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Aboriginal students and the Western Australian literacy and numeracy assessment

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ABORIGINAL STUDENTS AND
THE WESTERN AUSTRALIAN LITERACY
AND NUMERACY ASSESSMENT

A PROJECT OF THE WESTERN AUSTRALIAN
ABORIGINAL EDUCATION AND TRAINING COUNCIL
&
THE CENTRE FOR INDIGENOUS AUSTRALIAN
KNOWLEDGES EDITH COWAN UNIVERSITY

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2006

Aboriginal Students and the Western Australian Literacy and Numeracy Assessment

**A Project of the Western Australian Aboriginal
Education and Training Council**

&

**The Centre for Indigenous Australian Knowledges
Edith Cowan University**

Sean Gorman

2006

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Dr Sean Gorman, October 2006.

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LIST OF ACRONYMS

List of Acronyms

ATSI	Aboriginal and Torres Strait Islander
AIEO	Aboriginal and Islander Education Officer
AETC	Aboriginal Education and Training Council
BM	Benchmark/Benchmark score
CIAK	Centre for Indigenous Australian Knowledges
DET	Department of Education and Training
ECU	Edith Cowan University
LBOTE	Language background other than English
MSE	Monitoring Standards in Education
SAT	Scholastic Assessment test
WAMSE	Western Australian Monitoring Standards in Education
WALNA	Western Australian Literacy and Numeracy Assessment

EXECUTIVE SUMMARY

Since the introduction of standardised testing in Western Australia with the Western Australian Literacy and Numeracy Assessment (WALNA) it has become quite evident that Indigenous students' performance is well below that of non-Indigenous students.

As WALNA is now very much a part of the pedagogical landscape steps must be taken to ensure that those students who are not reaching the benchmark scores or the MSE requirements do progress.

The aim of this project was to address this poor performance in the WALNA tests that are conducted in the first week of August each year. The objectives of the project were:

- To enhance the test literacy of Aboriginal students in Year 5;
- To assist teachers to interpret test data;
- To develop teachers' skills in helping Aboriginal children engage with the test environment and test requirements;
- To provide advice for policy makers on suitable strategies to improve the performance of Aboriginal students on WALNA tests;
- To develop strategies to ensure WALNA can be used as an education tool equally as effectively for both Aboriginal and non-Aboriginal students.

Five primary schools with significant cohorts of Indigenous students in different regions of Western Australia were invited to participate. The teachers were involved in professional development sessions that helped them to identify and develop their students' test-taking skills. As part of the professional development sessions, teachers examined past WALNA tests, analysed the requirements of the test, analysed the language of the test and were familiarised with the guidelines that teachers are expected to follow when administering it.

As a result of this professional development teachers were able to create additional learning opportunities to enhance their students' overall learning skills, as well as develop specific test taking skills and reduce students' test anxiety. The project recognised that the poorer performance of many Aboriginal students in WALNA tests may, at least in part, be due to lack of familiarity with test-taking conventions, rather than lack of content knowledge. It has been a central theme of this project that if students develop the understanding and knowledge of test-taking, they will be better able to participate in the test equitably.

It was felt that teachers could not assume that all students have the same suite of skills for sitting a standardised test. Further, for the students to sit a standardised test then teachers needed to recognise the way that different students learn in different

ways. By making teachers aware of this it was possible to prepare teachers so they in turn could prepare the students to understand and comprehend what the test required of them.

Some of the findings from the report highlight the need for teachers to know what is required in a test other than for the child to be quiet and not collude. It was also noted that there was a great deal of preliminary information that needs to be given to the students so that they are aware of what they are able to do in a standardised test. For this to happen students need to practise the skills of sitting for a test and be aware that specific strategies can improve their test score.

Different schools used different strategies to enable students to sit the WALNA effectively. In some case this meant the relocation of students to sit the test alone whereas in other schools it meant the AIEO reading aloud the questions. Schools were required to recognise and implement strategies that were within the WALNA guidelines that could assist all their students.

For WALNA to be used as a measurement tool, all the factors that feed into it need to be addressed. This means that a checklist of competencies needs to be facilitated by the teachers in their classrooms. If some teachers give their students the assistance that they require and other teachers fail to pass on these skills then the measurement of the students literacy and numeracy skills will be inconsistent. It would stand to reason that for the results of a standardised test to be relied upon then the skills learnt to do the test need some standard approach. This would then allow for a more holistic impression to emerge and the correct steps taken to rectify any specific issues that are deemed to be problematic. Recommendations from the project are as follows:

WALNA Recommendations

1) Teachers do test-taking Professional Development

All teachers should be required to undertake professional development in test taking. As was evidenced in the professional development, many teachers, especially new teachers or graduates, assumed they knew what the WALNA entailed. Many were surprised as to the degree of code-shifting that was required due to the different test genres and test types in the numeracy section alone. Sitting a mock test based on past WALNA tests test proved a valuable exercise for the teachers as it allowed them to empathise with the text anxiety that many students may experience. Test conventions were also another important component that teachers were made aware of specifically as a number of these conventions them ran counter to Indigenous learning practices and understanding.

2) Students be trained in test taking

Standardised testing is now a regular fixture on the school calendar and as such it is very important in tracking the progress of students throughout their school life. As students come from a variety of social, economic and ethnic backgrounds they need to be taught what is required when they sit a test. Everything from budgeting time,

engaging with the question, knowing what the question is asking of them and then answering it are all vital if one is to fully assess what students know.

3) A Booklet of test skills and issues be developed for teachers

A booklet of test skills and issues would be a valuable addition to the classroom as it will act as a checklist for all teachers when preparing students for WALNA.

4) Teachers be trained in the structure and purpose of WALNA

The WALNA test does more than just test intelligence and understanding. Teachers need to be made aware that the WALNA test and the data that come from it is used not just on an annual basis but also to track individual student performance as well as performance of classes, schools and regions.

5) Teachers begin WALNA preparation as soon as possible

From the project it would appear that those schools that began preparation for the WALNA soon after the professional development enabled their student to experience a reduction in test anxiety. The longer the preparation time that students have for the WALNA the better they should be able to cope with the pressure.

6) Principal and teachers discuss and implement the best way to approach the WALNA test for their school

Different schools have different requirements and so the principal and teachers need to identify the approach that will best cater for their students. As was witnessed in this project, a number of schools were able to effect specific strategies for their students that did not contravene the WALNA guidelines.

7) Whole school approach at test time

Test time is a very important time for all students concerned. For those students who are sitting the test there must be minimal distraction or disruption in order for them to concentrate. For those students who are not participating they must show restraint and respect for the students sitting the test and this will allow the latter to come to a greater understanding of test conventions.

8) Students be tracked more effectively so progress over time is recordable

As was evidenced by this project, many students could not be tracked. This is a concern as all students must be identifiable throughout their schooling so that their progress can be monitored and not simply become invisible. This is particularly important for transient students.

9) A system should be put in place so the development of individual students can be tracked

Individual tracking of students is very important component of the process. Parents need to be confident that their child is not left behind and if there are pedagogical issues evident these can be picked up early and amended.

10) WALNA should be used for diagnosis and remediation

WALNA is not just about students meeting the benchmark or passing tests. WALNA is about meeting the needs of all students. If a child, class or a district of students is regularly not meeting the state benchmark, or the WAMSE scores are regularly in question, a diagnosis of the reasons needs to be made and an appropriate intervention implemented.

11) WALNA needs to be rescheduled to the middle of the year

By rescheduling the test to the middle of the year, the results and data from the test can be made available to teachers well before the end of the school year so that strategies can be implemented to meet the evident needs of students.

One of the biggest concerns of the teachers during this project is that they never got WALNA data until very late in the year. Some thought that this was ineffectual as there was very little time to reflect with fellow teachers or the principal about what strategies had or had not worked in that year. Some teachers also did not have any WALNA data or information passed onto them until the following year and by then they felt it was irrelevant.

12) Teacher education at University should include preparation to administer the WALNA test

Many student teachers are unaware of WALNA, what it does and what it can achieve. As WALNA is now part of the pedagogical landscape in WA it would make sense if student teachers had sufficient understanding of WALNA and its requirements so that before they graduate they are in a position to more effectively ensure students have appropriate test literacy and are able to utilise the test data for student progress.

CHAPTER ONE: INTRODUCTION

In the last chapter of the *Reform and Resistance in Aboriginal Education* the issue of Aboriginal education is described by Beresford as a seriously ‘vexed issue’ (Beresford, 2003). The reason for this is that, while Australia is progressing as a modern democratic economy in a very robust way but many Indigenous Australians still remain entrenched on the bottom rung of the social and economic ladder as the policies of the past shackle them to a future which is less than hopeful. Education, however, provides many Australians with skills and ideas that can lead them towards autonomy and offers alternatives to poverty and disempowerment. But when one looks at education through the prism of Indigenous Australia what is conveyed is an all too familiar picture: they are not achieving at anywhere near the levels of the broader population. Easy answers to hard questions are unhelpful but the question must be asked: why is it that Australia, as a rich and intelligent nation, cannot address basic literacy and numeracy levels of Indigenous students when it is central to the empowerment and autonomy of Australia’s first peoples?

In 1998 Australia saw the introduction of standardised testing with Western Australia bringing in the Western Australian Literacy and Numeracy Assessment (WALNA). As part of the current situation in education in Australia the Australian Government requires that all Australian states and territories report educational outcomes. These outcomes are then used, amongst other purposes, to compare the performances between Aboriginal and non-Aboriginal groups of students, especially in relation to literacy and numeracy. The focus is on ‘closing the gap’ in performance between Aboriginal and non-Aboriginal students. The WALNA program is part of the Australia-wide Monitoring Standards in Education (MSE) testing and is carried out in Years 3, 5 and 7. With the tests becoming part of the pedagogical landscape in Western Australia, the initial resistance to the WALNA has diminished and many stakeholders are now trying to maximise the test scores that gauge the achievement, or lack thereof, of individual students, classes, years, schools and districts.

Conversely, as students from ethnically diverse backgrounds are compelled to acquire knowledge in a standardised fashion, what is apparent is that students from diverse backgrounds are required to work harder than many non-Indigenous students in order to achieve the test benchmarks and achieve their Western Australian Monitoring Standards in Education (WAMSE) scores. For a significant cohort of Indigenous students, the reality is that many are not attaining the benchmarks in reading, mathematics, spelling and writing. The reasons for this are multifarious and pose a simple yet vital question: what can be done? The answer to this is a little more complex than suggesting that improvements could be made if Indigenous students truanted less and did their homework. In many cases the issues are very complex and

broad but this does not mean that improvements that will have lasting effects cannot be made.

One of the areas that this project has focused on has been test literacy. Test literacy is the specific suite of skills that students need in order to apply their knowledge in the test environment. Without it, it is like having the fastest car that is without its gearbox. One maybe able to start the car, hear its potential through the sound of the engine but without the mechanism to drive it the vehicle remains inert. Test literacy can be argued to be a simple but all too often invisible set of skills that need to be learned, reinforced, augmented and maintained so that what knowledge is present in the person taking the test can be as fully as possible *tested*. This is crucial because, for many children, WALNA is the first formal test that they will engage with throughout the course of their education. For many early primary school students the concept of testing is something that may be quite foreign to them with a major consequence being the students may lack the skills required for successful test taking.

From this point the project focused upon the assumption that many Indigenous students needed to be taught test literacy skills. It was in this context that the Western Australian Aboriginal Education and Training Council (AETC) commissioned the Centre for Indigenous Australian Knowledges (CIAK) at Edith Cowan University to carry out a research project to investigate the issues associated with Indigenous students and the test literacy skills required to achieve in the WALNA test.

Since 1998, the results from the testing program have consistently demonstrated lower levels of performance of Aboriginal students (Department of Education and Training, 2003a). For example the Year 3 results, shown below in Table 1, portray the much lower attainment by Aboriginal students on the tests.

Table 1.1: Year 3 WALNA results 2002

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
All	18141	93.6	17939	84.0	18539	83.2	18311	85.1
Boys	9361	92.6	9262	79.7	9582	79.5	9461	85.5
Girls	8780	94.7	8677	88.6	8957	87.2	8850	84.8
LBOTE	2341	92.6	2299	83.5	2346	82.2	2362	81.6
ATSI	1152	78.9	1124	53.3	1229	52.2	1227	57.8

(Department of Education & Training, 2003a)

In the first section of Table 1, Reading attainment, 78.9% of Aboriginal and Torres Strait Islander students (ATSI) achieved the benchmark, and so were considered to be competent readers. This compares with 93.6% of all students overall. In other words, when compared with all students who took the test, approximately 15% fewer ATSI students were competent in reading according to National Benchmark results. Other results were worse for Writing (53% compared with 84%); Spelling (52% compared with 83.2%); and Numeracy (57.8% compared with 85.1%). Apart from reading, these Western Australian results are considerably worse than national figures for Aboriginal and Torres Strait Islander students (Office of Aboriginal and Torres Strait Islander Affairs, 2003).

If one then compares the WALNA data from 2003, 2004 and 2005 for Year 3 it is possible to gauge what progress, or lack thereof, has been made overtime. It can be seen that the benchmark percentiles in all categories for Indigenous students have remained stable with some small improvements for reading in 2004 and spelling for 2005. Perhaps the biggest concern though is in reading for Year 3 in 2005 which has dropped 7% in two years.

Table 1.2: Year 3 WALNA results 2003

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
<i>All</i>	24698	94.7	24465	85.8	24766	80.7	24892	88.7
<i>Boys</i>	12690	93.5	12570	81.7	12765	76.8	12839	89.0
<i>Girls</i>	12002	96.0	11895	90.0	12001	84.8	12053	88.4
<i>LBOTE</i>	3620	93.7	3568	84.9	3640	80.2	3675	85.8
<i>ATSI</i>	1283	78.3	1252	57.2	1339	46.8	1394	60.8

Table 1.3: Year 3 WALNA results 2004

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
<i>All</i>	24582	95.0	24325	86.4	24190	81.4	24722	88.3
<i>Boys</i>	12619	94.0	12485	82.6	12413	77.4	12730	87.8
<i>Girls</i>	11963	96.0	11840	90.5	11777	85.5	11992	88.8
<i>LBOTE</i>	2553	94.6	2504	85.6	2493	82.1	2576	86.7
<i>ATSI</i>	1404	79.5	1336	56.6	1306	46.9	1492	60.9

Table 1.4: Year 3 WALNA results 2005

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
<i>All</i>	14838	94.1	14692	86.3	14466	84.3	14922	89.3
<i>Boys</i>	7796	93.1	7713	82.2	7594	80.3	7863	88.7
<i>Girls</i>	7042	95.2	6979	90.8	6872	88.7	7059	90.0
<i>LBOTE</i>	1352	92.1	1337	84.3	1313	84.9	1363	85.8
<i>ATSI</i>	886	71.3	859	53.1	805	51.1	938	58.0

For the Year 5 WALNA benchmark percentiles there has been a decline of 11% in reading from 2003 to 2005. Other percentiles for writing and spelling have dropped marginally but particularly in numeracy which has fallen 8.9% in two years.

Table 1.5: Year 5 WALNA results 2003

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
<i>All</i>	25358	93.0	25101	87.1	25335	82.7	25488	89.2
<i>Boys</i>	12954	91.6	12785	82.7	12943	78.5	13043	88.9
<i>Girls</i>	12404	94.5	12316	91.6	12392	87.1	12445	89.6
<i>LBOTE</i>	3584	89.3	3531	84.4	3584	81.2	3620	84.8
<i>ATSI</i>	1409	70.7	1348	55.1	1398	50.3	1455	59.2

Table 1.6: Year 5 WALNA results 2004

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
All	25609	92.4	25348	86.8	25225	82.0	25733	87.4
Boys	13070	90.9	12894	82.4	12825	78.2	13143	87.3
Girls	12539	94.0	12454	91.3	12400	85.9	12590	87.5
LBOTE	2746	90.2	2695	85.9	2676	82.0	2765	82.7
ATSI	1413	67.0	1350	56.0	1346	48.5	1466	55.0

Table 1.7: Year 5 WALNA results 2005

	Reading		Writing		Spelling		Numeracy	
	Number	BM%	Number	BM%	Number	BM%	Number	BM%
All	25651	91.0	25497	86.7	25108	82.0	25902	86.9
Boys	13226	88.5	13114	82.8	12899	78.1	13365	87.4
Girls	12425	93.6	12383	90.7	12209	86.1	12537	86.4
LBOTE	2597	89.3	2577	86.2	2547	84.1	2638	84.8
ATSI	1404	59.1	1372	53.9	1303	48.7	1488	50.3

The key to understanding these variances is in the definition of the benchmark and the meaning that can be made when benchmark scores are used in the WALNA process. To do this one needs to refer to the Western Australian Department of Education and Training web page (<http://www.det.was.edu.au/education/walna/faq.html>) to explain benchmarks with regard to the WALNA test results. A benchmark, as defined by the Department of Education and Training in Western Australia, is:

a nationally agreed description of the minimum skills required to make progress. Students below the benchmark are deemed to be at risk of not making adequate progress in literacy and numeracy. The benchmarks are a key to the national plan that involves early identification of students at risk and in need of early intervention and provision of clear information about literacy and numeracy outcomes to parents (Department of Education and Training, 2004)

In other words the benchmark is the basic criterion by which a student can be identified as being either capable or incapable of progressing scholastically. By the criterion, the status of Aboriginal students is highlighted as being in a very different situation from that of non-Aboriginal students. The differential between Aboriginal and non-Aboriginal students then, when referring to the table for numeracy benchmark scores, is 27.3%. Put simply, over a quarter of all Indigenous students who sat the WALNA test for numeracy did not make the benchmark. This fact should be an alarming statistic given the small proportion of Indigenous Australians and the future ramifications that it has for all stakeholders. Further, this would indicate that there is a great deal of potential for scholastic improvement amongst Aboriginal students when compared to the wider demographic. This is not to suggest that Aboriginal students cannot improve: merely that the skills they have need to be improved upon.

It should be noted that a frequently asked question regarding the WALNA is: "Do benchmarks describe average/mean performance"? The answer to this is: "No. The average student performance is significantly higher than the benchmark standard"

(Department of Education and Training 2004). From this it is possible to understand benchmark results in a very different context from the way one would understand them from their usage in an everyday context. From the table the benchmark results show that the “minimum skills required to make progress” for both Aboriginal and non-Aboriginal students is the same, but more non-Aboriginal students possess those skills to make that progress. As it is, the non-Aboriginal students would, on average, be performing well above the performance of the Aboriginal students. One of the ways Aboriginal students can be assisted to succeed is to provide the test skills necessary to achieve the benchmark.

Despite the differences between the WALNA percentiles for Aboriginal and non-Aboriginal students, what needs to be taken into consideration is that the scores reflect performance on the test and not the ability or the potential of the Aboriginal students. This suggestion is made so that Aboriginal students can be viewed as needing extra assistance in preparing for the test and not as unable to progress scholastically by virtue of being Aboriginal. In doing this the benchmark issue can be seen, not as a systemic ‘Aboriginal problem’, but in a broader pedagogical context of those who are prepared and those who are not.

Objectives of the Project

The aim of the project was to address the poor performance of Indigenous students with regard to the WALNA test that is carried out in Western Australia in the first week of August - the third week of school in the third term of the school year. The objectives of the project were:

- To enhance the test literacy of Aboriginal students in Year 5;
- To assist teachers to interpret test data;
- To develop teachers skills in helping Aboriginal children engage with the test environment and test requirements;
- To provide advice for policy makers on suitable strategies to improve the performance of Aboriginal students on WALNA tests;
- To develop strategies to ensure WALNA can be used as an education tool equally as effectively for both Aboriginal and non-Aboriginal students.

From these objectives it is possible to use the test scores and the data from the students tests to gauge the effectiveness of the project and the professional development given to the teachers of the schools involved.

Chapter Two: Literature Review

There is a variety of perspectives that deal with test literacy as a pedagogical tool for primary school students. Test literacy can be broadly defined as the skills that students need, other than just those based on the curriculum, in order to sit any standardised test. These would include such things as time management skills, recognising the differences between certain test items and the knowledge that getting up and moving around is not allowed during a test. Basic requirements for successful test-taking include engaging with the question or the task required; comprehending the question or task; identifying key words and labels; being aware of time restrictions; remaining silent and working independently and not conferring with other students. As high-stakes testing has taken on a more significant role in schooling globally, many issues surround test preparation initiatives. At the heart of these issues are the way test performance and knowledge is measured, and how that information is interpreted and used and what it means for all stakeholders involved in the education process. Therefore all students need to develop test skills if the test can be relied upon to measure student performance and if it is to be equitable to all sitting the WALNA. (Mellor & Corrigan, 2004; Frigo, Corrigan, Adams, Hughes, Stephens & Woods, 2004).

Literature on the subject of test literacy and preparation seems to fall into two general areas. Firstly it has been argued that test preparation can have a negative impact upon students as it doesn't increase the underlying subject-area knowledge and compromises test validity (Perlman, 2003). On the other hand test literacy is viewed as being necessary as it helps students deal with the 'rules of engagement' for tests and the conditions that feed into it (Perlman, 2003, Rubenstein, 2003; Luke & van Kraayenoord, 1998). What is generally agreed upon, however, is that specific skills are required by the person sitting the test. If these are not engendered in the student's pedagogical repertoire then it is unlikely that the measurement process and the data that flow from it will be as reliable as one would like it to be.

A great deal of the literature from overseas regarding test literacy focuses on the transition from primary to high school and then high school into tertiary education. While this may not be helpful in a specific application for the purpose of this project, it has been helpful in terms of seeing how test preparation is generally understood and applied in a range of circumstances. One of these is the way that minority groups in America are able to have their test scores compared to the broader community and factors like ethnicity, cultural differences and LBOTE can all have significant impacts upon the success of some students. For example in Urdan and Davis (1998) racial factors can impact upon students and their test performance:

While there are many advantages gained by the standardized testing of students, minority students are particularly vulnerable to the negative impact of standardized testing....Traditionally the lower performance of African American students has been attributed to a lower need of achievement, lower self-esteem,

cognitive or linguistic deficits, economic disadvantage, or lack of self direction....African American students report significantly more test anxiety compared to European American students....Test anxiety is negatively related to test performance and is believed to occur when the testing situation is perceived to pose a threat to self-esteem...The pattern of answer changing in African American students reflects a lack of confidence in their own judgement (Urda & Davis, 1998, p4).

While it would be problematic to view the Indigenous primary school students doing the WALNA as the same as African American high school students doing the Scholastic Assessment Test (SAT) in America, it is interesting to note that people from other minorities experience test anxiety, and the factors that feed into it are comparable.

With regard to Indigenous peoples and standardised testing, there appears to be a general understanding that standardised tests need to be more culturally inclusive (Tippeconnic, 2003; Fox, 2001). The issues range from the cultural appropriateness of test-taking to the socio-economic and historical barriers that impact upon the effective teaching of Aboriginal students (Partington, Richer, Godfrey, Harslett & Harrison, 1999; Meadmore, 2001, Data Club 2003). With regard to Indigenous students, it is widely acknowledged that in many instances they learn differently and have different learning styles from the broader population (Cronin & Yelland, 2004, Badger and Wilkinson, 2003). Indigenous students learn collectively, are very tactile, like to move around and confer with one another whilst engaging with a classroom activity (Partington & Gray, 2003; Gilbey, 2002; Badger and Wilkinson, 2002). Any one of these conventions is not allowed in mainstream assessment situations. So from these examples alone one can see that what are typical Indigenous learning styles and what is required by the conventions of standardised testing needs to be reconciled in the classroom.

How students negotiate and apply test literacy to the test environment is largely determined by what the teacher does and does not equip the student with. This is not to say that teachers' practices are the sole determinant of a student's grade on the test but they are the gatekeeper of information and if they do not have or have a limited understanding of test literacy themselves, then the information the student eventually gets in the classroom can be significantly reduced. This can have a long lasting and detrimental impact upon students if they constantly receive low test scores and can lead to students feeling helpless and unable to control their scholastic destiny, thus forcing them to become despondent and resistant which in the case of racial minorities could reinforce negative stereotypes and deficit theories (Osborne et al, 2002; Howard, 1998).

Chapter Three: Methodology

There were two phases to the methodology for this project. In the first phase five schools were identified and contacted to take part in the project. They were chosen because of the high Indigenous demographic of the students in their classes. These schools were a mixture of urban, regional and remote as well as being government, Catholic or independent institutions. The target group for the research was students in Year 5. The rationale for this was that many students had already participated in the WALNA test in Year 3 and there was some familiarity with the test and as a further consequence there would be baseline data to draw on.

The Schools

The study consisted of five participating schools. Even though the sample group was small it was varied with the major consideration being that the schools needed to have a significant cohort of Indigenous students as they were our primary focus for this study. Upon visiting the schools the researcher noticed that on a number of occasions there had been discipline problems. This did not happen at all the schools and nor is it to suggest that because there was a high Indigenous demographic that dysfunction was inevitable but it was noted that it seemed to be part of the day-to-day teaching environment. There was also a variety of learning difficulties experienced, ranging from poor literacy skills to autism in many of the classes observed.

School A.

School A was a government school located in the country in a major regional centre. The school identified very strongly with the local Indigenous community and as a consequence nearly all the students at the school identified as being Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

School B.

School B was a government school located in the metropolitan area. The school identified very strongly with the local Indigenous community and as a consequence nearly all the students at the school identified as being Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

School C.

School C was a government school also located in a major regional centre. The school, while having a very good rapport with the Indigenous community and other minority groups, identified generically as a government primary school. A consequence of this was many cultural groups were represented in the student population and there was a mixture of children in all of the four classes that

participated. All classes had a cohort of Indigenous students and one of the four teachers was Indigenous.

School D.

School D was a remote private school. It identified strongly with the Indigenous community as well as the other multicultural aspects of the student body. The classes had strong cohorts of Indigenous students in them but they did not make up the majority. In the two Year 5 classes that participated both teachers were non-Indigenous.

School E.

School E was an independent school located in a regional area some 30 kilometres from a major mining town. The school identified very strongly with the local Indigenous community and as a consequence all the students at the school identified as being Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

After initial contact was made and permission granted by the principals, approval was sought from the University's Ethics Committee as consent forms and letters to the parents/caregivers and teachers were drafted. The schools were visited and the teachers of the Year 5 students were met and involved in preliminary discussions about the project. Concurrent to this, several meetings were held with educational testing consultants and the Department of Education and Training to discuss with them the previous WALNA tests, its delivery, construction and components. With the assistance of the consultants the structure and language of the WALNA test and its items were analysed and then used to design a professional development package to instruct the participating teachers.

The creation of the professional development package took place over several weeks. Initially our numeracy test consultant went over every past WALNA Year 3 and 5 test that could be located from 2000 to 2004. This was done to get a general understanding of the format and design of the test and an understanding of the general test requirements that the students faced when sitting the WALNA. After this process was complete, the test consultant drew up a report that outlined the strengths and weaknesses of the WALNA test over time but specifically with regard to 2004 Year 5 Literacy and Numeracy test. In order to get a broader perspective on the WALNA, the test consultant participated in doing a WALNA test, adhering to the test requirements in order to fully comprehend the steps involved.

The test consultant for numeracy found that the test and the test items appeared to be carefully prepared and constructed at an appropriate level of presentation, language and format for the educational targets of the children participating (ie Years 3, 5 & 7). The testing program also appeared to be well managed and administered fairly and the teachers were well informed of the procedures necessary to conduct the tests fairly and efficiently. Finally the consultant believed that the WALNA testing program was set at a reasonable level for all students to attain the benchmarks. The test was also weighted more to literacy skills rather than numeracy (on a ratio of three to one). The literacy component consisted of two parts, the first being creative writing where students had to plan a setting, characters, events/complication and a conclusion. The second section involved two spelling sections, one that required students to correct

misspelled words and the other where the teacher read out the word that was to go into a sentence. The numeracy section of the test had a heavy literacy component. This was an important point to make as general literacy needs to be at a certain level if students are to engage with the numeric and literacy task and have a reasonable chance of answering the question correctly.

The numeracy consultant also made it clear that a wide range of skills were needed to answer all the questions in each section. For example, in the numeracy section there are up to ten separate types of numeracy skills required to answer the questions. These skills ranged from the use and interpretation of fractions, rank ordering, the recognition and interpretation of various two- and three-dimensional shapes and the use of calculators.

With regard to the problematic nature of the WALNA test, the numeracy consultant pointed out that there were a number of facets that could create ambiguity and confusion for the students. These consisted of the variations of alternatives that the students had to answer in the form of shading answer bubbles ranging from one to four and in other cases one to five. Other variations were the requirement that the students needed to place a word or a number in a box or on a line, or shade in a bubble (or bubbles) and this needed a specific awareness or code shifting knowledge to answer the question. Other tasks were determined by short answers, extended answers, multiple choice, true/false, and rank order. The consultant felt this was in some cases too much considering the time taken to read the question, understand it, extract the specific knowledge and finally answer. These processes would put many students at a disadvantage.

A literacy consultant was used for the literacy section and spent time looking at and engaging with the magazine section of the of the 2004 WALNA which was entitled 'Up and Away'. The magazine itself was a very colourful and interesting booklet that consists of images, poems, extracts from children's books, recipes and so forth. The students were required to read the text and then answer the questions from the answer booklet. In the 2004 Year 5 magazine there were seven different texts that the students had to read and then answer. The consultant concluded with general comments that the texts move from the extraction of factual information with low level inferencing requirements to culturally specific texts with high level inferencing requirements and fairly extensive amounts of middle-class Anglo-Australian life experience required. The consultant felt that most questions were satisfactory as questions but reliance on world knowledge and the level of inferencing required may be factors that mitigate against some students performing well. What this means is that those who have a general world knowledge should be able to cope with the texts and the test requirements. However, for those whose life experiences are culturally different, answering the questions may be somewhat more difficult (Badger and Wilkinson, 2003). With these things in mind, a professional development package was devised to highlight the main features of the WALNA test and to identify some of the potential pitfalls for students if teachers were not aware of them.

Professional Development

The professional development was conducted over half a day. The teachers sat for a mock test that adhered to general test conventions and processes. This test was based on past WALNA booklets and guidelines. Following this, the teachers were 'assessed'

but more importantly the test was then deconstructed so as to highlight to the teachers what some of the potential problems for students may be. This was mainly concerned with the language of the questions in the test and the absence of certain information that students required to make fully informed decisions. Both of these issues were concerned with the high level of assumed 'general knowledge' needed, particularly in certain parts of the literacy section of the test, and the problematic nature of semantics when children from a variety of backgrounds are not familiar with 'typical' Australian inferencing. Other areas where it was felt that the Numeracy section was problematic were the pictures or diagrams. The consultant considered that these were not clear or were ambiguous and open to interpretation.

Following this, teachers' experiences with WALNA were discussed along with the way they used information from the data. An interesting point came out of these discussions: of the nine Year 5 teachers involved in the PD only three were able to explain what the Benchmark score was. Furthermore, over half had had little or no experience with the WALNA. Discussion also addressed what could be done to improve the test literacy of Indigenous students by incorporating specific test skills and awareness into teaching regimes in the lead-up to the WALNA test. To assist in the ongoing improvement of test literacy of the students, a booklet of past WALNA tests was handed out to each teacher after the professional development so they could familiarise themselves and the students with the format, language and conventions of the WALNA test.

Phase two consisted of monitoring the progress of students and observing, where possible, the mock tests at each school. After the professional development was conducted, the participating teachers were asked to incorporate the past WALNA tests into their weekly instruction and to focus on the main points that students would need to sit the WALNA test. Teachers were also asked to fill in and record a Data Map of when they did the tests, what they did (eg spelling), how they administered the test and what were the strengths and weaknesses of each student with regard to taking the mock tests. The use of the data maps was suggested so the teachers could tailor teaching of test skills their own individual class requirements. In conjunction with this, teachers were asked to keep a log book of any of the outcomes from this process and to reflect on any ideas or thoughts they had with regard to the mock tests and the WALNA test that was due in early August. Finally teachers were asked to predict how they thought their students would go in the WALNA using a scale from 1 to 5, with 1 being the teacher's prediction that the student would not make the benchmark and 5 being the prediction that the student was highly likely to pass the benchmark. All of this was done to capitalise on the way the individual teachers approached the test and to see if this would have any bearing on the students improved benchmark scores in the different classes.

The main feature of the WALNA is that it is timed and, particularly with the numeracy section which is principally multiple choice, requires rapid responses. In order to re-create some of the pressure that the WALNA creates for students taking the test, the teachers were required to do 24 specifically chosen questions from the 2004 Year 5 Numeracy section of the WALNA. These questions were then put up on an overhead projector and the teachers were given 12 minutes to complete the entire task, meaning that they only had 30 seconds per question. At the time the test was given, none of the teachers was informed about budgeting their time or what each question would require of them. They were left to engage with that process

themselves and apply what test literacy they had. As the information given by the researcher was enough for them to begin the test it was interesting to see some teachers begin the practice questions on the old WALNA booklet rather than refer to the overhead with specific questions. Another interesting facet regarding the test was that by the end of the test most, but not all, of the teachers had fully completed the test.

After the test, the teachers' answers to the questions were discussed. This proved to be a very interesting exercise as the more ambiguous the question or task required, the more discussion was generated. This had the effect of highlighting to the teachers the pressure that some students may feel when it comes to the WALNA and the level of anxiety that it can create in a test environment. After this we then looked at the Literacy section of the 2004 Year 5 WALNA test, specifically with regard to the *Up and Away* magazine. Here the teachers were taken through the booklet and asked to read specific sections and then answer the questions relevant to those sections. Once again the majority of the questions asked were relevant to the read text but there were several questions over the entire section that required specific cultural or world knowledge and were ambiguous even for the teachers taking the mock test (Boo Hong Kwen, 2003).

Test Taking Techniques

There are a number of basic recommendations that may assist teachers to prepare their students for the WALNA testing programme. The overarching rule with test preparation for the WALNA is that students should practise taking WALNA-like tests in test-like conditions.

The main recommendation from most of the written information regarding testing is the removal of anxiety regarding the test. The literature regarding testing states that the anxiety experienced by students is something that needs to be addressed. If students are not prepared for the test and the environment that testing requires they are likely to experience negative thoughts about themselves and testing generally and these may have long lasting effects:

There is an enormous intimidation factor at work in these tests; the more high-stakes the test, the more pressure students feel, and in some cases, the worse they will perform. Lack of understanding about where their difficulty lies adds to the frustration that many students feel with such tests and to their sense that such tests are unfair. This leads in some cases to a sense of helplessness and a difficulty in preparing seriously to perform well on such instruments. (Rubenstein 2003, p13).

In the initial contact phase it became apparent that one of the principals from the project had prepared his students for the WALNA in 2004. His basic ethos was to make the WALNA test as normal as possible and ease the shock of seeing the test for the first time. The principal did this by incorporating WALNA-like tests into the weekly teaching process. Encouragement and a calm environment helped and this was assisted by the class motto whenever a test taken: 'Think clever and do well' (See Talbot, 1997). As a result of these strategies the scores for the grade fives he prepared improved significantly whereas the other classes that he did not prepare did not show

the same degree of improvement. Some of the key areas that need to be taken into consideration for test preparation are as follows:

Time

Students need to be aware that they have time limits. Most standardised tests require rapid performance and so only a small percentage of the test takers are supposed to finish them (Rubenstein, 2003,). How each student deals with this restriction can have a huge bearing on the outcome of ones score. Given the short time allowed per question it is impossible for many students to complete every question on a test. Many students will therefore opt for one of two types of strategies.

Firstly they will either try to rush through the test and respond to every question even though they may not actually have time to answer the questions thoroughly. Secondly they will go through the test at a more moderate pace and sequentially work through the order until time runs out. This is problematic as they may never know that there might have been easier questions that they have never attempted later in the test. Therefore students should be made aware that they should choose the easier questions first allowing more time to spend on the questions they find difficult. Students need to be made aware of time constraints and the need to budget time. Questions they need to be cognisant of before the test are:

- How long will the test go for?
- When will it finish?
- When have I spent too much time on a question?
- How much time can I spend on each question and each section?

Teachers can assist in this by writing on the board the time line for the test and crossing out when certain amounts of time have elapsed and by getting the students to divide their time so they know specifically how much they have. Students need to be mindful that if they have finished before the time has elapsed to carefully check over their answers. This can ensure that if they do use all of the available time productively and ensure that they have done all that they can and leave nothing to chance.

Format

Students need to know that the format of the test will change as will the test items and they too will need to code-shift in order to meet the conventions of the test. In the numeracy section of the WALNA tests there are several different test genres that students will need to be conversant with. These include true/false, rank order, multiple choice, short answer, extended answer, interpreting fractions, measurements, shapes and the use of graph paper and number lines. Students should also be conversant in using a calculator to assist with the numeracy section.

The Literacy section of the WALNA is broken into two sections. These include creative writing skills that require the student to plan several steps including setting, characters, events/complication, resolution/conclusion. In the next section there are two spelling components: one section involves the correction of spelling words in context and another of the teacher reading sentences, with students placing the missing words in the text.

Cultural Awareness

Some teachers of Aboriginal students may not be sufficiently familiar with Aboriginal patterns and processes of learning, and may wrongly assume that all Aboriginal students are familiar with test taking. Hence, when some students score poorly on tests such as WALNA, their teachers may characterise them as lacking intelligence, when in fact the problem lies with the teacher and the broader education system that has not equipped these children adequately for test-taking. This poor performance of Aboriginal students may in turn reinforce tacit misconceptions that teachers may have about the ability of Aboriginal people, and does not take into account, despite the existence of such evidence, the bigger issues involved. There is a need to develop the test literacy skills of Aboriginal students, but also for teachers to develop a greater understanding of the broader socio-cultural context of which these students are a part. These learning and teaching programs can be designed in a way that learning is appropriately scaffolded and builds on existing knowledge and skills.

Students doing the WALNA test are also unable to walk around or confer with other class members during the time it takes to complete the task. Specifically for Indigenous students, the requirement that they cannot move away and come back to a task needs to be reinforced. This can be quite difficult for Indigenous students as working independently and not as a collective on a test in a test environment may be problematic to Indigenous socio-cultural sensibilities and daily life practices learned from birth (Board of Studies, 2000; Cronin and Yelland, 2004). This is because sharing and reciprocity are factors in all Indigenous communities and this is usually conducted along the lines of kinship and social obligation.

Key words

Another area that students need to be aware of is the question, what does the test require them to do. To clarify this, students need to be aware of the key words or labels that are located in the question as only when they can determine the task can they answer it. These key words include what, where, why, how, when, which, compare, contrast, describe and explain among others.

Chapter Four: Mock Test Observation

The general ideas from the professional development sessions were followed through by all the schools involved. All of the major test tips were implemented and this would seem to indicate that the teachers could see the merits in the way the test administration could be improved and test strategies used to improve the benchmarks and the WAMSE scores. One of the main difficulties articulated by the teachers was the level of resistance to the changes that they introduced in the class. At first, student resistance to the changes was strong but once the students became more comfortable with the process and what was required of them in test-like conditions they accepted the instruction readily.

Mock Test Observation in the Schools

School A

When the mock-test was observed at School A the teacher, who was new to the school, informed me that they had gone over the old WALNA tests to get a feel for what was required but also they were trying something different. Instead of the old WALNA tests that were supplied, School A used a set text that they had been working on in class to conduct a comprehension test where the bubble shading exercise was employed. The initial observation that was made was the activity itself did not seem to be timed and there was also a lot of general interaction between the teacher and the students during the test. This was perhaps because the teacher was new to the school and had not received any professional development but had been informed of the process by the previous Year 5 teacher. There appeared to be problems with answering the questions. After the test was finished there was a discussion about test conventions. The teacher informed me that there was a general competency with reading but 'laziness' became a factor which the teacher said could be associated with a fear of failure. The teacher also said that she did not expect the students to do that well as the confidence of many of the students was low and many of them were displaying anti-social signs. Due to the teacher being new to the school, the researcher gave her an amended professional development session that the other teachers received at the beginning of the project. This was to assist the teacher to appreciate the purpose of the project and to ensure that data were documented.

School B.

At School B the teacher sat the students down on the mat in front of her and explained generally about the WALNA as the students were about to do a creative composition piece. To begin the process the teacher used flash cards with key words which was a strategy that had been well received by the class after some initial resistance. Instead of using generic terms like book, story or caption the teacher replaced these with WALNA specific language like text, narrative and phrase.

The teacher did spend a good amount of time going over general test conventions and when the test began there were no requests for help by the students. One student however did not engage with the activity at all.

Having spent 30 minutes doing the composition, the students' results were disappointing as it was obvious that their literacy skills were quite low. The teacher did however try to create a positive outcome and encouraged the students to read out their compositions which seemed to help. The teacher informed me that they had done a few numeracy tests previously using Year 5 tests but the results were disappointing. The teacher also said that she was surprised about the fact that the students remained silent throughout the activity and the reason for this she felt was that they were in a smaller group than usual but they also knew WALNA was important from discussions with their peers and teachers.

School C

School C consisted of the largest group of Year 5s in total. Four classes, two entirely of Year 5s with two split classes of 4/5 and 5/6 all had a cohort of Indigenous students in them. From the teachers' feedback it became apparent that the average to good students had improved from the information imparted at the professional development whereas the less confident students had not handled the changes and fell back on their old behaviours. This was a point made clear by one of the teachers at School C who said during the professional development, "These strategies will really help the stronger to middle of the road students, whereas the ones that cannot spell 'dog' now will not be able to spell 'dog' when WALNA arrives", an indication that content knowledge, as well as test taking skills, were regarded as essential to success. All the teachers at School C started with the Year 5 WALNA test but many of the weaker students became very nervous so the teachers reverted to the past Year 3 WALNA tests to ease those students into the test regime.

In the first class that was observed doing the mock test at School C, the students did a reading test. The general environment was orderly and calm. The teacher sat the students on the floor at the front of the class and explained that they would be doing a test to help them prepare for the upcoming WALNA test. The students all then moved back to their desks and the teacher nominated two students to hand out both the past *Up and Away* magazine and the test. The teacher gave very clear instructions and the students were attentive. The teacher also gave good instructions about what to do if they got stuck on a question or if they had spare time. The teacher also talked about time limits and the need for the students to keep an eye on the passage of time.

During the test the students all worked well except for one non-Indigenous boy who had a writing level of Year 1 and one Indigenous boy who had been absent because of family commitments and he struggled to engage with the test. During the test the teacher was asked several times for assistance to which he replied that he could not and the students should read the question again more slowly. Also one boy began to get up and walk around and he was asked to return to his seat. Three Indigenous boys finished before the time limit and went outside. Generally though all the students sat and finished the test.

The second class at School C was observed doing a spelling test just after lunch. This class was notable because it was more boisterous than the first class. The teacher also gave clear instructions and strategies to use if they found some questions difficult.

The teacher put the test materials out and explained to me that the test was thematically linked to material they had learnt in class (ie calendars). The teacher then got the students to hold up all the test items and make sure no student was missing anything in terms of the materials or the test itself. The task went for thirty minutes and all the students seemed to be engaging with the test with little conferring. After the test was completed the teacher predicted that the Year 5s, even though they were improving and strategising more, would probably not do that well as they were working below achievement targets due to low literacy levels.

The other two classes were unable to be observed due to time constraints but the teachers were interviewed and the consensus was that the students sitting the Year 5 WALNA would go well as the strategies had been well received even though there had been general resistance initially.

School D.

At School D no formal testing had been carried out since the time of the professional development, some five weeks before, so it was difficult to gauge just how things had progressed or what any of the issues were. The reason for this was that other programs and initiatives at the school took precedence and the teachers said that they had been too busy to make a start on the WALNA project. In the first class the teacher gave a good explanation of the WALNA test, clear instructions and good encouragement. The test was a comprehension test that went for 20 minutes and the teacher wrote the time on the board so the students could keep track of time. The teacher also reinforced that students could not confer with one another but if they did finish they could get up and access some reading material.

As the test proceeded the noise level slowly rose but the teacher quickly put a stop to this. With only a few minutes to go the teacher explained that if they were running out of time they could randomly fill in the answer bubbles for each question.

In the second class a spelling test was conducted. The teacher also explained what the conventions of the test would be and stressed there was to be no talking or getting up and moving around and what they needed to do if they finished early. The classroom environment was calm and encouraging. During the test the noise levels rose and there was also some conferring but the teacher soon put a stop to it. The only issue was that the test went over the time limit to allow everyone to complete it.

School E

School E differed from all the other schools in that instead of holding mock-tests during school hours the tests were conducted during afternoon homework classes after school had finished. These had become regular weekly events for Years 3, 5 and 7 since the professional development and as a consequence the teacher in charge explained that test anxiety regarding the WALNA was low. The general mood in the homework classes was very calm and consisted of a general breakdown of the codes and conventions required for test taking as well as specific skills that were required for each section and orientated towards the task (ie shade the bubble for the maths test). A previous *Up and Away* magazine was handed around and there was a good engagement with it. After this, time management was focused on. The students were informed of the amount of time they had for each section, the amount of time they had

in total and then worked out the time they needed to spend on each question. This was very helpful for the students.

The teacher informed me that in the previous weeks the students slowed down in the latter sections of the test and perhaps missed out on answering the easier questions. They did part B of the numeracy test and not all finished on time. After this numeracy task, the students went onto do a brief spelling test.

CHAPTER FIVE: 2005 WALNA TESTING

Due to time restrictions and the distance of some schools from the Perth metropolitan area, only three of the five were able to be observed for the actual WALNA test that took place in the first week of August. These schools were School A, B and C. School C became the main focus because it had four classes of Year 5 students and therefore a greater amount of data could be gathered. Schools B and C were also observed during the actual WALNA test because they were accessible during the one week of WALNA testing.

School C had a large number of students of varying abilities. Due to this, School C implemented several strategies in order to cater for all the students who were participating and decided to break up the classes according to these abilities rather than just keep the classes as they were in a day-to-day context. This came about in the first week of July when the principal and the Year 5 teachers developed contingencies that they thought would benefit all the students. It was thought that the maths and spelling components of the WALNA could take place on Monday followed by reading on Tuesday, writing on Wednesday and Thursday while Friday could be for those students who were absent on those previous days.

With the maths component of the WALNA, School C took the students who would find the test challenging and placed them in a class room where they would all be given specific attention as the questions could be read out by the deputy principal. This consisted of eight students, three of whom were Indigenous. The parents of these students were not notified directly of this development but information was sent out via the school newsletter.

This cohort of students engaged with the practice questions quite well and there was some general banter amongst the group. The discussion about instructions was very clear and there were nine separate pieces of encouragement. Difficult words such as 'symmetrical' were generally met with the reply, "I don't get that" and in response the facilitator urged the students to guess what it meant rather than tell them the definition. Generally the students dealt with the test well but as time went on it appeared that two students had completely given up despite encouragement.

After about 20 minutes I left to observe another class. This was the mixed class of Years 4/5 and there seemed to be some disruption but all the Year 5 students worked through the test despite the disruption from the Year 4s and their defiance to keep quiet. From this class I moved on to the library to observe the last 5 minutes of the very competent students doing the test. In the library there appeared to be little test anxiety and the deputy principal conceded that the silence of the library may have helped the privileged students.

On the same day I observed one spelling class that was run by one of the more experienced teachers. The teachers gave very clear instructions and on 16 separate occasions throughout the class gave encouragement. The class was very quiet and

focused throughout the entire duration of the test and there was no talking or conferring of any kind. The teacher focused more on those students who needed assistance and in particular he kept an eye on one Indigenous student who was struggling. He congratulated this student for focusing on and catching up with the task. The teacher even asked me in an audible voice a general question which did not impact upon the class at all and would act as a testament to their preparedness and focus.

The next day I went to two classes doing the reading test. In the first class that I attended the teacher was very calm and fielded general enquiries about the test. They were also very clear about being unable to assist students in the reading section. One Indigenous boy was being a little more talkative and inquisitive but once the practice questions were engaged with everyone settled down. It was also observed that some children were actually guessing and not engaging with the test whereas others were reading the wrong section with regard to the answer stem which would seem to indicate a lack of general and test literacy. It was observed that the majority were doing the right thing. While some students finished earlier than others, all the students remained quiet until the test was completed.

In the other class where the reading test was being administered there were eight Year 5 students taking part in the assessment with the remainder of students in the class being Year 4. A cohort of the Year 4s from this class who were deemed too disruptive were removed to help those Year 5s concentrate. It was noticed that one Indigenous girl in particular was yawning a lot and making noises. The teacher gave clear but loud instructions which may not have helped with the general test anxiety of the students but the teacher also gave 11 separate pieces of encouragement which may have countered this. Also the teacher wrote a very good time scale on the board so that the students could gauge their time management. In the early stages of the test all the students worked very quietly and then there were a few disruptions. The first was a knock on the door by a student wanting some information. All the test-takers looked up to see who it was and what they wanted, robbing them of valuable seconds. The next disruption was caused by the Indigenous girl who had been yawning and fidgeting throughout the class. She drew the teacher's increased attention and eventually she was given a behaviour slip. After this was an announcement over the PA requiring all the Indigenous students who were part of the dance group to report to the office for a visiting Indonesian teacher. This impacted upon one Indigenous boy as he was not allowed to attend the dance and began to rush through the remainder of the paper. With five minutes to go the teacher suggested that the students go over their papers and check their answers if they had time.

At School B the students on this day were taking part in the writing/composition section of the test. This was the same activity as when I went there to observe the mock test. The teacher followed the same *modus operandi*, discussing the test in a very informal but informative way. All the students were quiet and attentive. The teacher explained in a calm manner what was required in the writing task and to make their composition as interesting as they could. The teacher also explained that the students needed to plan their composition. Encouragement was used on seven different occasions. The teacher then broke the students up so that they were far enough away from one another so they could not talk or share information. He also explained that they could not get up and move around. There were initial questions but generally the class was calm and the anxiety levels were low. The teacher kept

reminding those students who seemed to have given up that they needed to keep going as they had enough time and most of them did until the end of the test.

At School A there were five Indigenous students sitting for the WALNA spelling test. The teacher, due to a number of the students having hearing problems as a result of otitis media infection, used a microphone to help them. Also to assist the students with the WALNA was the Aboriginal and Islander Education Officer (AIEO) who repeated the words of the teacher in the spelling section as it was felt that perhaps the Indigenous students would be more familiar with the AIEO's articulation of the words. Initially there was a calm engagement with the test as the teacher went through and clearly outlined what was required. Also the students were separated from one another so as to limit the potential for interaction. Initially no one asked any questions but eventually they asked basic questions about writing words in the box. The second section of the spelling section was clearly read and explained and all students sat at their desks for the entire time with little disruption.

CHAPTER SIX: DATA ANALYSIS

Once the test results had been collated the analysis of data became the primary focus of the project. The initial number of Indigenous students for whom there were data for in 2005 was 64. From this cohort, 24 students could not be successfully tracked from 2003 to 2005. So the sub-cohort of students who could be tracked from 2003 to 2005 was 40.¹

As this project has focused on improving the benchmarks and WAMSE scores of the Indigenous students it also must be noted that there are three categories that help determine where a student is located from their performance. Simply put, teachers and principals not only know a specific student's WAMSE score but also the student's benchmark performance which is described as being *above*, *below* or *close* to the benchmark. These descriptors are useful as they add to the overall picture of a student's progress or lack of it.

Further to these definitions are the two ways of determining how the student has performed in the test and these are referred to as *achievement* and *progress*, each of which can be broken down into sub-headings to chart the student's status (ie with the reading component a student might display some achievement and excellent progress). These descriptors are very useful for getting a better picture of a student's engagement with the curriculum and also how a teacher has facilitated that engagement. For example one Indigenous student in this project had a WAMSE score of 67 in Year 3, 2003. This score relegated her to the bottom 10% of students in the state but this situation had improved so that by 2005 her WAMSE score in Year 5 was 236 points. This was an incredible effort by the student as the typical progress made with the WAMSE score by students generally is between 75 and 130 points. Further to this progress only 15% of all students improve their score more than the 130 points from Year 3 to 5. Her progress descriptor was said to be *excellent* but her Year 5 achievement descriptor was only *limited* as she was close to the benchmark and not on or over it.

Another positive outcome to this project was the percentile of students whose descriptors in the WALNA in 2005 were defined as being *close* to the benchmark. Some analysts may say that this is simply a way for DET to enhance the results of the WALNA but this category is very helpful in charting those students who may require a little more assistance to achieve the benchmark score and can lead teachers and principals to organise strategies to enable these students to achieve better results.

One of the main aims of this project was to determine the impact of the professional development on students in the schools that took part. This was done by analysing the teachers' documented feedback to determine what correlations there are between the interventions that took place in the project and the performance of the participating schools in the WALNA. The main interest here is to analyse how the teachers

¹ This number also varied slightly due to absences on the day of the test.

implemented the test-taking strategies as evidenced from the feedback documents that the teachers were asked to record.

To analyse the feedback a grading scale was used for each school. This incorporated the assessment of information from the log books, the documented frequency of test taking and what test taking skills were introduced, improved and augmented from the time of the professional development. Further, the data maps that were given to the teachers were analysed along with the observations of the researcher from Edith Cowan University who visited the schools during their preparations for WALNA. This grading was compared with the WAMSE scores of the schools along with each school's regional WALNA percentile data.²

As part of the analysis of results, each school was assessed on the extent to which it implemented the recommended strategies. Assessment was based on researcher observations, anecdotal reporting by teachers and logbooks kept by teachers. This assessment was correlated with the schools' outcomes on the WALNA tests. The criteria were as follows:

- 1) Maintenance of information and delivery of log book & data maps - criteria will receive mark out of 5.
- 2) Mock test taking – each criteria received a score of 1 point each. The criteria are:
 - a. Frequency - how often test was taken as evidenced by log book and data maps;
 - b. Quality – encouragement, clear instructions, fostering test-taking skills;
 - c. Adherence to test taking conventions by students;
 - d. Observed reduction of test anxiety;
 - e. Catering WALNA to specific class & school requirements.

Once this score was arrived at there were further comparative analyses of the quality of the schools' test preparation with the WAMSE scores to see if there was a correlation between the intervention and the outcome. Once this was completed a summary was made of each school based on the criteria.

School A

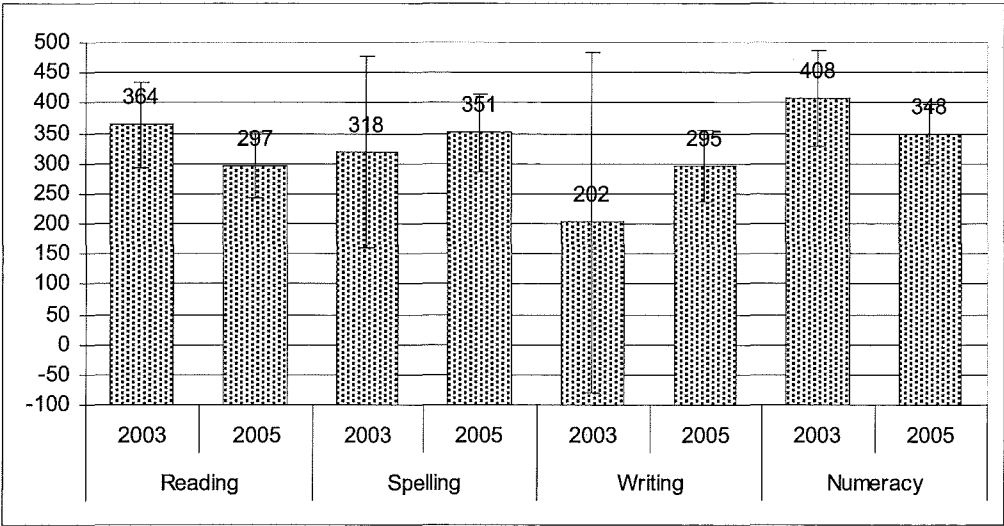
School A did not send any of their log books or data maps back. The reason for this was perhaps because of the changeover of the Year 5 teachers and the arrival of new staff who took part in the project. The researcher followed this issue up with the school and subsequently interviewed the teachers who were involved with the WALNA. The feedback from both of them (ie the old and the new teacher of the Year 5s) was quite positive and despite the absence of reflective log book responses, the interview was adequate to determine the level of pro-activity of the teachers and the implementation of WALNA strategies from the professional development.

² It should be noted that information about the students from Schools C and D are all tracked students from 2003 to 2005 (ie Yr 3 to 5) but those from the remaining 3 schools contain tracked and non tracked students from 2003 to 2005.

School A Score

Maintenance and delivery of Log Books and Data Maps	0
Frequency - how often test was taken as evidenced by Log Book & Data Maps	1
Quality-encouragement, clear instructions, fostering test-taking skills etal	1
Adherence to test taking conventions by students	1
Observed reduction of test anxiety	1
Catering WALNA to specific Class & School requirements	1
Total	5

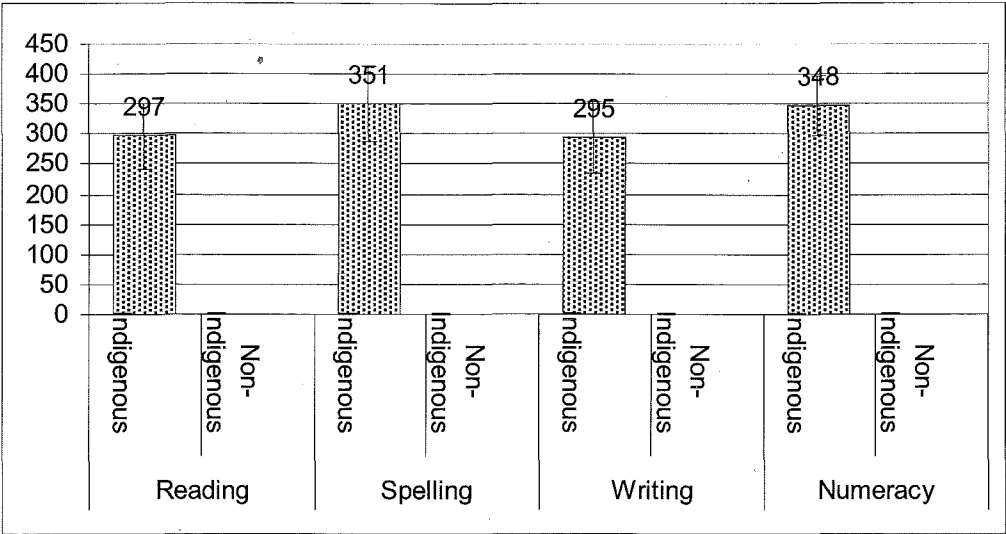
School A, Indigenous Achievement, All Areas, 2003-2005



Notes:

1. $N = 5$ (2003), $N = 6$ (2005)
2. Data includes both tracked and non-tracked Indigenous children over 2003-2005 due to small sample population
3. Data provided courtesy of Department of Education and Training

School A, Indigenous and Non-Indigenous Achievement, All Areas, 2005



Notes:

- 1. N = 6 (Indigenous); N = 0 (Non-Indigenous)
- 2. Data includes both tracked and non-tracked Indigenous and Non-Indigenous children over 2003-2005 due to small sample population
- 3. Data provided courtesy of Department of Education and Training

School A Summary

Due to School A not using their data maps and log books it is difficult to chart the impact that the intervention had from anecdotal evidence alone. School A has very mixed results as it has dropped 67 WAMSE points for Reading and 60 WAMSE points for Numeracy. However, it has made some progress in Spelling and Writing from 2003 to 2005. In Indigenous achievement in the region³ School A is performing better in all areas. This would also seem to indicate that the intervention and strategies they used (ie AIEO) has had some positive impact in the WALNA scores.

School B

School B had followed the professional development session well and had been in contact with the researcher if they needed any advice or clarification. The log books and the data maps were well used and the strategies discussed in the professional development were said to be very helpful for the teacher in preparing their students for the WALNA in their log books. For example:

23/5/05

We have looked at a variety of texts and have pointed out features. Talked about "test conditions"; leaving time for questions they can do and not(sic). Asked to look at instructions carefully

6/6/05

Literacy guided reading work; am now using WALNA type questions for students to work on.

³ Region 2.

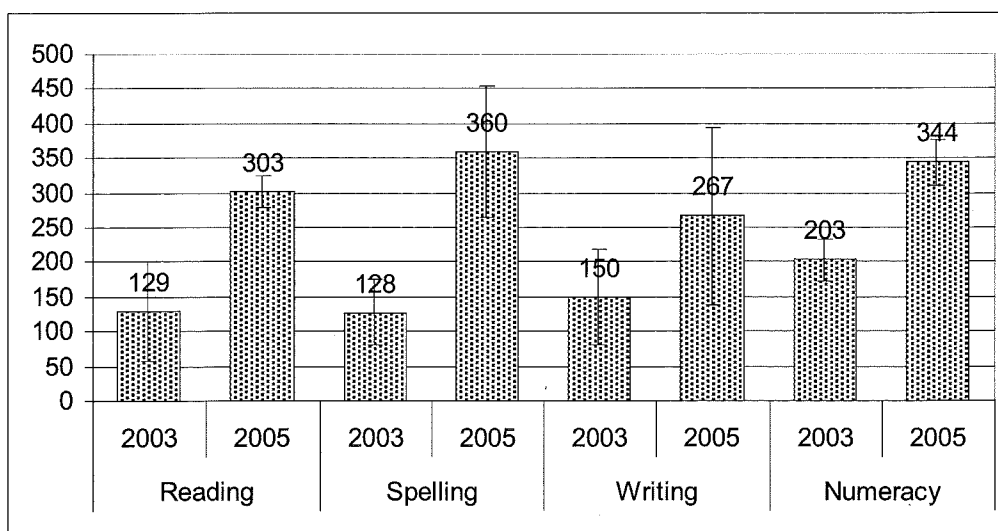
10/6/2005

Students sitting for whole time and not talking to each other Will remind about using key words before next test.

School B Score

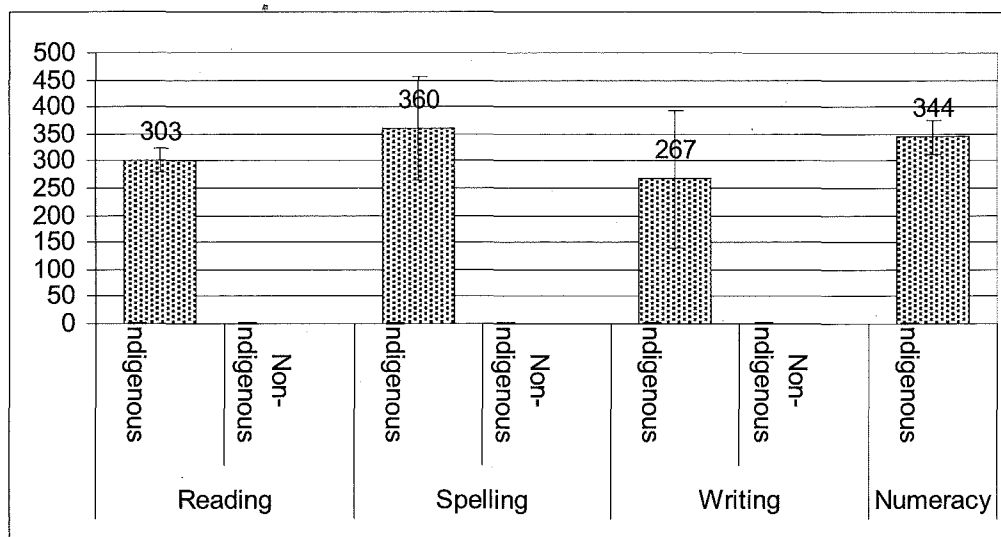
Maintenance and delivery of Log Books and Data Maps	4
Frequency - how often test was taken as evidenced by Log Book & Data Map	.5
Quality-encouragement, clear instructions, fostering test-taking skills et al.	1
Adherence to test taking conventions by students	.5
Observed reduction of test anxiety	1
Catering WALNA to specific Class & School requirements	1
Total	8

School B, Indigenous Achievement, All Areas, 2003-2005



Notes:

1. $N = 6$ (2003), $N = 5$ (2005)
2. Data includes both tracked and non-tracked Indigenous children over 2003-2005 due to small sample population
3. Data provided courtesy of Department of Education and Training

School B, Indigenous and Non-Indigenous Achievement, All Areas, 2005Notes:

1. $N = 5$ (Indigenous); $N = 0$ (Non-Indigenous)
2. Data includes both tracked and non-tracked Indigenous and Non-Indigenous children over 2003-2005 due to small sample population
3. Data provided courtesy of Department of Education and Training

School B Summary

It would appear that Indigenous achievement for School B in region 2 is down in all areas except for Spelling when WAMSE scores are compared. For Spelling the WAMSE score correlates very closely to other Indigenous achievement in the region for 2005. The success however can be measured in the massive jumps in the 2005 WAMSE score when compared to the score in 2003. In Spelling from 2003 to 2005 the score increase is 232 and in Numeracy it is 141 WAMSE. These are significant improvements from 2003. From the detail of the teachers' log books and data maps it could be argued that the intervention has had some degree of influence in the students' progress and achievement from the data presented. The teacher from this school said the professional development was very helpful in preparing her students for the WALNA and she would continue to use it in the future.

School C

At the completion of this phase most, but not all, teachers returned their log books and data maps. From these sources it was evident that teachers had engaged in a great deal of reflection. These were very detailed and insightful reports with such comments as:

29/4/2005

The test was given as a WALNA test should be, with practice questions, time limit and no help. Chn [sic] were told prior to testing about why we were doing the test and what we hoped to achieve before the 2005 WALNA in third term.

4/5/2005

Discussed multiple choice questions. How to work through alternatives even if you don't know the answer straight away - eliminate alternatives that are 'silly'.

11/5/2005

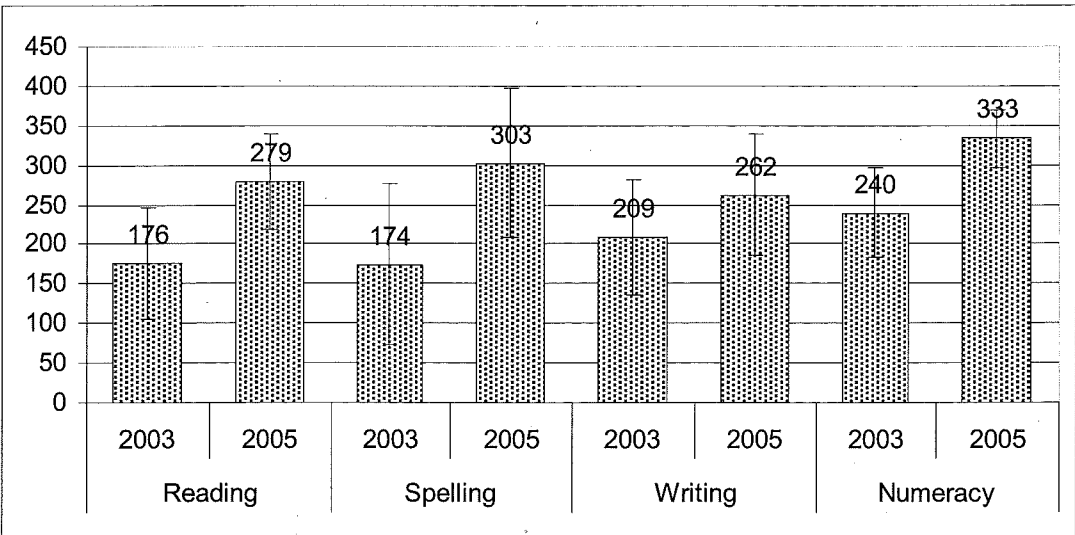
Timed Yr 3 2004 reading so chn [sic] were aware of 1 minute, 1 question. Even though Reading was only at Year 3 level many children had problems answering the questions as the text was too difficult for them.

The teachers at School C appeared to work well together and implemented a great deal of the professional development information and were very proactive in thinking how they could best utilise their time in preparing their students for the WALNA and also planning for those students who needed more help.

School C Score:

Maintenance and delivery of Log Books and Data Maps	4
Frequency - how often test was taken as evidenced by Log Book & Data Map	.7
Quality-encouragement, clear instructions, fostering test-taking skills etal	1
Adherence to test taking conventions by students	.7
Observed reduction of test anxiety	1
Catering WALNA to specific Class & School requirements	1
Total	8.4

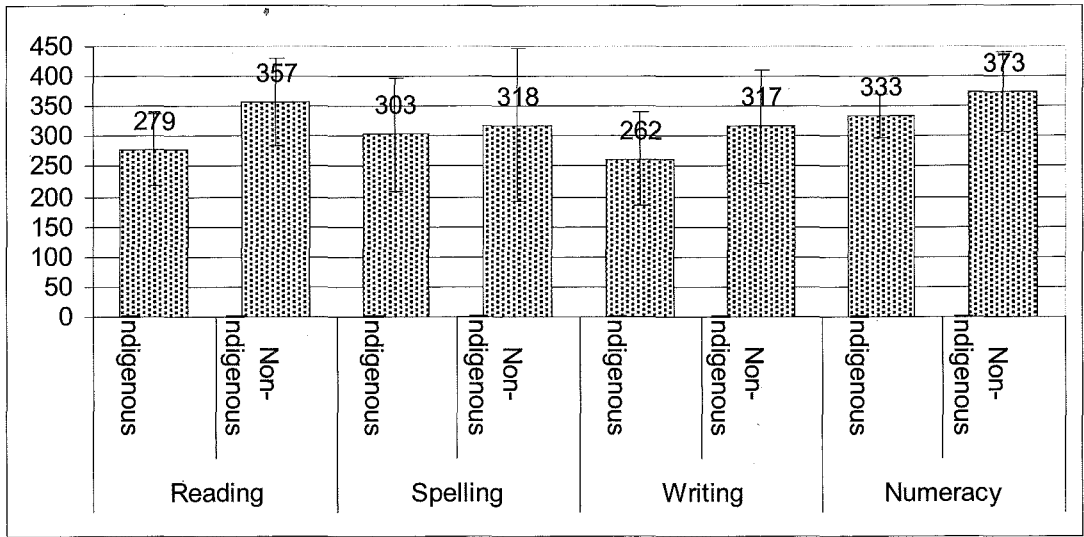
School C, Indigenous achievement, All Areas, 2003-2005



Notes:

1. N = 13 (2003-2005)
2. Data includes only Indigenous children who were tracked over 2003-2005
3. Data provided courtesy of Department of Education and Training

School C, Indigenous and Non-Indigenous Achievement, All Areas, 2005



Notes:

- 1. N = 13 (Indigenous); N = 24 (Non-Indigenous)
- 2. Data includes only Indigenous and Non-Indigenous children who were tracked over 2003-2005
- 3. Data provided courtesy of Department of Education and Training

School C Summary

From the data it is possible to see that School C has had very strong WAMSE growth for Indigenous achievement in all areas particularly in the areas of Reading and Spelling where the WAMSE scores have increased by 103 and 129 respectively. As School C had a very good program for the preparation for WALNA it could be assumed that the information used from the professional development was applied well and the outcomes from the WALNA test would indicate that it was helpful to their preparation. Although lower than scores for non-Indigenous students in the region, scores for school C's cohort of Indigenous students were higher than other Indigenous students in the region⁴ (see appendices). This would further indicate that the intervention was helpful for the Indigenous students at School C.

School D

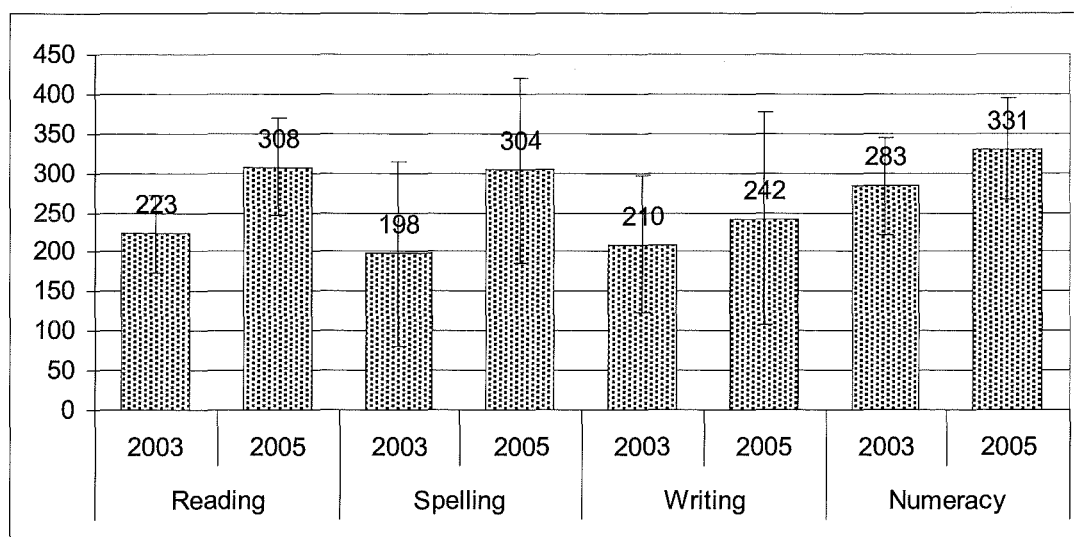
On completion of the data collection it was apparent that this school had made some attempt to fulfil the log book and data map requirements. However, there appeared to be little understanding about the importance of the log books as there were no reflections by the teachers about administering the mock WALNA tests or any of the issues that arose from the mock-test activity. The data maps also were only engaged with on a very superficial level.

⁴ Region 3.

School D Score:

Maintenance and delivery of Log Books and Data Maps	1.5
Frequency - how often test was taken as evidenced by Log Book & Data Map	.2
Quality-encouragement, clear instructions, fostering test-taking skills etal	.7
Adherence to test taking conventions by students	.6
Observed reduction of test anxiety	.7
Catering WALNA to specific Class & School requirements	0
Total	3.7

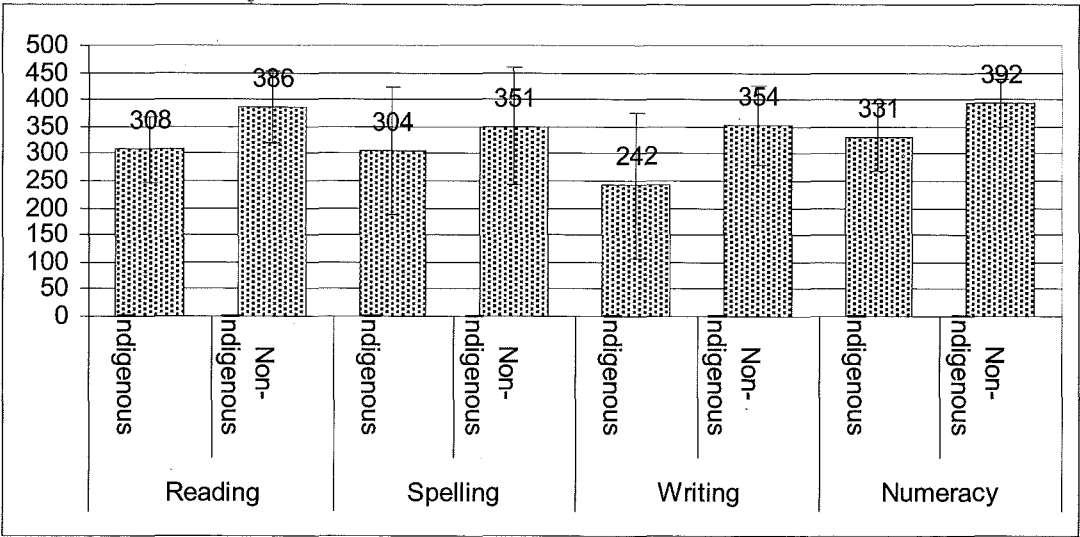
School D, Indigenous Achievement, All Areas, 2003-2005



Notes:

1. N = 18 (2003-2005)
2. Data includes only Indigenous children who were tracked over 2003-2005
3. Data provided courtesy of Department of Education and Training

School D, Indigenous and Non-Indigenous Achievement, All Areas, 2005



Notes:

1. N = 18 (Indigenous); N = 17 (Non-Indigenous)
2. Data includes only Indigenous and Non-Indigenous children who were tracked over 2003-2005
3. Data provided courtesy of Department of Education and Training

School D Summary

An initial analysis of the data from School D would seem to indicate that WALNA scores in all areas improved. This is positive until a closer analysis shows that, despite the area of reading that is up 85 WAMSE points, all the other areas are only up by between 50 and 20 WAMSE points which suggests a limited progression. Despite this, when these scores are compared with the WAMSE scores of other Indigenous students in the region⁵ all the indicators for School D are very positive. This would seem to indicate that the intervention at School D had some degree of success when compared to the Indigenous cohort of students in the region. However the lateness of the intervention perhaps failed to have more of an impact and if the preparation had started earlier perhaps the WAMSE scores would have been higher.

School E

School E provided a very limited amount of information to work with. There was no log book to speak and the few teacher reflections were jotted down on the data maps. For example:

Reading 1/8/05

***** waited to be told to move to the next page. Bothe (sic) ***** seemed to engage with the texts. On asking how they felt ***** was finding it hard, ***** seemed confident.

⁵ Region 4.

Maths

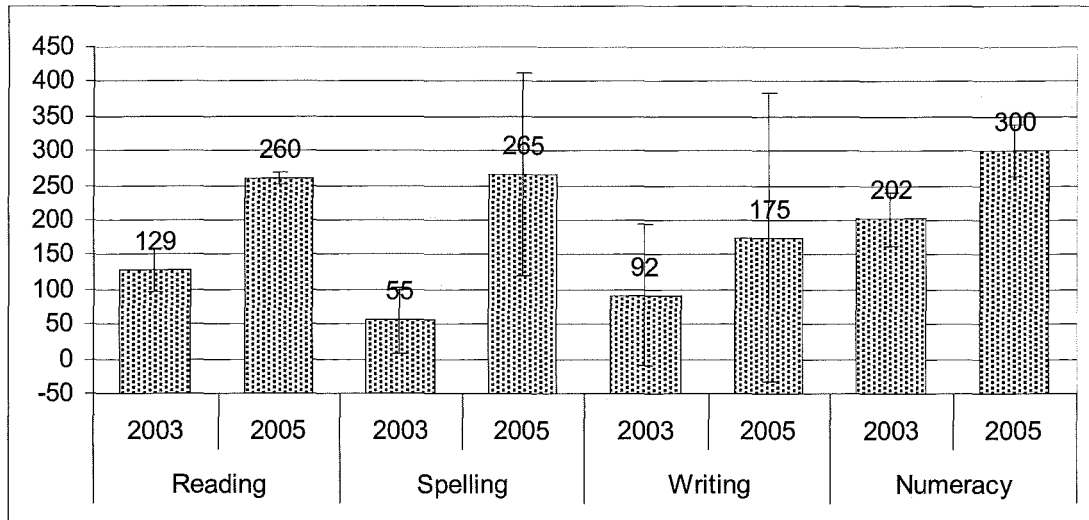
*Both showing confidence, *****stuck on symmetrical, Rounding***** puzzled at first.*

The data maps themselves were only followed superficially which would seem to indicate that the concept and its importance was not fully understood from the professional development.

School E Score

Maintenance and delivery of Log Books and Data Maps	.5
Frequency - how often test was taken as evidenced by Log Book & Data Map	.5
Quality-encouragement, clear instructions, fostering test-taking skills etal	.8
Adherence to test taking conventions by students	.8
Observed reduction of test anxiety	1
Catering WALNA to specific Class & School requirements	1
Total	4.6

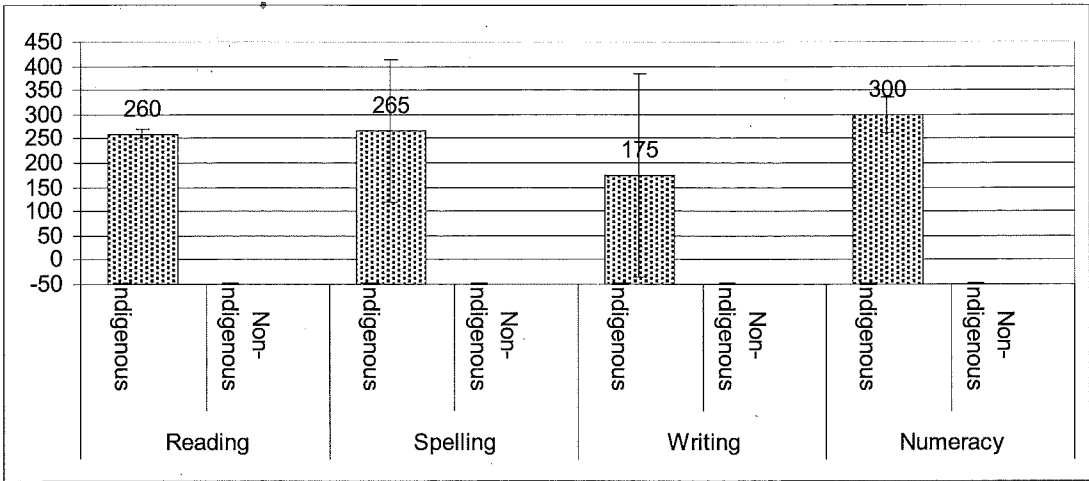
School E, Indigenous Achievement, All Areas, 2003-2005



Notes:

1. $N = 3$ (2003-2005)
2. Data includes both tracked and non-tracked Indigenous children over 2003-2005 due to small sample population
3. Data provided courtesy of Department of Education and Training

School E, Indigenous and Non-Indigenous Achievement, All Areas, 2005



Notes:

1. $N = 3$ (Indigenous); $N = 0$ (Non-Indigenous)
2. Data includes both tracked and non-tracked Indigenous and Non-Indigenous children over 2003-2005 due to small sample population
3. Data provided courtesy of Department of Education and Training

School E Summary

School E also seems to indicate a mixed outcome. For Indigenous Achievement in the region School E's WAMSE score is down in the areas of Reading and Numeracy but in Writing and Spelling it is higher. In common though with other schools the success for School E is in the improvements in the WAMSE for Reading, Spelling and Numeracy from 2003 to 2005. It could be assumed from this data that the intervention had some positive impact upon School E though this is difficult to ascertain due to limited feedback.

CHAPTER SEVEN: CONCLUSION

One of the most interesting aspects of this entire project has been the comparative study of Indigenous and non-Indigenous students when analysing the data that has come from the participating schools. To put it simply, when one engages with the data one must bear in mind that Indigenous students come from the most socially, economically and pedagogically marginalised groups in Australia. So the question needs to be asked, what does a standardised testing regime tell us about achievement when analysing Indigenous and non-Indigenous cohorts? The first and most obvious marker of this marginalisation, particularly for this project, is the inability to track many Indigenous students. This poses a significant issue as some students—one third of those participating in this project—cannot be assessed longitudinally. So how are these students from an institutionalised point of view tracked bearing in mind that transience is a very real issue for Indigenous student attendance? Standardised testing, therefore, needs to be understood in a wider context of retention and attendance issues that has little relevance to non-Indigenous students. As transience for some Indigenous families is a significant part of their life, this has a further impact on a child's ability to attend school and participate in a scaffolded and standardised way.

There are several socio-cultural and socio-economic factors which impact upon the scholastic history and progress of many Indigenous students. For Indigenous families, transience can be influenced by specific Indigenous factors such as extended family obligation and kinship responsibility. If there is a death in the family, arrangements to travel to the place of the funeral, in many cases in regional or remote areas, take precedence over everyday family practices like work or school. The time then spent with the extended family for such events can extend for many days or several weeks as the family deal with grief and other family business. As Indigenous Australians die younger and more frequently than non-Indigenous Australians, and extended family ties are far stronger than in Anglo-Australian culture, funerals pose a significant issue for families when their children's education is taken into account.

Another factor that may influence an Indigenous student's scholastic progress is the socio-economic requirement to follow seasonal work (Keen, 1994). Inappropriate housing issues may require a family to move to another town, suburb or city which is significantly removed from one's usual area of residence and family support structures. Similarly, federal welfare laws may see a family having to move to an area that offers increased employment opportunities if one is to access unemployment benefits. Per capita, Indigenous Australians access more welfare assistance than non-Indigenous Australians. Health issues may find an Indigenous family having to move to a bigger regional centre or city to facilitate a family member receiving adequate health care. Indigenous Australians suffer poorer health than the non-Indigenous population. Indigenous Australians are more likely to be arrested and incarcerated than non-Indigenous Australians. The imprisonment of a family member may also influence a family to move from region to region. These are all significant factors that, on their own, can negatively impact upon a student's ability to learn and can

have a long term impact on a student's educational history and is incongruent with non-Indigenous social sensibilities and reality.

Every indicator for this project has shown that nowhere do Indigenous students, as an identifiable cohort, out-perform non-Indigenous students on WAMSE scores or Benchmarks. This is of great concern for all stakeholders but is reflective of the pedagogical reality that Indigenous children are part of. It is vitally important that teachers, who are the gatekeepers of information in schools, are fully prepared for the WALNA test and aware of the themes, skills and issues that students need to have in order to sit the tests. This needs to take place at a training level so by the time students graduate as teachers they are quite aware of the demands and requirements of WALNA. For example when preparing students for the WALNA, teachers must be aware that the test has many different tasks that students must be conversant with. If the teachers, as was evidenced by this project, have little or no knowledge of basic test taking principles and conventions, then how do we expect test-taking knowledge to be passed onto the students?

Despite this project being relatively small, it has shown that with a concentrated effort by the principals and teachers better WALNA results can be achieved. By making the teachers conversant with test techniques and skills they can pass onto the students, the students develop a greater capacity to sit tests with confidence rather than anxiety. As this project has shown, if there are a variety of ways that teachers engage their students in test preparation then logically this will have varying outcomes. One cannot assume that a standardised test will be undertaken in a standardised way if different teachers have different ideas, or limited ideas, about what testing entails. If all students are to have a chance in engaging with the WALNA test then it only seems reasonable that the gate-keepers of test information have a solid grounding in test conventions and skills. If we are to see wholesale improvements to the benchmark score for Aboriginal students in Western Australia then a broader implementation of training of teachers for the test is crucial. The onus is then on the policy makers to see this as an opportunity to improve Benchmark and WAMSE scores through professional development programs for teachers. It is only then that parity of test results can be viewed with confidence by all the stakeholders.

Due to the importance of the WALNA test as a means to measure students' performance and knowledge, more needs to be done to make the WALNA experience a whole school experience. All schools need to understand and appreciate that WALNA testing time is important for everyone. If the situation arises that a class that is participating in the WALNA test is disturbed either by someone knocking on their door or a PA system being activated to make an announcement, this can have huge ramifications for all of those participating but also diminishes the importance for those children not participating. If the school takes a whole school approach it will not be long before the WALNA is tacitly appreciated as a significant part of the school calendar.

Further, work needs to be done with regard to Indigenous students' knowledge and skills for completing standardised tests. Due to the importance that policy makers and educators are placing on test like WALNA one cannot simply assume that all those who sit the test do so with the same level of skills and knowledge. As this project has shown, many students are not made aware of simple test conventions and codes that can assist them in sitting the WALNA. If a student cannot or does not know that they

will need to budget time when sitting the test then they are being set up to fail. Further, there is a distinct possibility that those students will develop and foster from a young age a fear of tests that they will carry through into high school and adult life. If these test fears and anxieties are allayed from a young age then not only will people perform better on tests but the measurement process will also be more reliable. This project has shown that, for more students to become conversant with test conventions, more has to be done at a central policy level. If teachers are not prepared then they will not be able to prepare the students and if the students are not prepared the measurement of the data will be incomplete or skewed. Training the educators for testing is the key if the WALNA and the data that stem from it can be used and used with confidence for all the stakeholders now and in the future.

WALNA Recommendations

1) Teachers do test-taking Professional Development

All teachers should be required to undertake professional development in test taking. As was evidenced in the professional development, many teachers, especially new teachers or graduates, assumed they knew what the WALNA entailed. Many were surprised as to the degree of code-shifting that was required due to the different test genres and test types in the numeracy section alone. Sitting a mock test based on past WALNA tests test proved a valuable exercise for the teachers as it allowed them to empathise with the text anxiety that many students may experience. Test conventions were also another important component that teachers were made aware of specifically as a number of these conventions them ran counter to Indigenous learning practices and understanding.

2) Students be trained in test taking

Standardised testing is now a regular fixture on the school calendar and as such it is very important in tracking the progress of students throughout their school life. As students come from a variety of social, economic and ethnic backgrounds they need to be taught what is required when they sit a test. Everything from budgeting time, engaging with the question, knowing what the question is asking of them and then answering it are all vital if one is to fully assess what students know.

3) A Booklet of test skills and issues be developed for teachers

A booklet of test skills and issues would be a valuable addition to the classroom as it will act as a checklist for all teachers when preparing students for WALNA.

4) Teachers be trained in the structure and purpose of WALNA

The WALNA test does more than just test intelligence and understanding. Teachers need to be made aware that the WALNA test and the data that come from it is used not just on an annual basis but also to track individual student performance as well as performance of classes, schools and regions.

5) Teachers begin WALNA preparation as soon as possible

From the project it would appear that those schools that began preparation for the WALNA soon after the professional development enabled their student to experience a reduction in test anxiety. The longer the preparation time that students have for the WALNA the better they should be able to cope with the pressure.

6) Principal and teachers discuss and implement the best way to approach the WALNA test for their school

Different schools have different requirements and so the principal and teachers need to identify the approach that will best cater for their students. As was witnessed in this project, a number of schools were able to effect specific strategies for their students that did not contravene the WALNA guidelines.

7) Whole school approach at test time

Test time is a very important time for all students concerned. For those students who are sitting the test there must be minimal distraction or disruption in order for them to concentrate. For those students who are not participating they must show restraint and respect for the students sitting the test and this will allow the latter to come to a greater understanding of test conventions.

8) Students be tracked more effectively so progress over time is recordable

As was evidenced by this project, many students could not be tracked. This is a concern as all students must be identifiable throughout their schooling so that their progress can be monitored and not simply become invisible. This is particularly important for transient students.

9) A system should be put in place so the development of individual students can be tracked

Individual tracking of students is very important component of the process. Parents need to be confident that their child is not left behind and if there are pedagogical issues evident these can be picked up early and amended.

10) WALNA should be used for diagnosis and remediation

WALNA is not just about students meeting the benchmark or passing tests. WALNA is about meeting the needs of all students. If a child, class or a district of students is regularly not meeting the state benchmark, or the WAMSE scores are regularly in question, a diagnosis of the reasons needs to be made and an appropriate intervention implemented.

11) WALNA needs to be rescheduled to the middle of the year

By rescheduling the test to the middle of the year, the results and data from the test can be made available to teachers well before the end of the school year so that strategies can be implemented to meet the evident needs of students.

One of the biggest concerns of the teachers during this project is that they never got WALNA data until very late in the year. Some thought that this was ineffectual as there was very little time to reflect with fellow teachers or the principal about what

strategies had or had not worked in that year. Some teachers also did not have any WALNA data or information passed onto them until the following year and by then they felt it was irrelevant.

12) Teacher education at University should include preparation to administer the WALNA test

Many student teachers are unaware of WALNA, what it does and what it can be trying to achieve. As WALNA is now part of the pedagogical landscape in WA it would make sense if student teachers had sufficient understanding of WALNA and its requirements so that before they graduate they are in a position to more effectively ensure students have appropriate test literacy and are able to utilise the test data for student progress.

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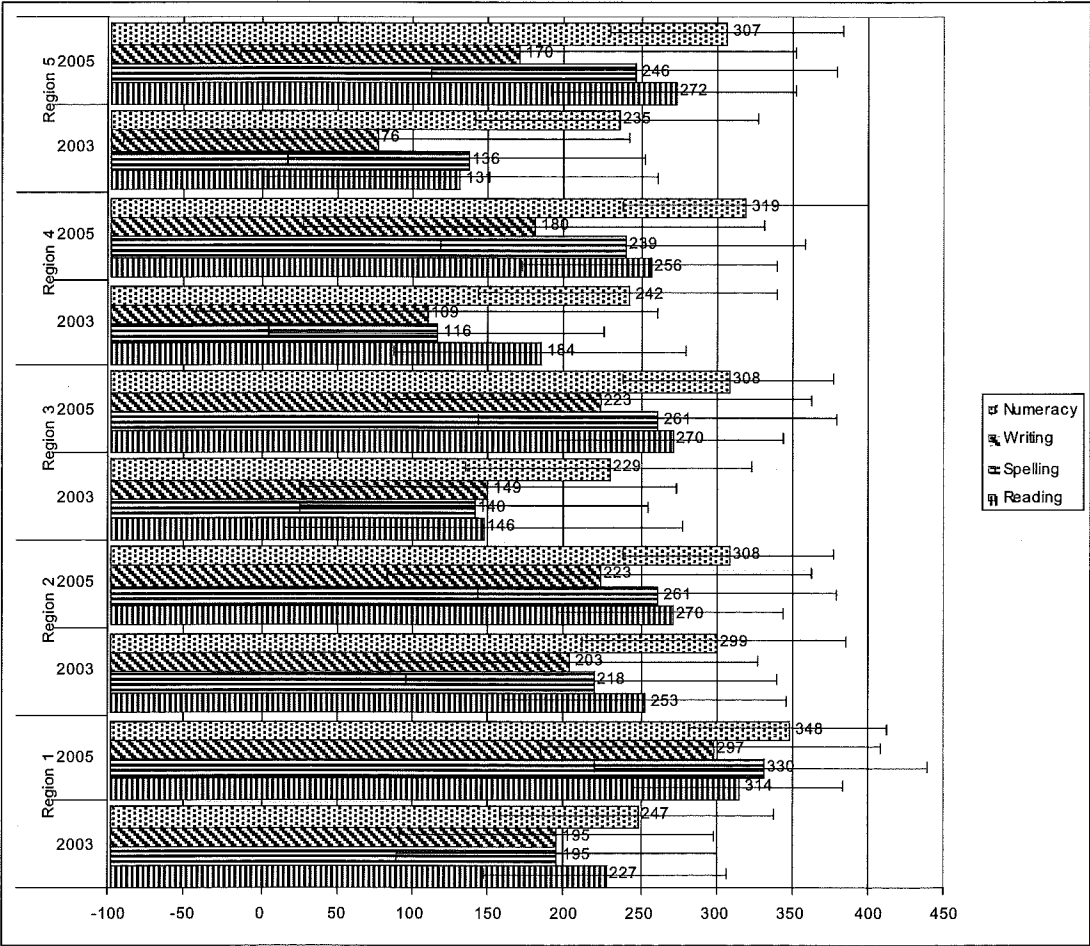
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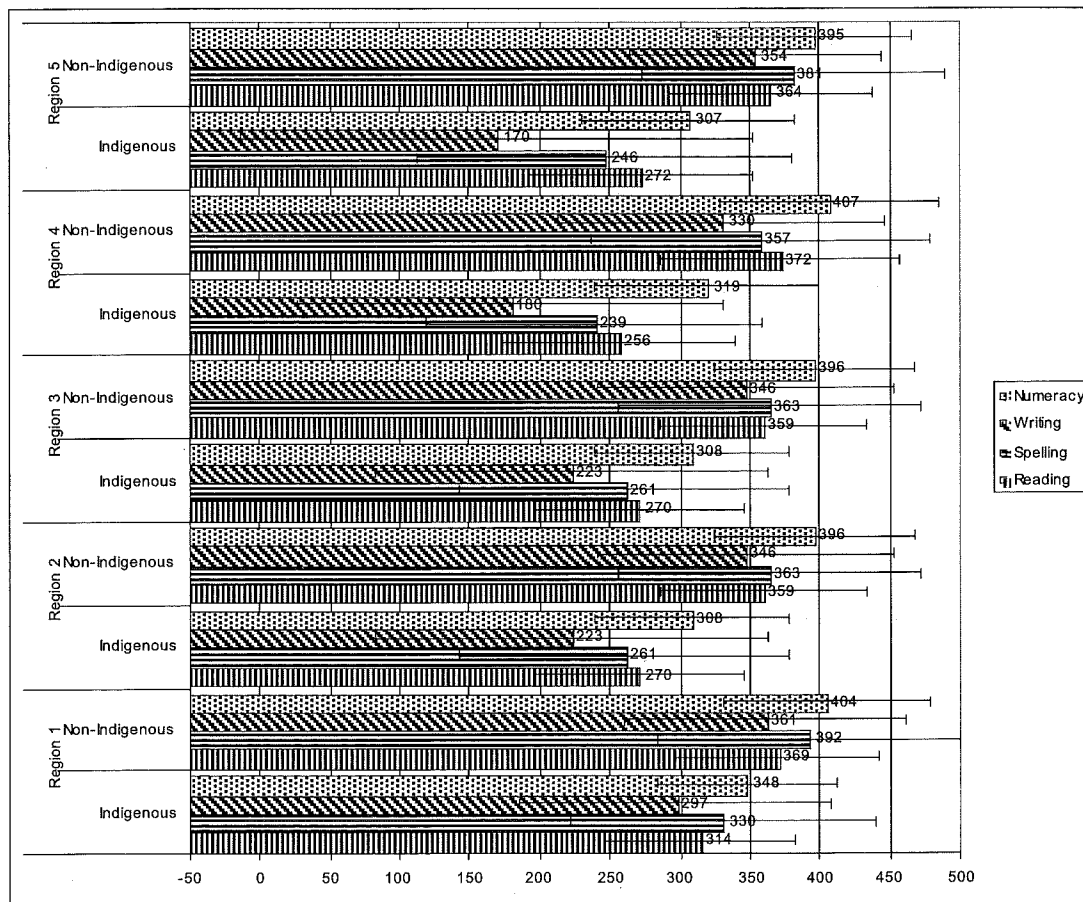
APPENDICES

Indigenous Achievement 2003-2005, regions



Notes:
Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005
1. Region 1: N = 148 (Indigenous)
2 Region 2: N = 50 (Indigenous)
3. Region 3: N = 165 (Indigenous)
4. Region 4: N = 169 (Indigenous)
5. Region 5: N = 87 (Indigenous)
Data and aggregate analysis provided courtesy of Department of Education and Training

Indigenous and Non-Indigenous achievement, 2005, regions



Notes:

Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005

1. Region 1: N = 148 (Indigenous); N = 2710 (Non-Indigenous)

2. Region 2: N = 50 (Indigenous); N = 941 (Non-Indigenous)

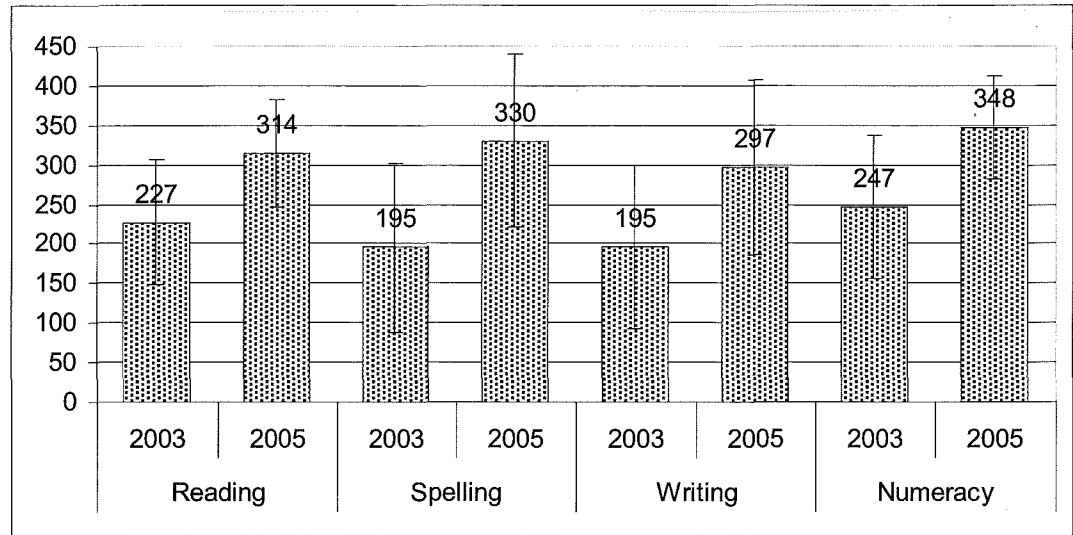
3. Region 3: N = 165 (Indigenous); N = 509 (Non-Indigenous)

4. Region 4: N = 169 (Indigenous); N = 131 (Non-Indigenous)

5. Region 5: N = 87 (Indigenous); N = 352 (Non-Indigenous)

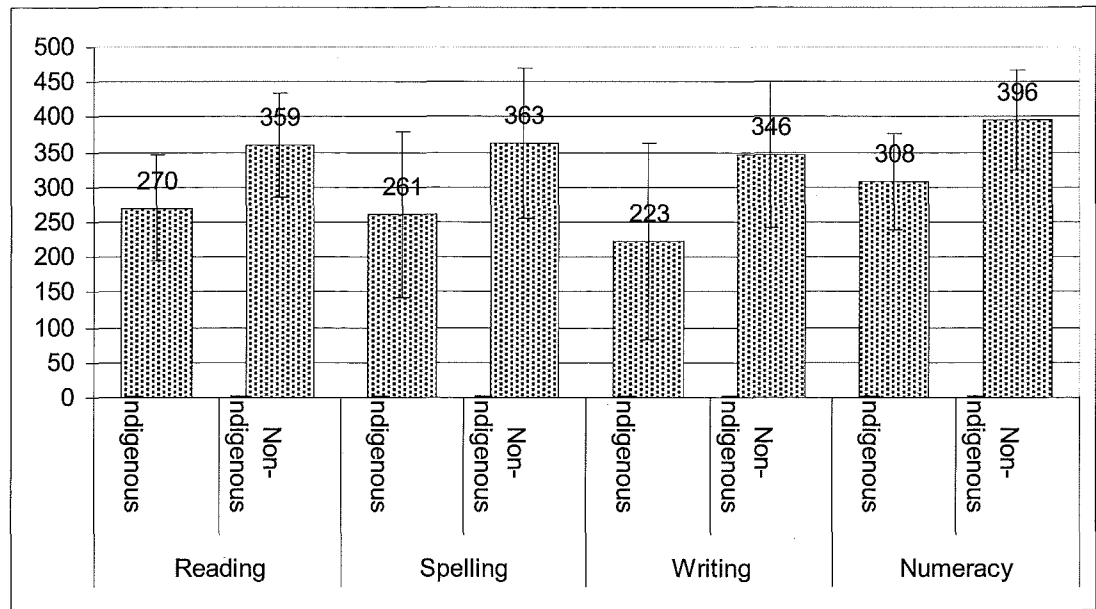
Data and aggregate analysis provided courtesy of Department of Education and Training

Region 1, Indigenous Achievement, All Areas, 2003-2005



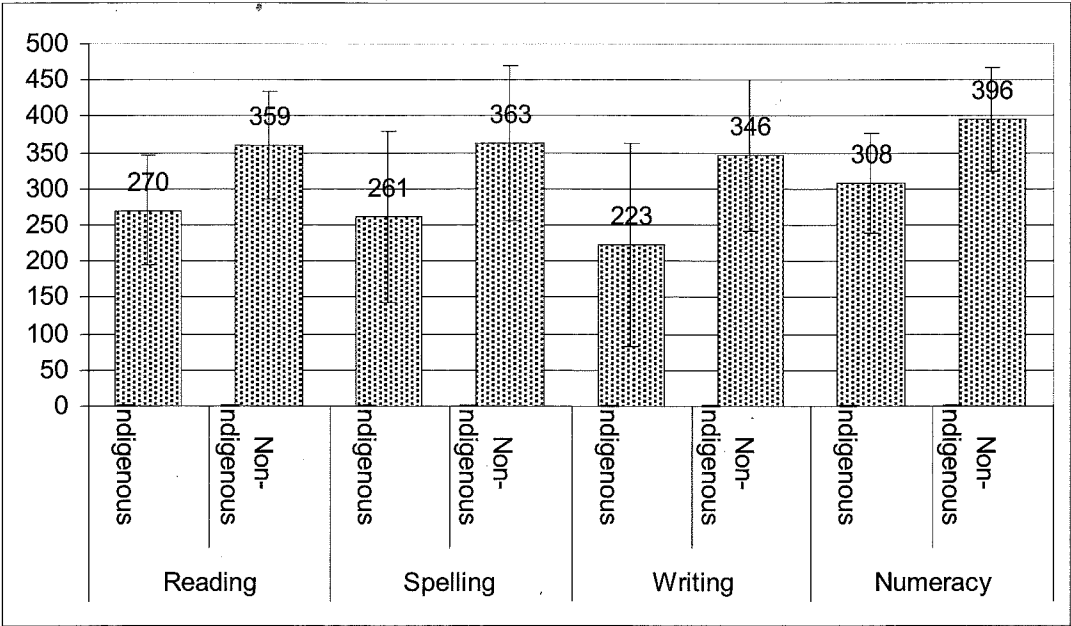
- Notes:*
1. *N = 183 and 148 (Indigenous 2003 and 2005 respectively); N = 3167 and 2710 (Non-Indigenous 2003 and 2005 respectively)*
 2. *Data includes both tracked and non-tracked Indigenous children over 2003-2005*
 3. *Data and aggregate analysis provided courtesy of Department of Education and Training*

Region 2, Indigenous and Non-Indigenous Achievement, All Areas, 2005



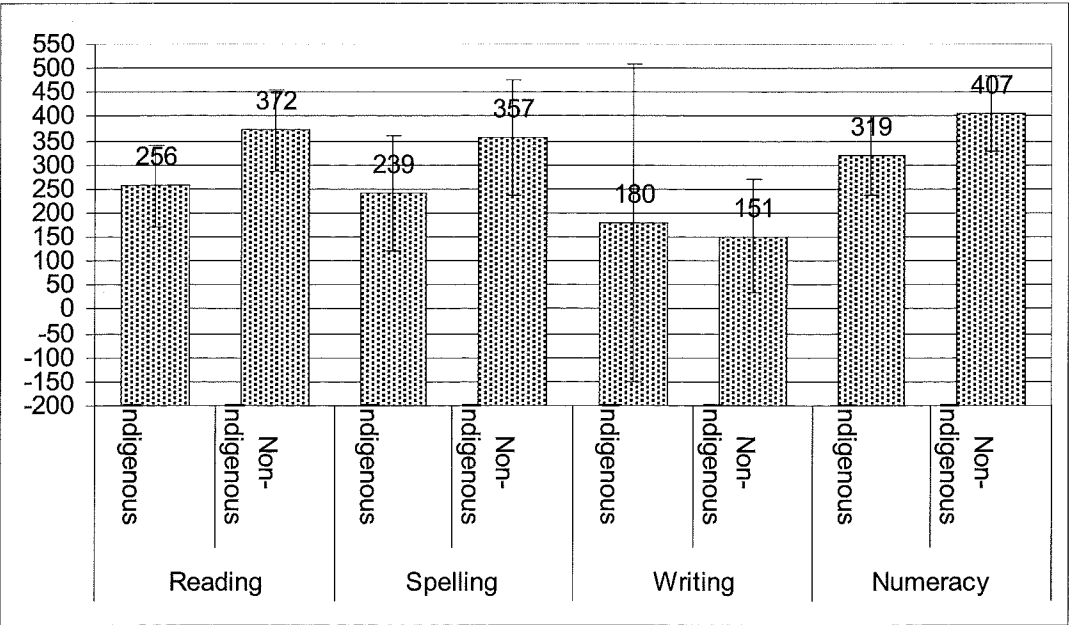
- Notes:*
1. *N = 50 (Indigenous); N = 941 (Non-Indigenous)*
 2. *Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005*
 3. *Data and aggregate analysis provided courtesy of Department of Education and Training*

Region 3, Indigenous and Non-Indigenous Achievement, All Areas, 2005



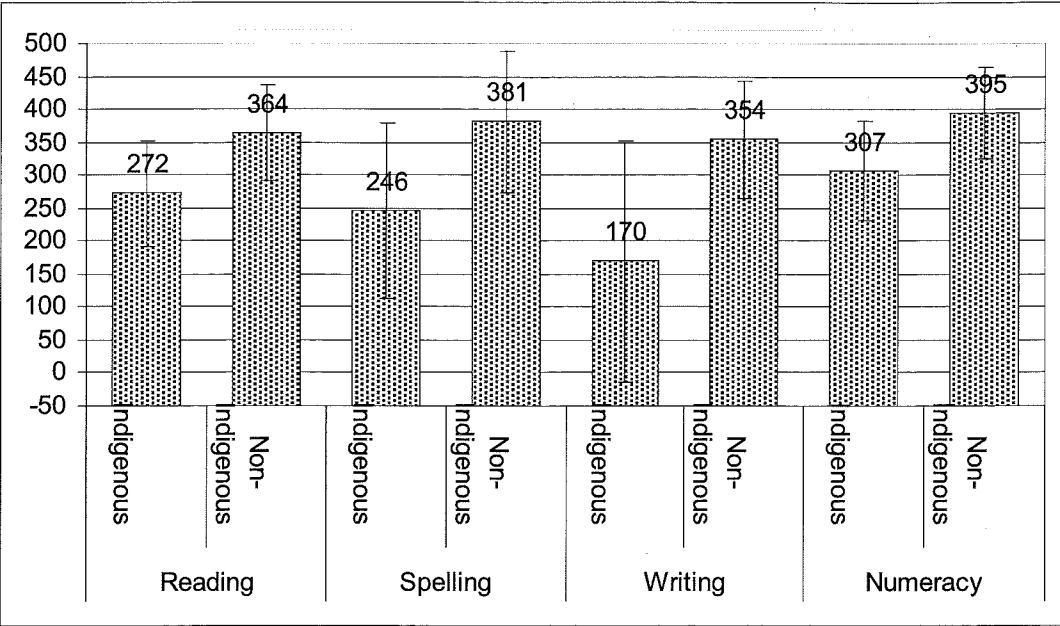
- Notes:
- 1. N = 165 (Indigenous); N = 509 (Non-Indigenous)
 - 2. Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005
 - 3. Data and aggregate analysis provided courtesy of Department of Education and Training

Region 4, Indigenous and Non-Indigenous Achievement, All Areas, 2005



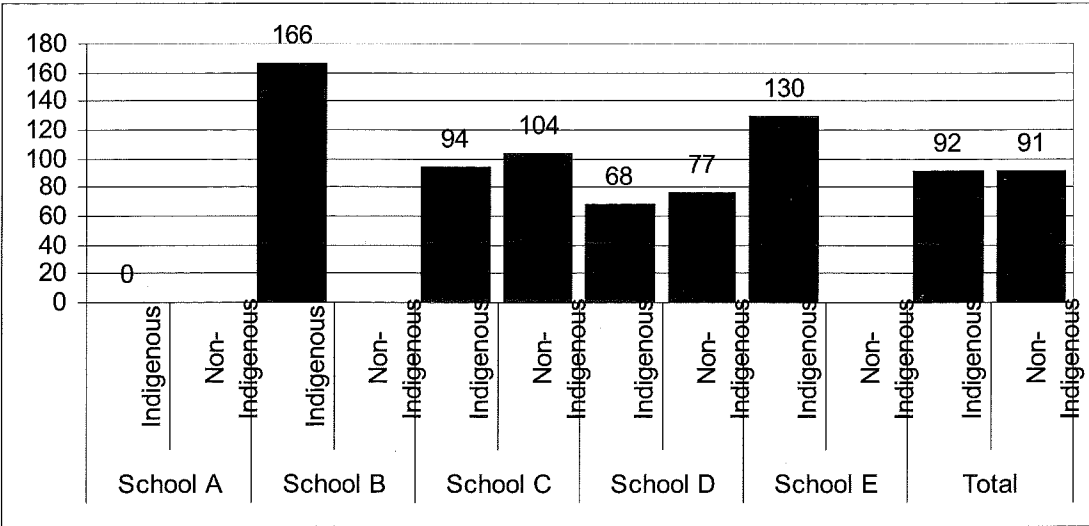
- Notes:
- 1. N = 169 (Indigenous); N = 131 (Non-Indigenous)
 - 2. Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005
 - 3. Data and aggregate analysis provided courtesy of Department of Education and Training

Region 5, Indigenous and Non-Indigenous Achievement, All Areas, 2005



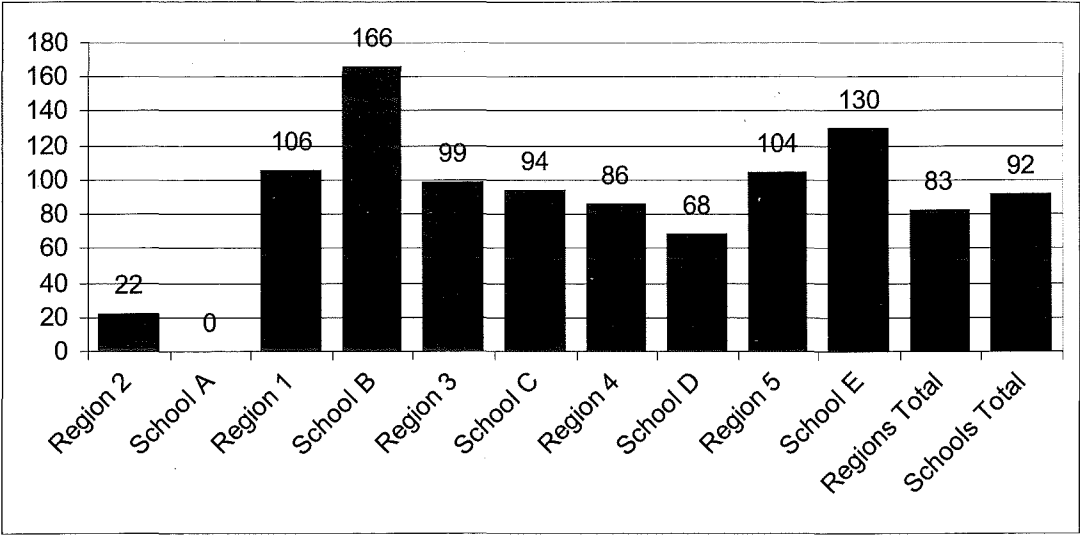
- Notes:
- 1. N = 87 (Indigenous); N = 352 (Non-Indigenous)
 - 2. Data includes both tracked and non-tracked Indigenous and non-Indigenous children over 2003-2005
 - 3. Data and aggregate analysis provided courtesy of Department of Education and Training

Indigenous and Non-Indigenous improvement across all schools, 2003-2005



- Notes:
- 1. Schools A, B, and E did not report non-Indigenous students
 - 2. School A did not indicate Indigenous improvement over 2003-2005

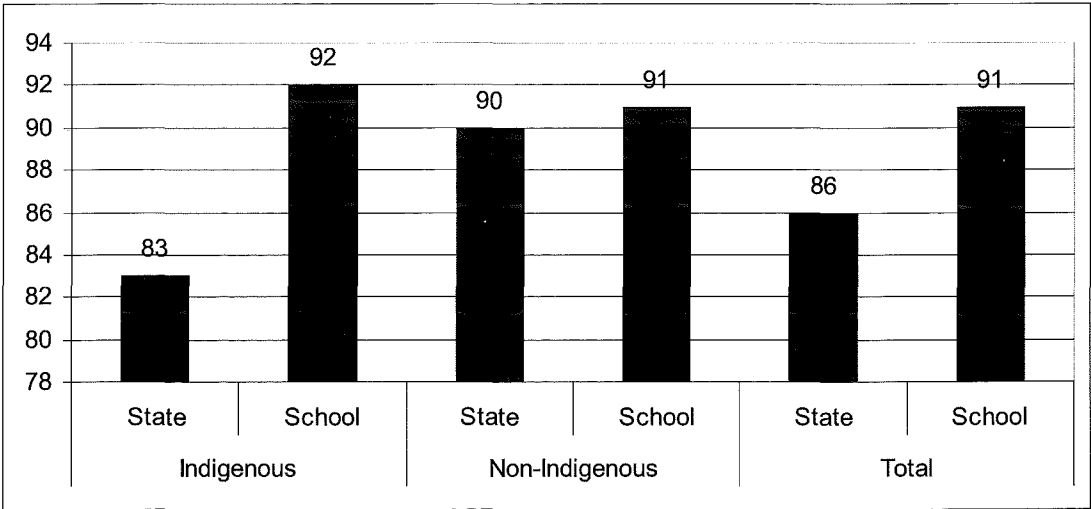
Indigenous improvement across all schools and all regions, 2003-2005



Notes:

- 1. Schools presented in conjunction with associated region
- 2. School A did not indicate Indigenous improvement over 2003-2005

Indigenous improvement across schools and state improvement across regions, 2003-2005



Notes:

- 1. State data includes both Indigenous and Non-Indigenous students

Appendix Two: Teacher Pamphlet

Aboriginal Students and the Western Australian Literacy and Numeracy Assessment

**A Project of the Western Australian Aboriginal
Education and Training Council**

&

**The Centre for Indigenous Australian Knowledges,
Edith Cowan University**

Sean Gorman

Introduction

The Centre for Indigenous Australian Knowledges, in conjunction with the Aboriginal Education and Training Council, introduced this project to develop test literacy skills of Year 5 Aboriginal students with a view to improve their performance on the Western Australian Literacy and Numeracy Assessment WALNA. Five primary schools in different regions of Western Australia have participated. As part of the project, the teachers were involved in professional development sessions that helped them identify and develop in their students test-taking skills that are needed for success in the WALNA. As part of the professional development sessions, teachers:

- examined past WALNA tests;
- analysed the requirements of the test;
- analysed the language of the test; and
- were familiarised with the guidelines teachers are expected to follow when administering it.

As a result teachers:

- developed specific test taking skills;
- reduced test anxiety of the students; and
- developed familiarity with test taking conventions.

The objectives of the project are:

- to enhance the test literacy of Aboriginal students in Year 5;
- to assist teachers to interpret test data;
- to develop teachers skills in helping Aboriginal children engage with the test environment and test requirements;
- to provide advice for policy makers on suitable strategies to improve the performance of Aboriginal students on WALNA tests; and
- to develop strategies to ensure WALNA can be used as an education tool equally as effectively for both Aboriginal and non-Aboriginal students.

Schools Involved

There were two phases to the methodology for this project. In the first phase five schools were identified and contacted to take part in the project. They were chosen because of the high Indigenous demographic of the students in their classes. These schools were a mixture of urban, regional and remote as well as being Government, Catholic or Independent institutions. The target group for the research was students in Year 5. The rationale for this was that many students had already participated in the WALNA test in Year 3 and there was some familiarity with the test and as a further consequence there would be baseline data to draw on.

School A.

School A was a school located in the country in a major regional centre. The school identified very strongly with the local Indigenous community and most of the students at school were Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

School B.

School B was a school located in the metropolitan area. The school identified very strongly with the local Indigenous community and as a consequence nearly all the students at the school were Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

School C.

School C was a school also located in a major regional centre. The school, whilst having a very good rapport with the Indigenous community and other minority groups, identified generically as a government primary school. A consequence of this was many cultural groups were represented in the student population and there was a mixture of children in all of the four classes that participated. All classes had a cohort of Indigenous students in them and one of the four teachers was Indigenous.

School D.

School D is a remote school. It identifies strongly with the Indigenous community as well as the other multicultural aspects of the student body. The classes had strong cohorts of Indigenous students in them but they did not make up the majority. In the two Year 5 classes that participated both teachers were non-Indigenous.

School E.

School E is a school located in a regional area near a mining town. The school identifies very strongly with the local Indigenous community and as a consequence all the students at the school identified as being Indigenous. The class of Year 5 students who participated in this study were all Indigenous. The teacher was non-Indigenous.

Issues Teachers need to be aware of with the WALNA Test

When preparing students for the WALNA teachers must be aware that the test has many different types of tasks and time is required to read the question, understand it, exact the specific knowledge and finally answer the question. To put simply the students will need to code shift throughout the test in all of the disciplines. Some of the areas that teachers need to be aware of and inform students are as follows:

- variations with answering alternatives;
- shading answer bubbles ranging from one to four and in other cases one to five;
- need to place a word or a number in a box or on a line or shade in a bubble (or bubbles); and
- tasks range from short answers, extended answers, multiple choice, true/false, rank order

With regard to the literacy sections of the WALNA what students need to be aware of is that contained within the reading sections they will need to:

- extract general information with low level inferencing;
- extract culturally specific information with high level inferencing requirements;
- have fairly extensive amounts of middle-class Anglo-life experience;

- have general world knowledge; and
- have general semantic knowledge.

Preparation strategies that were used in the classes

With all the schools involved it was realised that different schools and classes are run differently. Teachers were encouraged to cater to their class's specific needs and requirements and come up with a relevant teaching regime that would cater to their class. It is there for recommended that schools consider these strategies when preparing for the WALNA:

- begin WALNA preparation as early as possible;
- do WALNA-like tests as often as possible;
- be aware of many different test items;
- be aware of specific test language;
- be aware of different test genres with WALNA test;
- give explicit, clear instructions;
- have clear learning blocks and times;
- identify test weaknesses as early as possible (interpretative or language issues);
- make students aware of time management and budgeting skills;
- encourage regularly;
- reinforce positive test behaviour;
- organise where possible homework classes for WALNA;
- cater to your class using the data maps;
- flash cards; and
- where possible utilise homework classes.

On the day of the test ensure that the following issues are considered:

- breakfast club;
- inform whole school of WALNA testing;
- disconnect or turn down (if possible) PA during test;
- use where possible AIEW to read out questions in test;
- where possible separate competent and less competent students; and
- principals to discuss with teachers strategies to maximize outcomes

An account of time frame and what were the issues raised in PD

The WALNA pd's for this study commenced in early May, leaving only about three months for schools to prepare students. A longer period of preparation is necessary. Some schools immediately implemented the information from the pd's while others were did not start for some weeks. Some schools immediately implemented the information from the pd's while others did not start for some weeks. Generally the schools that started earlier had the better test results as they were prepared for the

WALNA over a longer period and thus reduced the test anxiety of the students. Even though there was some resistance by the students to the WALNA preparation generally this eased as the students did more WALNA-like tests in the lead up to the test. Literacy was raised as an issue in the pd's and it was felt that the transferral of information into the classroom from the pd would assist those students who were strong to average students. This was a point made clear by one of the teachers at School C who said during the professional development "These strategies will really help the stronger to middle of the road students, whereas the ones that cannot spell 'dog' now will not be able to spell 'dog' when WALNA arrives".

What teachers need to do to improve students' test taking

Due to the variable nature of the classes, teaching styles and demographics of each of the schools that were involved in the project the onus is really on the teacher to determine what they think is the best way to construct a teaching regime that fits into the daily teaching practice but specifically caters for good test-taking practices. Perhaps the best thing to do initially after three or four WALNA-like tests is to recognise class and individual students strengths but more importantly their weaknesses. To do this teacher's should use the Data Map and assess the skills that students need to successfully engage with the WALNA test. Skills that the teachers need to identify with their students include:

- able to work to time limits;
- able to complete work within time limit;
- able to work independently;
- able to stay seated for duration of task;
- accustomed to reading Standard Australian English;
- able to follow written instructions in SAE;
- ask for help when required;
- re-read information if not clear;
- able to tell/read time from clock;
- able to budget time;
- attempt all questions;
- do easy questions first;
- leave hard questions till last;
- move on to next question if present question too hard;
- check answers before handing in paper;
- bring/have all materials required;
- have adequate nutrition before test; and
- able to work with a variety of teachers

What to be wary of and what to be aware of.

- don't start WALNA preparation late;
- be mindful of all students' weakness and strengths;
- be wary of students trying to sign to one another in WALNA-like tests;
- be wary of any eye contact that could seem untoward;

- be mindful of any equipment that students need to operate to; successfully sit the WALNA (i.e. calculators);
- instil good test habits;
- instil good time management skills;
- encourage students to ask questions;
- encourage them to 'have a go'; and
- encourage students to work independently.

Teachers log-book reflections

I had (the AIEO) in here one day and something came up with the word balloon. And they (the students) all looked at me and said what? I said balloon, you know? As a balloon. And all of them went oh we don't know what you're talking about and I said 'you know a balloon you blow up' and (the AIEO) went 'Oh balloowen'. Also in maths one day I used the word feet you know as in plural feet and they went 'oh, what's that?' I said feet more than one foot and (the AIEO) said we say foots. Now we actually disputed that and the principal took it to the Noongar staff and they said yes its foots.

6/6/05

Literacy guided reading work; am now using WALNA type questions for students to work on using key words.

29/4/2005

The test was given as a WALNA test should be, with practice questions, time limit and no help. Chn [sic] were told prior to testing about why we were doing the test and what we hoped to achieve before the 2005 WALNA in term 3.

4/5/2005

Discussed multiple choice questions. How to work through alternatives even if you don't know the answer straight away - eliminate alternatives that are 'silly'.

11/5/2005

Timed Yr 3 2004 reading so chn [sic] were aware of 1 minute, 1 question. Even though Reading was only at year 3 level many children had problems answering the questions as the text was too difficult for them.

Reading 1/8/05

Barry⁶ waited to be told to move to the next page. Bothe (sic) Simone/Cheryl seemed to engage with the texts. On asking how they felt Steven was finding it hard, Gary seemed confident.

Maths

Both showing confidence, Ann stuck on symmetrical, Rounding Jamie puzzled at first.

⁶ All names used are pseudonyms