high internal consistency, intercorrelations exceeding .95 (Wheldall & Beaman, 2000). The passages have also been shown to be highly correlated with the Neale Analysis of Reading accuracy measure (.87) and the Burt single-word reading test (.85), indicating good criterion related validity (Wheldall & Madelaine, 2006). A set of three 'basal' passages were used at both pre and posttesting. Students are required to read three 200-word text passages each for one minute. The number of words read correctly per minute is averaged over the three passages to yield a single measure of the number of words read correctly in one minute. A second set of 10 parallel passages was administered weekly across each 10 week term to monitor the progress of the students. The 10 passages correlate highly with each other (r = .95–.98) and with the mean passage score of the basal set (r = .97–.98) (Wheldall & Madelaine, 2006). The 10 passages are administered in a prescribed order so that any small differences between the passages are smoothed out when a running mean is calculated over successive passages.

Martin and Pratt Nonword Reading Test (Martin & Pratt, 2001). The Martin and Pratt Nonword Reading Test is a measure of phonological recoding ability for students between the ages of 6 and 16 years (Martin & Pratt, 2001). A presentation book with nine pages of six psuedowords per page, of increasing difficulty, is presented to the child to be read aloud. The test is discontinued after eight consecutive errors (phonetically

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incorrect pronunciations). The test has a high test-retest reliability coefficient of .96 for Form A and .95 for Form B, high alternative forms reliability coefficients of .92–.96, and a high internal consistency reliability coefficient of .96 (Martin & Pratt, 2001). Positive correlations between the Martin and Pratt and the WRMT-R Word Attack (.89) and Coltheart and Leahy Nonword reading (.93) tests and the Neale Analysis of Reading Accuracy measure (.78–.88) show good criterion-related validity (Martin & Pratt, 2001).

Ginn Reading Levels (Ginn & Company, 1994). The Ginn New Reading 360 scheme is a graded scheme for use across primary school. Levels 1 to 12 span reception (or Kindergarten) Year to Year 6. Ginn Level 10 equates to Year 5, which might be considered functional literacy level. Student progress was carefully monitored throughout the intervention through regular (weekly) testing of students' reading levels.

Intervention

The Schoolwise Program at the Exodus Foundation Tutorial Centre provides intensive MULTILIT literacy instruction, five mornings per week, for two terms (approximately 20 weeks). The MULTILIT Program is an intensive, systematic, skills-based program encompassing all five major facets of effective literacy instruction (phonemic awareness, phonics, fluency, vocabulary, and comprehension). MULTILIT is a noncategorical program that employs a scientifically balanced, 'interactive' model of literacy instruction using a 'Positive Teaching' approach to classroom behaviour management (Wheldall & Beaman, 2000). The MULTILIT program consists of MULTILIT Word Attack Skills, MULTILIT Sight Words and MULTILIT Reinforced Reading (using Pause, Prompt and Praise), and also incorporates other supportive programs.

Students attended the program in Terms 3 and 4 from 8:30 a.m. to 11:30 a.m., Monday to Friday. The sessions consisted of 25 minutes of group Reinforced Reading, 20 minutes of group spelling, 1 hour of 'home group' where individual sessions and independent work are completed, 15 minutes of Peer Tutoring using Reinforced Reading, 15 minutes of group Sight Words, and 25 minutes of group Word Attack Skills (accuracy and fluency). This is a shorter version of the Schoolwise program reported in Wheldall and Beaman (2000), which ran from 9:00 a.m. to 1 p.m. each day, and featured more individual instruction.

MULTILIT Word Attack Skills. MULTILIT Word Attack Skills was designed specifically for teaching older low-progress readers the phonic skills essential for rapid decoding in order to become a competent and independent reader. Each student is given a placement test that assesses their letter-sound knowledge, decoding and blending skills on entry to the program. Each level of the program is sequentially more difficult, with necessary preskills taught first. A student is considered to have mastered a level when both the reading accuracy and fluency mastery criteria are met (Wheldall & Beaman, 2000).

MULTILIT Sight Words. MULTILIT Sight Words teaches the automatic recognition of high frequency words. The words are mostly irregular words that cannot be decoded. Students are tested on their ability to read lists of ten sight words, progressing to the next list if all words are read correctly. If an error is made, the student must pass the list on two consecutive days before moving to the next list. Intervention takes place after the presentation of the lists. Students also revise previous lists and are tested on a cumulative review at the end of lists 10 (100 words), 20 (200 words) and 30 (300 words) (Wheldall & Beaman, 2000).

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MULTILIT Reinforced Reading using Pause, Prompt and Praise. Reinforced Reading was developed to enhance the student's independent reading skills. It uses the Pause, Prompt and Praise tutoring strategy developed for use with older low-progress readers. Reinforced Reading allows for the learning of sight words and word-attack skills to be reinforced by the supported reading of real words in real text in context. In this process, the student is supported by a trained tutor who provides positive reinforcement for good reading through highly specific and contingent praise (Wheldall & Beaman, 2000).

The SRA Spelling Mastery Program. The SRA Spelling Mastery program (Dixon, Engelmann, & Bauer, 1999) is a rules-based direct instruction program with six levels designed to provide increasingly independent practice of the skills taught through to mastery. It is used in conjunction with the MULTILIT Program, as it is complementary in its treatment of letter-sound knowledge. A placement test is used to determine a student's entry level.

Home group. Activities during the home-group period include a one-to-one session with their instructor, an individual Reinforced Reading session with a community volunteer, computer program activities and independent work. Each student has an Independent Folder that contains work to be completed during the period, as specified in their work contract. Students are able to revise, practice and generalise their skills through worksheets and journal writing activities while learning to work independently. Instructors mark the folder each day and students are responsible for correcting their mistakes the following day. Students are rewarded for completing all of the assigned work each week (Wheldall & Beaman, 2000, p. 38).

Other programs

The MULTILIT Reading Tutor Program uses a range of complementary programs to enable students to generalise their skills. For example, once students have completed the Sight Words and/or Word Attack Skills programs, they may move on to comprehension or writing programs, such as the SRA Multiple Skills (Boning, 1990a), SRA Specific Skills (Boning, 1990b), and SRA Reasoning and Writing programs (Engelmann, 1991).

Design and Analysis

Students were tested individually on the entire battery of tests described during the first 2 weeks of the program (weeks 1 and 2 of Term 3) by experienced research assistants. They were posttested on the same battery of tests at the end of Term 4 during the final two weeks of the program, after approximately 18 weeks of instruction, on average. Weekly WARP passages were also administered to monitor progress throughout the program.

The pre and posttest *raw scores* on all measures were analysed and overall gains for the total sample of 34 students were computed and statistically analysed to determine the efficacy of the program. Raw score gains made by Aboriginal and non-Aboriginal students were then compared using both analyses of covariance and *t*-tests of gains (Wright, 2006).

Note: While some analyses compared the performance of students from Aboriginal and non-Aboriginal backgrounds (i.e., comparisons of two subgroups) all students were taught together in mixed groups within the tutorial centre. Aboriginal and non-Aboriginal students were not taught in separate groups.

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Results

The results for the whole intake of students after attending the MULTILIT Program for two terms are shown in Table 1, which includes pretest and posttest means and standard deviations for all measures (raw scores). In under 5 months of participation in the Program, with an attendance rate of about 92%, these students made average *raw score gains* of 11.09 (about 11 months) in Neale reading accuracy, 4.15 (about 9 months) in Neale reading comprehension, 12.94 (about 15 months) in Burt single word reading, 6.74 (about 13 months) in reading of Martin and Pratt nonwords, 5.85 (about 14 months) in spelling as measured by the South Australian Spelling Test, and could read 33 more words correctly per minute on the WARP.

The total sample ($N = 34$) made major and highly statistically significant gains on all six measures ($p < .0001$). In addition, the effect sizes for these gains can be classified as large, in that they are all above .8 (ranging from .91–1.49). According to Aron and Aron (1999) effect sizes are typically regarded as small (.20), medium (.50) or large (.80). An effect size of 1.0 indicates an increase of one standard deviation, the progress that a typical student would be expected to make in the course of one school year (Hattie, 1992, p. 5).

Table 2 shows the Ginn Independent Reading Levels (defined as 96% accuracy or above at that level) for the total sample at commencement (pretest) and conclusion (posttest) of their programs. An independent reading level is 'the highest level that could be read easily and fluently without assistance' (Donovan, Smolkin, & Lomax, 2000). At pretest, all students were at or below Ginn Level 8, which equates to a Year 3 Level. At posttest, the majority of students were at or above Level 10, which equates to a Year 5 Level, which may be regarded as functional literacy level (Wheldall & Beaman, 2000). The lowest students, who at pretest were not able to reach an independent reading Level at Ginn Level 1 (starting point of schooling), moved up to Level 5 (Year 2) by the end of the 5-month period, an increase of at least two years' progress.

TABLE 1

Means (and Standard Deviations) of Literacy Variables (Raw Scores) for the Whole Sample and the Resultant Gains After Two Terms Of MULTILIT Instruction

Literacy variable	*N*	July pretest (*SD*)	December posttest (*SD*)	Gain (*SD*)	*t**	ES
Neale Accuracy (raw score)	34	32.59 (8.56)	43.68 (11.15)	11.09 (6.83)	9.46	1.3
Neale Comprehension (raw score)	34	10.94 (4.05)	15.09 (5.21)	4.15 (3.16)	7.64	1.02
SA Spelling (raw score)	34	27.94 (5.91)	33.79 (3.46)	5.85 (3.32)	10.27	0.99
WARP (wcpm)	34	75.47 (26.08)	108.24 (28.95)	32.76 (13.87)	13.78	1.26
Burt Word (raw score)	34	42.62 (8.67)	55.56 (12.74)	12.94 (7.36)	10.25	1.49
Martin & Pratt (raw score)	34	17.29 (7.41)	24.03 (6.21)	6.74 (5.86)	6.7	0.91

*$p < 0.0001$

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TABLE 2

Number of students at each Ginn level at Pretest and Posttest (After Two Terms)

Ginn level	<1	1	2	3	4	5	6	7	8	9	10	11	12	Total
Pretest	2	2	4	8	7	2	4	4	1					34
Posttest						2	2	2	4	4	12	3	5	34

Parallel single WARP passages were administered weekly during the Program, the results of which are shown graphically in Figure 1. The forms alternate each week between a passage that is slightly easier and then more difficult, which accounts for the staggered pattern. Overall, reading fluency can be seen to have risen steadily over the course of the two terms of program implementation.

Results of Aboriginal versus Non-Aboriginal Students

This intake included 14 students whose families identified as Aboriginal (41%). Table 3 shows the means and standard deviations for raw scores at pre and posttest for the subgroups of Aboriginal and non-Aboriginal students, separately. While the Aboriginal students' performance at pretest was lower than that of the non-Aboriginal students on

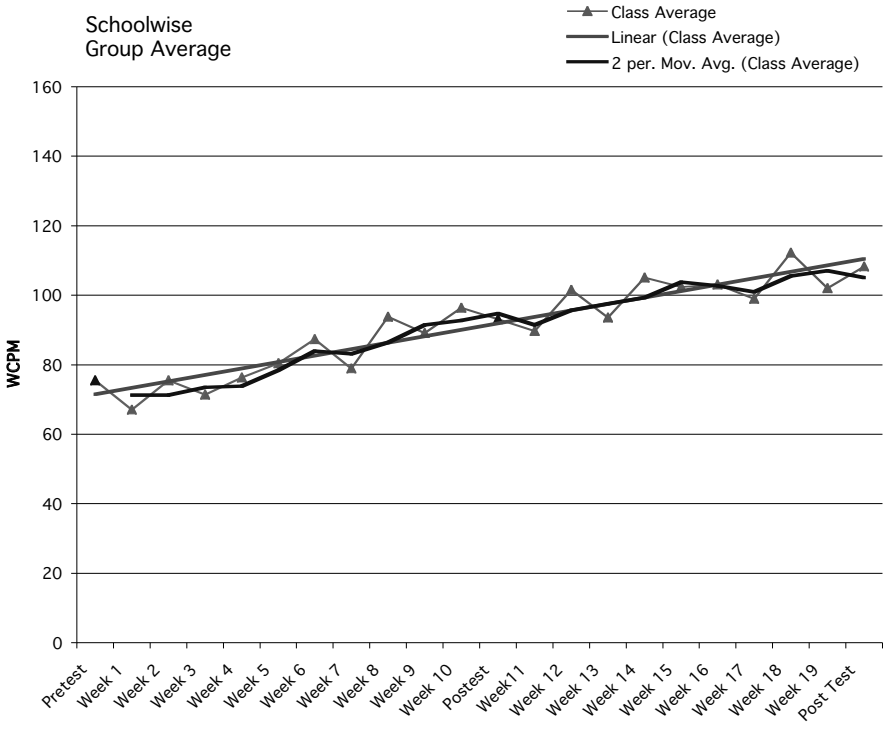

FIGURE 1

Average progress of the whole sample over two terms on the WARP test.

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TABLE 3

Pre- and Posttest Means and Standard Deviations for the Literacy Variables (Raw Scores) for Aboriginal and Non-Aboriginal Students

Literacy variable	Aboriginal pretest mean (*SD*)	Non-Aboriginal posttest mean (*SD*)	*t*	Aboriginal pretest mean (*SD*)	Non-Aboriginal posttest mean (*SD*)	*t*
N	14.00	20.00		14.00	20.00	
Neale Accuracy (raw score)	27.50 (9.84)	36.15 (5.36)	2.99*	40.21 (14.10)	46.10 (8.05)	1.41*
Neale Comprehension (raw score)	9.29 (3.56)	12.10 (4.05)	2.14*	13.71 (5.31)	16.05 (5.05)	1.29*
SA Spelling (raw score)	26.29 (6.40)	29.10 (5.40)	1.34*	32.64 (4.16)	34.60 (2.70)	1.55*
WARP (wcpm)	62.43 (26.16)	84.60 (22.36)	2.58*	92.64 (30.83)	119.15 (22.37)	2.75*
Burt Word (raw score)	40.07 (11.83)	44.40 (5.16)	1.29*	52.50 (16.73)	57.70 (8.86)	1.06*
Martin & Pratt (raw score)	17.57 (7.07)	17.10 (7.82)	–0.18*	25.50 (6.90)	23.00 (5.62)	–1.12*

Note: *$p > .05$, not significant.

all measures except nonword reading, these differences were not statistically significant ($p > .05$). At the conclusion of the program, the Aboriginal students' mean raw scores were still below those of the non-Aboriginal students on all measures except nonword reading, where they continued to do marginally better, but again, these differences were not statistically significant ($p > .05$ on all measures).

When initial differences were controlled for, the actual gains made by the Aboriginal and non-Aboriginal students over the two-term intervention, were very similar. As suggested by Wright (2006), the differences in gains were analysed both by means of *t*-tests of mean gains (Table 4) and by an analysis of covariance of raw scores (Table 5).

TABLE 4

T tests on the Mean Gains on the Literacy Variables for the Aboriginal and Non-Aboriginal Students

Literacy Variable	Aboriginal ($n = 14$)	Non-Aboriginal ($n = 20$)	*t*	*df*	*ES*
Neale Accuracy (raw score)	12.71	9.95	–1.14*	25.00	0.40
Neale Comprehension (raw score)	4.43	3.95	–0.44*	30.00	0.15
South Australian Spelling (raw score)	6.36	5.50	–0.75*	30.00	0.26
WARP (wcpm)	30.21	34.55	0.89*	27.00	0.31
Burt Word (raw score)	12.43	13.30	0.33*	27.00	0.12
Martin & Pratt (raw score)	7.93	5.90	–1.02*	30.00	0.35

Note: *$p > .05$, not significant

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TABLE 5

Results of Analyses of Covariance of Posttest Raw Scores on the Literacy Variables (Covarying Pretest Scores) for the Aboriginal and Non-Aboriginal Students

Literacy Variable	*F* (1, 31)
Neale Accuracy	2.17*
Neale Comprehension	0.26*
South Australian Spelling	0.79*
WARP (wcpm)	1.23*
Burt Word	0.00*
Martin & Pratt	1.83*

Note: * $p > .05$, not significant.

Results of the *t*-test analyses reported in Table 4 show that there were no significant differences between the mean gains for the Aboriginal students ($n = 14$) and non-Aboriginal students ($n = 20$) on any of the measures. The actual raw score mean gains for the Aboriginal students were higher on four of the six measures, reading accuracy, comprehension, spelling and nonword reading, than for the non-Aboriginal students who made slightly higher raw score gains on the WARP and on single word reading. Only small effect sizes can be seen on four of the six measures (the effect sizes on the remaining two measures were below 0.2). In reading accuracy, spelling, and nonword reading, it was the Aboriginal students whose gains were more favourable, whereas non-Aboriginal students performed better on the WARP. The analyses of covariance of the posttest means for Aboriginal and non-Aboriginal students (covarying pretest scores) confirmed the findings of the *t*-test analyses. There were no significant differences ($p > .05$) between the means for the Aboriginal and non-Aboriginal students on any of the measures (Table 5), when pretest scores were included as a covariate.

All of the available evidence points to the fact that overall the Aboriginal students' gains were just as great as those of the non-Aboriginal students, demonstrating that the Schoolwise MULTILIT program was beneficial for all low-progress readers regardless of whether students were or were not of Aboriginal background.

At pretest, the Ginn Independent Reading Levels (defined as 96% accuracy or above at that level) were, overall, marginally higher for the non-Aboriginal than the Aboriginal students (Table 6). The range of levels for the Aboriginal students was below Level 1 to Level 7, with the average at or around Levels 3 and 4. For the Non-Aboriginal students, the range was Levels 1–8, with the average at Level 4. At posttest, the average level for Aboriginal students was between Levels 8 and 9. For Non-Aboriginal students, the average Ginn level achieved by posttest was Level 10. The lowest level of attainment for non-Aboriginal students was Level 7 (representing a Year 3 text), up six levels from Level 1 at pretest (representing the lowest Level for use in the first year of school) and an increase of two years' progress. For Aboriginal students the lowest level attained at posttest was Level 5 (Year 2), up at least five levels for those students who were not able to read independently at Level 1 at pretest, and again, progress of at least two years. Six Aboriginal and 14 non-Aboriginal students met a functional literacy level of Ginn 10 (Year 5) or higher at posttest.

The ongoing progress of the Aboriginal students throughout the two terms of instruction may be seen in Figure 2. While the Aboriginal students started and finished lower overall than their non-Aboriginal counterparts in terms of the number of words read correctly per minute, the weekly WARP passage data showed a similar pattern between the

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TABLE 6

Number of Aboriginal and Non-Aboriginal Students at Each Independent Ginn Level at Pre- and Posttest

Ginn level	< 1	1	2	3	4	5	6	7	8	9	10	11	12	Total
Aboriginal Pretest	2	0	2	4	2	1	1	2						14
Aboriginal Posttest						2	2	1	2	1	3	0	3	14
Non-Aboriginal Pretest	2	2	4	5	1	3	2	1						20
Non-Aboriginal Posttest								1	2	3	9	3	2	20

two groups of consistent improvement in reading fluency. The actual rate of improvement was 48% more words read correctly per minute by the Aboriginal students and 41% by the non-Aboriginal students.

Discussion

The main aim of the present research was to compare the gains made by Aboriginal and non-Aboriginal students attending and taught together in the same Tutorial Centre in

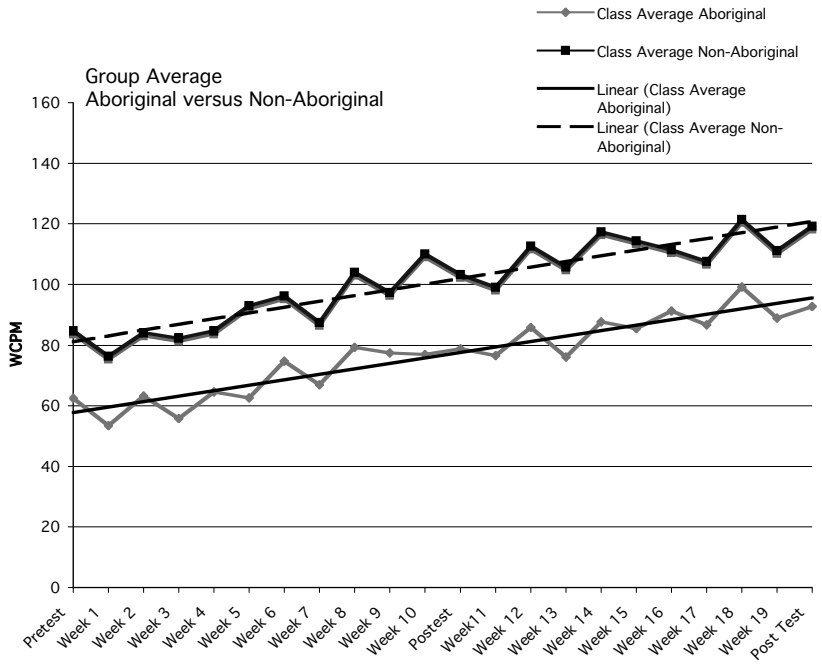

FIGURE 2

Average progress of the Aboriginal and non-Aboriginal students over two terms on the WARP test.

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which the MULTILIT program was delivered. As a group, the whole cohort ($N = 34$) made significant gains on all literacy measures. The Aboriginal students ($n = 14$) started and finished a little behind the non-Aboriginal students overall, but the gains they made were just as great.

Both the Aboriginal and non-Aboriginal students made continual progress throughout the term, as may be seen in the weekly passage reading test data presented in the WARP graphs. Aboriginal and non-Aboriginal students progressed at a similar rate and in a similar manner to one another, and while the Aboriginal students started and finished a little lower overall than the non-Aboriginal students, they made very similar progress. At the completion of the two-term program the Aboriginal students were reading 48% more words correctly per minute and the non-Aboriginal students were reading 41% more words.

The group data on the Ginn Reading Scheme book levels at pre and posttest also showed progress for all students as a result of participation in the program. Once again, the Aboriginal students started and finished lower overall, but even the lowest students from both groups made at least two years' progress. On average, the Aboriginal students moved up at least five levels and the non-Aboriginal students six levels.

In this study, the MULTILIT Program was used to good effect for both Aboriginal and non-Aboriginal students alike. In much of the literature on Aboriginal education and literacy teaching, it is recommended that adapted materials and approaches be used in order to meet the unique needs of Aboriginal students. These recommendations, however, are often made in the absence of empirical research evidence. Further, the body of empirical evidence that does exist about effective literacy instruction, and the processes of literacy skills acquisition, is often ignored.

The MULTILIT Program employs evidence-based best practices to help low-progress readers catch up with their peers, regardless of the reasons for their initial failure. In the National Inquiry into the Teaching of Literacy (NITL) (DEST, 2005), it was concluded that all students learn best using an integrated approach to reading that explicitly teaches phonemic awareness, phonics, fluency, vocabulary knowledge and comprehension. This study suggests that such an approach was beneficial to both Aboriginal and non-Aboriginal students, living in Sydney. As such this study provides new information suggesting that students from Aboriginal backgrounds do not need different instruction from non-Aboriginal students, just effective non-categorical instruction *per se* that appears to be most effective for all students.

There are, however, some limitations to the findings from this study. As students were referred to the program on the basis of need for fast and effective intervention, it would have been unethical to place some students into a control group. As a result of not having a control group, it may be questioned as to whether the resultant gains were in fact attributable solely to the intervention, or some other factors such as maturation (the natural improvement of skills over time), or regression to the mean.

It is unlikely that the group's results are a factor of regression to the mean for several reasons. The first is that students are referred to the program on the basis of their school identifying them as low-progress readers. Students are also referred on the basis of a Neale Analysis of Reading (Neale, 1999), conducted by the referring schools at the time of application to the program. The pretest Neale assessments were subsequently completed by the present research team on an alternate form of the test. In other words, the pretest scores were not used to allocate students to the program for instruction and hence are not susceptible to the regression effect. Second, the WARP data collected weekly shows continual improvement throughout the two terms. This is evidence that

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incremental progress was made week by week, and confirms that the improvements between pre and posttest were not as a result of a simple statistical regression effect.

It should be expected that all students would make some progress in their literacy skills during two terms of normal schooling. A control group in this study could have provided internal validity for the MULTILIT intervention by providing comparative data indicating the progress that these students would have made in school, irrespective of the intervention. Even without a control group, however, it should be expected that older low-progress readers, by their very definition, do not make one month of progress for every one month of normal instruction. This is how they fall so far behind. In this study, these students had fallen, on average, to around three and a half and four years behind their normally progressing peers in both reading accuracy and comprehension, respectively. In 2000, Wheldall and Beaman found that the typical rate of progress of older low-progress readers (Years 5 to 8), who are between two to five years behind, would probably be about half of the rate for normally progressing students. Overall, this group of students made a minimum of 10 months progress on all of the standardised measures. As low-progress readers, it would be expected that had they continued attending their regular school, they would have only progressed by around 2.5 months in the 5 months of the program.

Finally, it may be argued that the challenges faced by urban Aboriginal students, and their instructional needs, may be substantially different to those of other Aboriginal populations. Differences in exposure to Standard Australian English, poverty levels, and the provision of health and other services, as well as isolation or remoteness of a community, may all contribute to varying support and intervention needs. As such, it is recognised that the findings of this study should not automatically be generalised to all Aboriginal communities and students. It would be a mistake, however, to infer that these differences would preclude this intervention and its approaches from being effective.

It is argued in this article that effective instructional approaches such as those used by MULTILIT can assist students irrespective of their reasons for low-progress and irrespective of cultural background or identity. In this study, Aboriginal and non-Aboriginal students received the same instruction, and both Aboriginal and non-Aboriginal students benefited equally from it, making significant gains in their literacy skills. Further studies are needed to replicate this study, not only with other urban Aboriginal students but also within rural and remote communities.

Aboriginal students are the most educationally disadvantaged and poorly performing group in Australia. For over 20 years, governments have implemented a range of strategies in an attempt to redress these gaps in achievement and the subsequent lack of social, educational and employment opportunities. At the basis of these challenges are poor literacy skills — skills that are crucial in order to be successful in school and in society. Unfortunately, in the literature on Aboriginal literacy education, far too little attention is paid to how literacy skills should be taught and improved and, when it is, the scientific and empirical research into effective literacy instruction is overlooked.

This study compared the results of Aboriginal and non-Aboriginal disadvantaged students attending a Tutorial Centre for older low-progress readers in Sydney. The approaches used were derived from the scientific literature on literacy instruction, which were recently reinforced in the findings of the National Inquiry into the Teaching of Literacy Report (DEST, 2005). These approaches are recognised as being the most effective for all students, irrespective of their social or cultural background. The Aboriginal students in this study progressed as well as their Non-Aboriginal peers. Not

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only did they perform similarly but also the actual gains and effect sizes were large on all standardised measures of reading accuracy, comprehension, spelling, nonword reading, single-word reading and oral reading fluency. Consequently, we may tentatively conclude that Aboriginal students do not need different instruction from non-Aboriginal students, as is often claimed, but just effective instruction *per se* that appears to be effective for all.

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