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Why Only One in Three? The Complex Reasons for Low Indigenous School Retention

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Foreword

The title of this monograph, *Why Only One in Three?*, refers to the alarming fact that fewer than one in three Indigenous students in Australia progress to Year 12. This is less than half the rate of other Australian students. Until now, there has been no comprehensive analysis of why the Indigenous rate lags so far behind. This monograph, by CAEPR Fellow Dr R.G. (Jerry) Schwab, presents a ground-breaking overview and analysis of the factors influencing the continuing low levels of Indigenous retention in late secondary school. It includes new research that provides fresh insight into the problem of early school leaving and provides the first evidence-based analysis of why and how Indigenous retention rates remain so low. It concludes with a series of important research-based recommendations for further research and policy action.

Why Only One in Three? had its genesis in research commissioned by the Office of Indigenous Policy in the Department of the Prime Minister and Cabinet in mid-1999. Focusing on issues influencing the retention of Indigenous students to Year 12, Dr Schwab initially summarised his research in a discussion paper prepared for presentation to the Ministerial Council on Aboriginal and Torres Strait Islander Affairs (MCATSIA). The significance of the research was reflected in the invitation to Dr Schwab to present his research to the MCATSIA annual meeting in Alice Springs in September of this year.

This monograph was 'fast-tracked' for publication at the urging of researchers, policy makers and various Commonwealth, State and Territory education department staff who recognised the quality of the research in the original discussion paper and wanted access to the findings for their own work. Revised and expanded in form from the original discussion paper, *Why Only One in Three?* will be of enormous immediate value to researchers and policy planners.

Professor Jon Altman
Director, CAEPR

Canberra
December 1999

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Executive summary

The problem of Indigenous retention to Year 12

Low retention of Indigenous students at the senior secondary level has long been recognised in Australia as a significant problem, with profound implications in a range of social arenas. Rigorous evidence-based analyses of why and how Indigenous rates remain so low are rare.

This monograph emerged from research commissioned by the Office of Indigenous Policy in the Department of the Prime Minister and Cabinet. The research findings were presented to the meeting of the Ministerial Council for Aboriginal and Torres Strait Islander Affairs in Alice Springs in September 1999. This monograph provides a review and analysis of Indigenous retention rates, drawing on the outputs of rigorous empirical research, national data and State-level case studies tracing some of the possible factors – including literacy, numeracy and attendance – that influence the rates at which Indigenous young people leave school before reaching Year 12. The aim of the monograph is to generate informed discussion of policy options and interventions, by addressing six key research questions.

What are the discernable variations or patterns in Indigenous school retention rates and what are the possible explanations?

Low retention of Indigenous students at the senior secondary level has long been recognised in Australia as a significant problem with profound implications in a range of social arenas. Long-term gains in apparent Indigenous retention rates have been celebrated as evidence of a successful national Indigenous education policy, but so far there has actually been little if any empirical evidence to demonstrate cause and effect. While descriptive apparent retention rate data abound, rigorous evidence-based analyses of why and how Indigenous rates remain so low are rare.

- Apparent retention rates are particularly useful as an index of student progression to the final year of secondary school. When standardised, they allow comparisons among different groups and enable examination of patterns and changes over time. At the moment, however, there are still no commonly accepted protocols that enable meaningful comparisons among States and Territories.
- In 1998, the apparent retention rate for Indigenous Year 12 students was 32.1 per cent, compared to the non-Indigenous rate of 72.7 per cent.
- Calculated as a ratio, the Indigenous to non-Indigenous rate over the course of the five years for which comparable data exist ranged from a low of about 0.40 in 1996 to a high of 0.44 in 1998.
- In 1998, the gap between Indigenous and non-Indigenous apparent rates was smallest in the Australian Capital Territory and Queensland, and greatest in the Northern Territory.

- Nationally, non-Indigenous apparent retention rates have declined since 1994 but now appear to be holding steady. Indigenous rates, on the other hand, dipped sharply to a low point in 1996 and as of 1998 had only just returned to 1994 levels. It would be very difficult to sustain an argument that Indigenous rates have improved over the course of the past five years; it is impossible to refer to these changes as a trend.
- There are relatively lower apparent retention rates in rural areas and in schools with high proportions of Indigenous students.

What are the primary direct causes of the low Indigenous rate?

Research indicates that there is a range of interlinking factors that appear to influence – or are at least strongly associated with – patterns of retention. It is very difficult to disentangle these factors from one another, but research has shown that the following are most likely those which shape Indigenous retention patterns (presented here in no particular rank or priority).

- Socioeconomic background. It has long been known that low socioeconomic background correlates with early school leaving in the general population. Research has shown this to be a factor with Indigenous students too. Yet recent analyses show that, even when controlling for socioeconomic background, Indigenous students are more likely to leave school early, which suggests other factors are also involved.
- Arrest. Arrest has been shown to have a powerful effect in increasing the likelihood that an Indigenous young person will not be in secondary school.
- Family and household structure. If a young Indigenous person is married or in a de facto relationship, he or she is more likely to be in school. Living in a household with other individuals with educational qualifications also increases the likelihood of being in school. In contrast, the presence of individuals who have been arrested, or residence in crowded and poorly maintained housing, has a strong negative effect for being in school. Domestic violence and other characteristics of dysfunctional families negatively affect educational participation as well.
- Parents' occupation and education. There are no specific empirical studies that identify a link between Indigenous parents' education and occupation and low school retention, but there is clear evidence to suggest that these are associated for other Australians. Parents' education is particularly significant in this association.
- Gender. While there is no separate analysis of the effect of gender on Indigenous school retention, apparent retention rates for males and females show that females are more likely to remain to Year 12, just as for other Australians.
- Rurality. There is a clear association between residence in a rural or remote region and lower levels of school retention. This is particularly important for Indigenous students, who are relatively more likely than other Australians to live outside of urban areas where access to educational facilities is reduced.

- School sector. Though there is no specific analysis of the effect of school sector on Indigenous retention, it is well known that retention rates are higher for non-government schools. Indigenous students are also far more likely to be enrolled in government schools than other students.
- School achievement levels. There are many studies in Australia that show very strong effects for school achievement on retention. Indigenous students tend to rank much lower on achievement tests than other students and, not coincidentally, their retention rates are lower as well.
- Factors associated with Indigenous culture and history. When factors such as school achievement and socioeconomic background are controlled for, Indigenous students still leave school at a rate that far exceeds that of other students. It appears likely that the differences in the relative rates can be explained by factors associated with the historical and cultural experience of being Indigenous in Australia, by parental discomfort with schools, and by strong cultural notions of shame and fear of failure by school children.

To what extent is attendance a primary cause?

- There is abundant evidence to show Indigenous students are absent from school at a rate around twice that of other students.
- Though research for this paper identified no studies able to show a direct link between Indigenous absenteeism – and thus it is impossible to identify it as a primary cause – it has been well demonstrated both overseas and in Australia that attendance is strongly associated with school retention for many other groups.
- Research also indicates that Indigenous absenteeism – and low rates of retention – must be considered within a much wider context of interlinked factors which may contribute to some sense of alienation from school.

To what extent are low literacy or numeracy skills primary causes?

While there are no empirical data capable of identifying low literacy or numeracy skills as primary causes of low Indigenous retention to Year 12, there is convincing evidence that low achievement in literacy and numeracy is strongly associated with poor academic performance and early withdrawal from school.

- Literacy and numeracy achievement are powerful predictors of Australian school retention patterns, yet there are still no reliable, adequately sampled, comparable long-term data at the national level.
- Though biased toward rural and remote schools, the 1996 National School English Literacy Survey showed that Indigenous students were on average three to four levels (out of five) below other students.

- Keeping in mind its rural/remote bias, the National School English Literacy Survey found that Indigenous students were more likely to speak a language other than English, move between schools, have much higher absentee rates, do less homework, watch more television, and be less likely to read books at home than students in the main sample.
- Case study data from the New South Wales Basic Skills Test scores for 1994 to 1997 showed gains in literacy for Year 3 and 5 Indigenous students which kept pace with non-Indigenous students. Overall, however, Indigenous students remained well behind all students including those from non-English-speaking backgrounds.
- Case study data from New South Wales show that literacy achievement is lower in rural areas and higher in urban metropolitan ones and the effect appears more marked for Indigenous students. In addition, there is evidence that overall literacy performance is lower in schools with a higher concentration of Indigenous students.
- Case study data from Queensland showed that Year 6 Indigenous students increased mean scores in every aspect of literacy between 1995 and 1997 but, like New South Wales students, they remained far below all other students, including those from non-English-speaking backgrounds.
- Other data from Queensland showed that Indigenous students achieved reading and viewing scores only three-quarters of the scores of non-Indigenous students, while Indigenous students in schools with the high concentrations of Indigenous students were likely to achieve scores only half as high as non-Indigenous students.
- Though Indigenous literacy scores on every survey and test remain very low, there is no evidence of rigorous, systematic, empirical evaluations of Indigenous literacy programs.
- Research shows that children with hearing, nutritional or other health problems are more likely to experience slow literacy development.
- Research on factors affecting literacy shows that a range of 'pre-reading' literacy skills and knowledge are predictive of later academic success, and that children from disadvantaged socioeconomic backgrounds, whose parents have low literacy skills or who lack appropriate home literacy experiences, are far more likely to fall behind other students.

What are the most effective means of increasing literacy and numeracy in primary and early secondary school?

- While much attention has been given to promoting Indigenous literacy and numeracy, and resources allocated to schools and communities, the outcomes of programs or strategies tend, at worst, to be assumed or, at best, they are merely stated or reported by the individuals or groups who implement them. There is little theoretical grounding in much of what is reported, and rigorous independent evaluations of Indigenous literacy and numeracy programs appear to have been overlooked or displaced.

- While intensive individual intervention has been shown to be effective with primary school children with literacy difficulties, literacy is often a family and community problem and research has shown that effective interventions target not just children but their parents and caregivers as well.

What are the most appropriate policy interventions to produce increased retention rates?

While it is not always easy to separate cause from effect, and symptom from core problem, a variety of empirical studies – both in Australia and abroad – have been useful for highlighting multiple factors associated with the likelihood of Indigenous students continuing or not continuing into secondary school. Based on this research, it is possible to suggest a range of policy interventions to directly and indirectly address the unacceptably low Indigenous retention rates in Australia today. In the section that follows, specific interventions are proposed to address vital issues in seven broad areas: data standardisation; literacy; integration of schools with communities; rural disadvantage; educational pathways; promising practices; and successful students.

Recommendation 1

Commonwealth, State and Territory Ministers and their education departments should move rapidly to reach agreement on standardised data collection and reporting procedures and protocols to enable national reporting of Indigenous apparent retention rates.

Recommendation 2

The Commonwealth should fund a focused long-term study of family literacy interventions and strategies to assess the impact and longevity of these for Indigenous children, families and communities.

Recommendation 3

States and Territories should explore new models of educational delivery that integrate communities and schools, enabling true lifelong learning from preschool to adulthood.

Recommendation 4

Commonwealth, State and Territory education departments should develop models and fund demonstration projects to promote the integration of education, health and family services.

Recommendation 5

Commonwealth, State and Territory governments must address and resolve the inequity of secondary education access for rural Indigenous populations.

Recommendation 6

The Commonwealth should commission a major study to assess need and the degree to which rural Indigenous communities have appropriate levels of access to non-secondary education.

Recommendation 7

While innovative projects aimed at increasing Indigenous retention should continue to be funded, objective, independent evaluation of such projects should be required and funded.

Recommendation 8

When funding innovative projects aimed at increasing Indigenous retention, funding should also be provided to enable the innovators to disseminate their results.

Recommendation 9

A long-term research project on successful Indigenous secondary school students should be commissioned.

Conclusion

Noel Pearson, one of Indigenous Australia's most influential leaders, has recently emphasised the importance of mutual obligation in escaping welfare dependency and has highlighted the responsibility of Indigenous people themselves in relation to self-improvement through education. He stated that self-improvement through education and the personal acquisition of skills, knowledge and training is the most powerful contribution a person can make to their society. While this may be true, it is clear that the development of skills necessary to succeed to Year 12 will not emerge out of the expectation that children and communities must pull themselves up by their own bootstraps. Similarly, penalising parents for their poverty or lack of educational success is unlikely to increase student retention. As research suggests, educational success will not easily result from tireless individual initiative. It is more likely to emerge from a mix of appropriate educational opportunities, individual confidence, community commitment, family support, social and economic stability, appropriate curriculum and the professional skills of educators and administrators. All of these require continued attention and support.

1. Introduction

In 1998, the national Indigenous apparent retention rate to Year 12 was 32 per cent. In other words, only one in three Indigenous students in Australia progressed to Year 12.

Twenty-five years of policy review

Indigenous education has been a major issue on the Australian national policy scene for over 25 years, and over the past two decades there has been a string of national reports, reviews and policy documents focusing directly on Indigenous education. Among the more prominent national reviews, commissions and evaluations with relevance to Indigenous education over the past 20 years are the following (in chronological order):

- *Education for Aborigines: Report to the Schools Commission* (Aboriginal Consultative Group 1975).
- *Access to Education: An Evaluation of the Aboriginal Secondary Grants Scheme* (Watts 1976).
- *Aboriginal Futures: A Review of Research and Developments and Related Policies in the Education of Aborigines* (Watts 1981).
- *Aboriginal Education* (Commonwealth of Australia 1985a).
- *Report of the Committee of Review of Aboriginal Employment and Training Programs* (Commonwealth of Australia 1985b).
- *Report of the Aboriginal Education Policy Task Force* (Hughes 1988b).
- *A Chance for the Future: Training in Skills for Aboriginal and Torres Strait Island Community Management and Development* (Commonwealth of Australia 1989).
- *National Report: Royal Commission into Aboriginal Deaths in Custody* (Commonwealth of Australia 1991).
- *Review of the Training for Aboriginals Program* (Department of Employment, Education and Training 1991).
- *Review of the Aboriginal Employment Development Policy* (Aboriginal and Torres Strait Islander Commission 1994).
- *National Review of Education for Aboriginal and Torres Strait Islander Peoples* (Commonwealth of Australia 1995).

Three of these reviews mark major assessment points in the development of Indigenous education policy in Australia: *Education for Aborigines: Report to the Schools Commission* (Aboriginal Consultative Group 1975), *Report of the Aboriginal Education Policy Task Force* (Hughes 1988b), and the *National Review of Education for Aboriginal and Torres Strait Islander Peoples* (Commonwealth of Australia 1995).

Out of these three reviews came 140 education-specific policy recommendations that provide a detailed map of the terrain of national Indigenous education policy over the past 25 years. An analysis of these recommendations reveals that, while they have become sharper and more specific over time, they are striking for their continuity (Schwab 1995). Though new and important themes have emerged over the course of 25 years, and while significant advances have been made in policy and program areas in both the Federal and State/Territory levels, none of the earlier policy issues have been fully resolved or are now absent from policy considerations.

The problem of Indigenous retention to Year 12

Low retention of Indigenous students at the senior secondary level has long been recognised in Australia as a significant problem, with profound implications in a range of social arenas. Each year, summaries of State and Territory apparent retention rates are published, incremental increases in Indigenous rates applauded, and the enormous chasm between Indigenous and non-Indigenous performance decried. Yet rigorous evidence-based analyses of why and how Indigenous rates remain so low are rare.[1]

For example, a recent publication assessing Indigenous education policy progress, *Making A Difference: The Impact of Australia's Indigenous Education and Training Policy*, attempts to gauge the impact of the National Aboriginal and Torres Strait Islander Education Policy. *Making A Difference* bills itself as 'a good news story' and claims that a concerted national policy effort has made 'a real difference' in moving Indigenous Australians toward parity in participation and greatly improved outcomes in a range of areas including Indigenous retention (Robinson and Bamblett 1998: preface). But, like so many of the reviewers before them, Robinson and Bamblett rely entirely on statistical depictions of patterns over time as evidence of policy outcomes. They cite no empirical studies of specific policy or program impacts and make no attempt to explore the various factors that shape those outcomes.

In contrast, this monograph provides – for the first time – a review and analysis of Indigenous retention rates, drawing on the outputs of rigorous empirical research, national data and State-level case studies. It traces the likely factors – including literacy, numeracy and attendance – that influence the rates at which Indigenous young people leave school before reaching Year 12.

The research questions

This monograph emerged from research commissioned by the Office of Indigenous Policy in the Department of the Prime Minister and Cabinet. The research findings were presented to the meeting of the Ministerial Council for Aboriginal and Torres Strait Islander Affairs in Alice Springs in September 1999. This monograph addresses and is organised around six key research questions:

- What are the discernible variations or patterns in Indigenous school retention rates and what are the possible explanations?
- What are the primary direct causes of the low Indigenous rate?
- To what extent is low attendance a primary cause?
- To what extent are low literacy or numeracy skills primary causes?
- What are the most effective means of increasing literacy and numeracy in primary and early secondary school?
- What are the most appropriate policy interventions to produce increased retention rates?

There is an enormous amount of rhetoric surrounding Indigenous education, much of it ideological; too little is based on empirical evidence or concrete outcomes. This monograph steers around the rhetoric and provides an overview of the current evidence related to Indigenous retention in an attempt to explain why only one in three Indigenous students is retained to Year 12. In addition, the monograph aims to generate informed discussion of policy options and interventions. Ultimately, it challenges policy makers in suggesting new approaches for enhancing Indigenous participation in late secondary education.

Retention – what is it?

Retention rates are one of a group of outcome measures useful for gauging student progress through school. In this context, retention is a term used to describe the progress of a cohort of full-time students through secondary school in a particular year. The apparent retention rate for 1998, for example, is calculated by dividing the number of students who are enrolled in Year 12 in 1998 by the number of students who started Year 7/8 in 1993 or 1994 (students in New South Wales, Victoria, Tasmania and the Australian Capital Territory enter secondary school in Year 7, while the others become secondary students in Year 8). Calculated in this way, retention rates cannot track individual students, rather they measure changes in numbers within a cohort over time. Consequently they provide an 'apparent' rather than actual retention rate and are more correctly referred to as such.[2]

Apparent retention rates are particularly useful as an index of student progression to the final year of secondary school. When standardised, they allow comparisons among different groups (for example, Indigenous and non-Indigenous, government and non-government school students, males and females) and enable examination of patterns and changes over time. Standardisation is important for meaningful measures, because States and Territories have differed over time in how they categorise and count students. Consequently, apparent retention rates are typically not very useful for making comparisons between States and Territories, though they remain an important tool for monitoring changes within States and Territories. They also have the potential, if States and Territories agree to common protocols, to provide comparable data at the national level.

While an important tool, it is important to keep in mind what apparent retention rates are not. They do not, and are not intended to, measure completion since they tally student numbers at the mid-point of a particular year. Further, they do not account for changes in residence between States, the death of students, shifts in identification by individuals or school systems, inter-sectoral transfers or repeating of school years. With these limitations in mind, they are still a very useful measure of student involvement in late secondary education.

2. Indigenous apparent retention to Year 12: the data

Research Question: *What are the discernible variations or patterns in Indigenous school retention rates and what are the possible explanations?*

A summary of apparent Year 12 retention rates appears in Table 1. Again, it needs to be emphasised that comparisons of rates among States and Territories are not currently practical or useful, but data are presented here to more easily facilitate analyses of patterns over time within individual States and Territories. The Table also includes ratios of the Indigenous to non-Indigenous rates. The ratio is useful in that it shows the relative difference between the rates of the two groups and allows some limited comparisons between States and Territories that would otherwise be impossible. In 1998, for example, the gap between Indigenous and non-Indigenous apparent rates was smallest in the Australian Capital Territory and Queensland where the ratios were 1.1 and 0.64 respectively, while a ratio of 0.19 in the Northern Territory indicated the greatest gap.[3] In other words, in Queensland, Indigenous students were nearly two-thirds as likely as non-Indigenous students to continue to Year 12, while in the Northern Territory non-Indigenous students were five times more likely than Indigenous students to attend Year 12.

Table 1. Apparent Year 12 retention rates of Indigenous and non-Indigenous students by State and Territory (all schools), 1990–98

State		1990	1991	1992	1993	1994	1995	1996	1997	1998
Australia	Indigenous	–	–	–	–	32.5	30.6	29.2	30.9	32.1
	Non-Indigenous	–	–	–	–	75.6	73.2	72.4	72.8	72.7
	Ratio	–	–	–	–	0.43	0.42	0.40	0.42	0.44
NSW	Indigenous	19.8	23.4	27.2	30.2	31.1	35.7	31.0	32.1	31.4
	Non-Indigenous	57.5	62.0	69.2	71.3	71.0	69.7	68.4	67.9	67.9
	Ratio	0.34	0.38	0.39	0.42	0.44	0.51	0.45	0.47	0.46
Vic	Indigenous	–	–	–	28.6	28.3	31.8	35.2	46.6	42.2
	Non-Indigenous	–	–	–	79.3	77.5	75.1	75.5	76.4	76.1
	Ratio	–	–	–	0.36	0.37	0.42	0.47	0.61	0.55
Qld	Indigenous	–	–	–	–	53.1	44.8	45.6	47.2	50.3
	Non-Indigenous	–	–	–	–	79.8	77.7	77.8	79.1	78.4
	Ratio	–	–	–	–	0.67	0.58	0.59	0.60	0.64
SA	Indigenous	24.2	27.9	38.1	32.9	37.3	22.3	20.3	19.5	18.4
	Non-Indigenous	73.0	84.5	93.6	87.1	82.4	72.4	69.3	67.8	67.7
	Ratio	0.33	0.33	0.41	0.38	0.45	0.31	0.29	0.29	0.27
WA	Indigenous	12.5	18.6	17.2	23.7	17.7	18.0	16.0	19.7	19.8
	Non-Indigenous	66.6	73.4	75.3	77.8	75.9	73.6	73.2	74.0	73.5
	Ratio	0.19	0.25	0.23	0.30	0.23	0.24	0.22	0.27	0.27

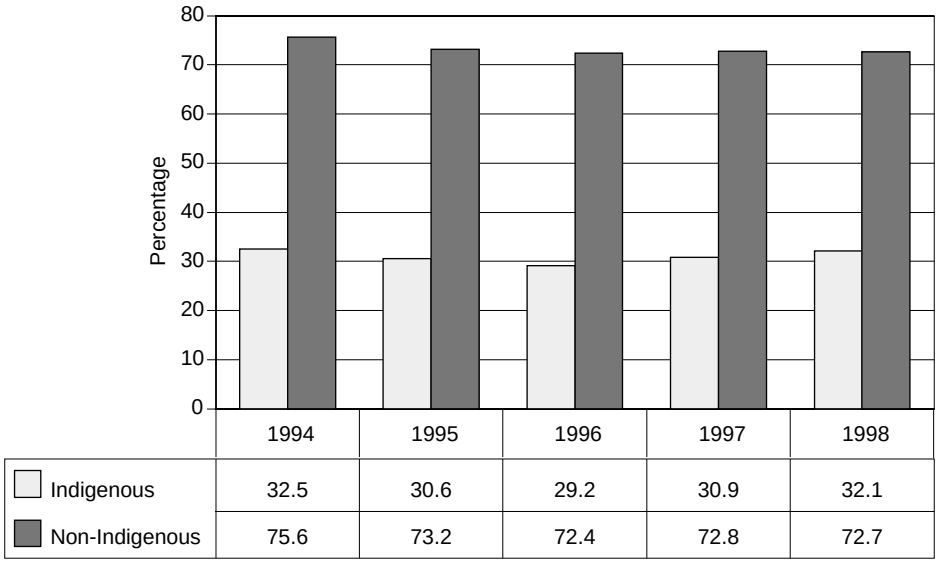
Table 1. Apparent Year 12 retention rates of Indigenous and non-Indigenous students by State and Territory (all schools), 1990–98 (continued)

State		1990	1991	1992	1993	1994	1995	1996	1997	1998
Tas.	Indigenous	28.0	20.5	43.5	42.0	39.3	57.5	35.4	49.0	35.6
	Non-Indigenous	45.1	53.3	60.5	61.0	58.7	59.8	53.6	58.8	63.2
	Ratio	0.62	0.38	0.72	0.69	0.67	0.96	0.66	0.83	0.56
NT	Indigenous	13.7	19.0	20.2	10.3	10.8	6.8	8.5	9.4	11.4
	Non-Indigenous	61.0	75.4	72.3	65.6	58.6	62.4	58.9	62.0	60.2
	Ratio	0.22	0.25	0.28	0.16	0.18	0.11	0.14	0.15	0.19
ACT	Indigenous	20.0	57.9	105.6	88.2	63.6	92.0	58.3	90.3	100.0
	Non-Indigenous	87.1	95.7	97.2	94.3	93.4	91.1	91.5	91.6	90.9
	Ratio	0.23	0.61	1.09	0.94	0.68	1.01	0.64	0.99	1.10

Source:
Derived from Long, Frigo and Batten 1998, unpublished Department of Education, Training and Youth Affairs (DETYA) data and the Australian Bureau of Statistics (ABS) National Schools Statistics Collection.

Figure 1 provides a graphic image of the apparent retention rate for both Indigenous and non-Indigenous students in Australia, between 1994 and 1998. The first year in which standardised data were available for all States and Territories was 1994. Five years of data are barely enough to identify trends when declines or increases have been steady over the period; it is certainly not meaningful to refer to a 'trend' when numbers have both declined and increased. It can, however, be said that non-Indigenous apparent retention rates have declined since 1994 and were by 1998 holding steady. Indigenous rates, on the other hand, dipped sharply to a low point in 1996 and had by 1998 apparently returned

Figure 1. Apparent retention to Year 12 (all schools), Australia, 1994–98



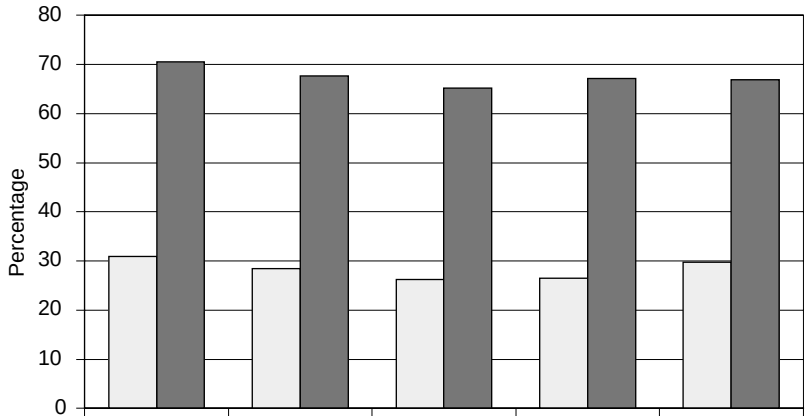
Source:
Derived from Long, Frigo and Batten 1998, unpublished DETYA data and the ABS National Schools Statistics Collection.

to 1994 levels. Consequently, it would be very difficult to sustain an argument that Indigenous rates have improved over the course of the past five years, let alone identify a trend.

In 1998, the apparent retention rate for Indigenous Year 12 students was 32.1 per cent, compared to the non-Indigenous rate of 72.7 per cent. Calculated as ratios, the Indigenous to non-Indigenous rate over the course of the five years ranged from a low of about 0.40 in 1996 to a high of 0.44 in 1998. In other words, Indigenous students in 1998 were less than half as likely as their non-Indigenous peers to continue to Year 12.

As Figures 2 and 3 show, the apparent retention rates for males and females over the course of the period 1994–98 indicate that, for both the Indigenous and non-Indigenous populations, boys were less likely than girls to continue to Year 12. In 1997 the ratio of Indigenous to non-Indigenous boys in Year 12 was lower than for girls (0.39 versus 0.45) and in 1995 and 1996 they were equivalent at 0.42 and 0.40 respectively. The Indigenous to non-Indigenous ratio for boys was very slightly higher than for girls in 1994 (0.44 versus 0.42) and 1998 (0.45 versus 0.44).

Figure 2. Apparent retention to Year 12 (males) (all schools), Australia 1994–98



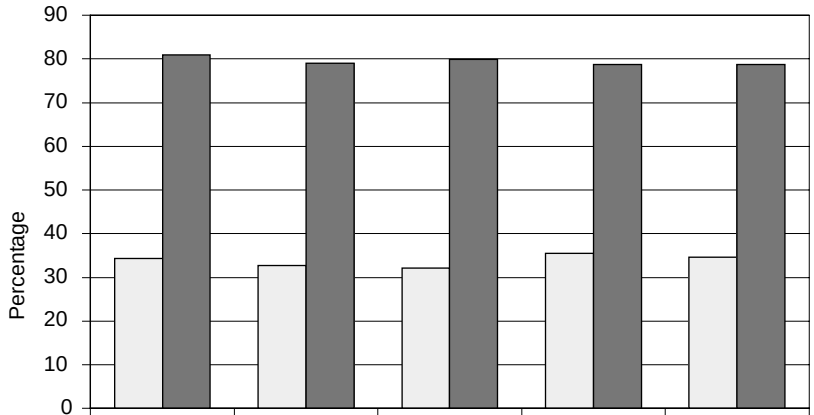
	1994	1995	1996	1997	1998
Indigenous	30.9	28.4	26.3	26.5	29.8
Non-Indigenous	70.5	67.6	65.2	67.2	66.9

Source:
Derived from Long, Frigo and Batten 1998, unpublished DETYA data and the ABS National Schools Statistics Collection.

Apparent retention: a closer look at patterns within two States

While it is not possible to compare apparent retention rates among States and Territories (for the reasons mentioned above), it is possible to analyse data within individual States. Data from New South Wales and Queensland are provided here to illustrate patterns within those States.

Figure 3. Apparent retention to Year 12 (females) (all schools), Australia 1994–98



	1994	1995	1996	1997	1998
Indigenous	34.3	32.8	32.2	35.5	34.6
Non-Indigenous	81.0	79.1	79.9	78.8	78.8

Source:
Derived from Long, Frigo and Batten 1998, unpublished DETYA data and the ABS National Schools Statistics Collection.

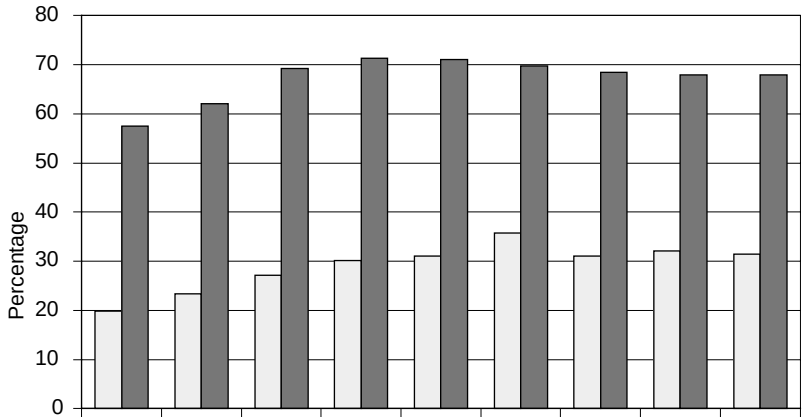
New South Wales

Figure 4 illustrates New South Wales' apparent retention rates for both Indigenous and non-Indigenous students for the period 1990–98. Given the time depth, it is possible to pick up an overall trend towards increased apparent retention for both Indigenous and other students between 1990 and 1998, but for both groups there were also marked declines in the mid-1990s. In the case of Indigenous students there has been continuing movement towards recovery since 1996. There also has been a trend in the reduction of the gap between the apparent retention rates, with an increase in the ratio of Indigenous to non-Indigenous rates from 0.34 in 1990 to 0.46 in 1998 (Table 1).

Queensland

Figure 5 portrays the apparent retention rates for Queensland over the period 1994–98. It is again difficult to identify trends with only five years of data, since the rates appear to rise and fall for both Indigenous and non-Indigenous students over this period. While there has been an overall decline in the ratio of Indigenous to non-Indigenous rates, from 0.67 in 1994 to 0.64 in 1998, the ratio has increased steadily between 1995 and 1998, indicating a continuing closing of the gap between the two groups (Table 1).

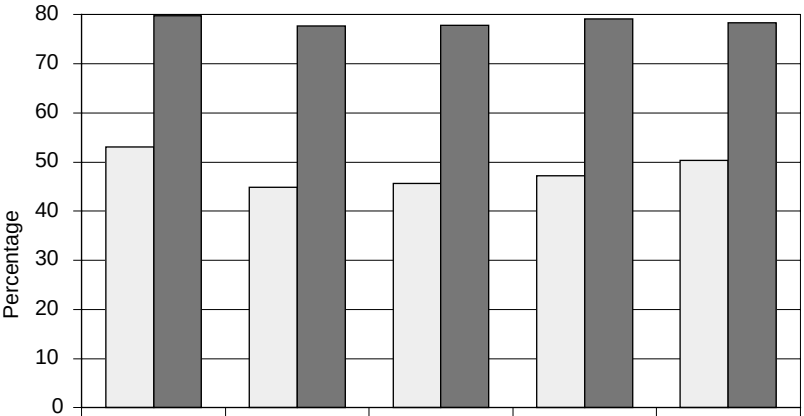
Figure 4. Apparent retention rates to Year 12 (all schools), New South Wales 1990–98



	1990	1991	1992	1993	1994	1995	1996	1997	1998
Indigenous	19.8	23.4	27.2	30.2	31.1	35.7	31.0	32.1	31.4
Non-Indigenous	57.5	62.0	69.2	71.3	71.0	69.7	68.4	67.9	67.9

Source:
Derived from Long, Frigo and Batten 1998, unpublished DETYA data and the ABS National Schools Statistics Collection.

Figure 5. Apparent retention to Year 12 (all schools), Queensland 1994–98



	1994	1995	1996	1997	1998
Indigenous	53.1	44.8	45.6	47.2	50.3
Non-Indigenous	79.8	77.7	77.8	79.1	78.4

Source:
Derived from Long, Frigo and Batten 1998, unpublished DETYA data and the ABS National Schools Statistics Collection.

Table 2 provides a closer look at government secondary schools in Queensland and portrays variations in 1998 apparent retention rates for Indigenous and non-Indigenous students in 162 schools clustered according to various criteria. These data provide a glimpse of how apparent retention rates differ according to geographic and Indigenous enrolment proportion categories.

Table 2. Indigenous and non-Indigenous Year 12 students (government schools), school type and district example, Queensland 1998[a]

Schools and Districts (number of schools)	Indigenous Year 12 students			Non-Indigenous Year 12 students		
	Number	Per cent of all students	Apparent retention rate	Number	Per cent of all students	Apparent retention rate
All schools (162)	668	3.4	52.5	18,901	96.6	75.8
Urban schools (100)[b]	425	2.8	54.7	14,938	97.2	78.2
Rural schools (62)[c]	243	5.8	49.0	3,963	94.2	67.8
Schools with less than 10 per cent Indigenous enrolment (135)	446	2.5	56.7	17,690	97.5	76.9
Schools with 10 per cent or more Indigenous enrolment (27)	222	15.5	45.7	1,211	84.5	62.9
Cape and Gulf District (2)[e]	3	9.1	–[d]	30	90.9	46.9
Thursday Island District (1)[f]	45	97.8	58.4	1	2.2	–[d]
Mount Isa District (3)[g]	30	17.2	48.4	144	82.8	65.2
Mount Gravatt District (7)[h]	23	3.1	109.5	717	96.9	85.0

Source:
Education Queensland unpublished data.

Notes:
a. Based on government secondary schools with Indigenous students in Year 8 in 1994. Unlike the apparent retention rates shown earlier for Queensland, these rates are calculated for government schools only. The rates are derived for each type of school or district by dividing the total number of Year 12 students in 1998 by the total numbers of students in Year 8 in the same schools four years prior.
b. In this table, urban schools are defined as schools situated in localities comprising 1,000 or more people.
c. In this table, rural schools are defined as schools situated in localities comprising less than 1,000 people.
d. The number of students is too small to calculate a meaningful apparent retention rate.
e. This district covers the geographic area of Cape York (north of and not including Cairns).
f. This district includes a single secondary school comprising primarily Torres Strait Islander students.
g. This district covers a large rural region of western Queensland.
h. This district is part of metropolitan Brisbane. The high apparent retention rate for Indigenous students most likely reflects students transferring into the district to complete secondary studies.

There were 668 Indigenous Year 12 students in government schools in Queensland in 1998, comprising about 3 per cent of the State's total population of Year 12 students in government schools. About two-thirds of these Indigenous students attended urban schools and about the same proportion attended schools where Indigenous students made up less than 10 per cent of school enrolment. Indigenous apparent retention rates were

highest in urban schools, a pattern that emerges among non-Indigenous students as well, but the contrast between urban and rural rates was much more pronounced among non-Indigenous students; rates were about 10 per cent higher for non-Indigenous students in urban schools but only about 6 per cent higher for their Indigenous peers. This suggests some degree of negative association between rurality and retention.

Apparent retention rates were also much lower in schools where Indigenous students comprise 10 per cent or more of Year 12 enrolment. Indigenous rates in these schools were 11 per cent lower and non-Indigenous rates 14 per cent lower than comparable rates in schools where Indigenous students made up less than 10 per cent of the enrolment. There appears to be a correlation between rurality and the number of Indigenous students in a school since 31 per cent (19 schools) of the rural schools had 10 per cent or more Indigenous Year 12 students; those 19 schools had 51 per cent (124 students) of the Indigenous enrolment. Clearly, these data suggest a 'retention at risk' status for Indigenous students in secondary schools in rural areas with sizeable populations of Indigenous students.

Within the Queensland government school system there are 36 school districts. Table 2 includes a rough regional comparison of apparent retention rates for four districts: Cape and Gulf, Thursday Island, Mount Isa and Mount Gravatt. The Cape and Gulf District covers the region of Cape York north of and not including Cairns. The district includes only two secondary schools with Indigenous Year 12 students though it is an area which is predominantly Indigenous in population. Within these schools there were only three Indigenous students in Year 12 in 1998. Consequently an Indigenous apparent retention rate would be meaningless; the rate for non-Indigenous students (46.9) should be interpreted with caution because the number of students is low. In contrast, in these same two schools, there were 30 non-Indigenous Year 12 students.

Thursday Island District includes the whole of the Torres Strait but includes only one secondary school with Indigenous Year 12 students on Thursday Island. Most if not all of these students were Torres Strait Islanders who come from the outer islands. In 1998 there were 45 Year 12 students and an apparent retention rate of 58.4 per cent; with only one non-Indigenous Year 12 student, it is not possible to calculate a meaningful non-Indigenous apparent retention rate.

The Mount Isa District covers most of the north-west region of rural Queensland but includes only three secondary schools with Indigenous Year 12 students. In 1998 there were only 30 such students, with an apparent retention rate of 48.4 per cent. Again, the number is small and so the rate should be interpreted with caution but it does align with the rate of 49.0 per cent for all rural schools with Indigenous Year 12 students. In contrast, in these same three schools, there were 144 non-Indigenous Year 12 students, with an apparent retention rate of 65.2 per cent.

The final example is drawn from seven schools in the Mount Gravatt District in metropolitan Brisbane. In contrast to the other three districts, Mount Gravatt is a relatively affluent area. Like the Australian Capital Territory, the Indigenous retention rate is above 100 per cent, a function most likely of an inflow of students during the last

year or two of secondary school. Mount Gravatt had 23 Indigenous Year 12 students in 1998, with an apparent retention rate of 109.5 per cent; in contrast there were 717 non-Indigenous Year 12 students, with a rate of 85.0 per cent.

There are three interesting patterns in these regional examples. First, the very low numbers of Indigenous Year 12 students in the Cape and Gulf District suggests either that a local senior secondary education is not possible because secondary schools are too few and too distant for most remote area resident (unfortunately, the analysis does not allow identification of numbers of Year 12 students from the region who are attending school outside the district in boarding schools), and/or that a late secondary education is not highly valued by Indigenous people in the district. This is an issue which is also relevant in areas with high proportions of remote and rural Indigenous populations such as the Northern Territory and Western Australia. Second, the relatively high number of Torres Strait Islander students in the Thursday Island District may suggest more willingness to invest energy in education among that group than among Aboriginal people in the Cape and Gulf District. This aligns with research in the Torres Strait that shows education is particularly highly valued and pursued by Torres Strait Islander people (Davis 1998; Arthur 1999). Finally, the data from Mount Gravatt District suggest that some government schools with higher than average apparent retention rates enable very high levels of late secondary success for Indigenous students as well.

Retention rates: notes of caution

Though often confused as such, it is important to remember that apparent retention rates are not intended as a measure of completion. They are derived from counts of students enrolled for study in the middle of Year 12. Completion rates are, in fact, much lower then apparent retention rates.

During a presentation to a workshop on benchmarking, Cheryl Vardon, the Director-General of the Department of Education, Western Australia, described the reality of Indigenous retention:

> In 1984 there were 1,061 Aboriginal students enrolled in year 1 in government schools in Western Australia. From this 1984 cohort there were 741 Aboriginal students enrolled in year 10 in 1993; 390 enrolled in year 11 in 1994; and, of that original 1984 cohort of over 1,000, just 141 enrolled in year 12 in 1995. From this year 12 cohort of 141 students, there were 68 who achieved secondary graduation and only eight students who received a tertiary entrance examination score of 270 or greater (Vardon 1998: 109).

What this example shows is that a very large proportion of Indigenous students who enrol in Year 12 do not in fact complete the year and achieve graduation. In this case, nearly half of the relatively small number of those who manage to remain enrolled to Year 12 failed to graduate.

As noted above, trends in apparent retention at the national level are very difficult to identify for a variety of reasons, but most significantly because enrolment data were not

available for all States and Territories prior to 1994. Yet Robinson and Bamblett, in their recent publication *Making A Difference,* claim an improvement of Indigenous apparent retention rates of 16.9 per cent when comparing rates for 1989 and 1996 (Robinson and Bamblett 1998: 17). While other authors are more cautious and hesitant to calculate gains when comparable data are not available, it is unreasonable to argue that there have not been improvements since 1989. What Robinson and Bamblett fail to note, however, is that apparent retention rates for all Australian Year 12 students also improved during this period – from 60.3 to 71.3 per cent, a gain of 11.0 per cent. Further, while there have no doubt been real improvements since 1989, it is important to note that Indigenous apparent retention rates declined between 1994 and 1996 before beginning to recover and climb in 1997; they have yet to return to 1994 levels. This pattern appears more akin to recovery from a stall and decline than a trend of improvement. Unfortunately, the 'good news' to which Robinson and Bamblett refer is premature.

Apparent retention rates: a summary

- Low retention of Indigenous students at the senior secondary level has long been recognised in Australia as a significant problem with profound implications in a range of social arenas.
- Long-term gains in apparent Indigenous retention rates have been celebrated as evidence of a successful national Indigenous education policy, but so far there has actually been little if any empirical evidence to demonstrate cause and effect.
- Apparent retention rates are particularly useful as an index of student progression to the final year of secondary school. When standardised, they allow comparisons among different groups and enable examination of patterns and changes over time. At the moment, however, there are still no commonly accepted protocols that enable meaningful comparisons among States and Territories.
- In 1998, the apparent retention rate for Indigenous Year 12 students was 32.1 per cent, compared to the non-Indigenous rate of 72.7 per cent.
- Calculated as a ratio, the Indigenous to non-Indigenous rate over the course of the five years for which comparable data exist ranged from a low of about 0.40 in 1996 to a high of 0.44 in 1998. In other words, Indigenous students in 1998 were less than half as likely as their non-Indigenous peers to continue to Year 12.
- In 1998, the gap between Indigenous and non-Indigenous apparent rates was smallest in the Australian Capital Territory and Queensland, and largest in the Northern Territory.
- Nationally, non-Indigenous apparent retention rates have declined since 1994 but now appear to be holding steady. Indigenous rates, on the other hand, dipped sharply to a low point in 1996 and as of 1998 had only just returned to 1994 levels. It would be very difficult to sustain an argument that Indigenous rates have improved over the course of the past five years; it is impossible to refer to these changes as a trend.

- There are relatively lower apparent retention rates in rural areas and in schools with high proportions of Indigenous students.
- While descriptive apparent retention rate data abound, rigorous evidence-based analyses of why and how Indigenous rates remain so low are rare.

3. Factors that appear to influence retention

***Research Question:** What are the primary direct causes of the low Indigenous rate?*

Though the focus of this paper is on Indigenous retention to Year 12, retention is an issue through all of the secondary years. Obviously, if students leave school in Year 9 or 10, they decrease the pool of students who might stay or leave in Year 12. Consequently, exploring the factors that influence retention requires examining retention at all levels, not just Year 12.

It has been suggested that in Australia there is no typical profile of early school leavers and non-attenders. Young Australians 'disengage from and even leave school for a variety of reasons, at different stages in their schooling, with different attitudes towards education and with different prospects for future careers' (Dwyer 1996: 47). There are, however, a range of interlinking factors that appear to influence – or are at least strongly associated with – patterns of retention.

***Research Question:** To what extent is low attendance a primary cause?*

A 1992 Schools Council report estimated Indigenous attendance at less than 70 per cent of other students (Schools Council 1992). The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) *National Report on Schooling in Australia 1997* shows that this pattern has continued over time. In Western Australian government schools, Indigenous primary students attended only 84 per cent of the time, while other students had attendance levels of 93 per cent. Tasmanian government schools reported that the average daily rate of absence was about 8 per cent for Indigenous students compared to about 6 per cent for others. The Australian Capital Territory's absence rate for government school classes with Indigenous students enrolled was 32 days for Indigenous students and 15 for others. Catholic schools in the Northern Territory reported an attendance rate of 70 per cent for Indigenous students compared to a rate of 92 per cent for non-Indigenous (MCEETYA 1997: 69). In New South Wales, secondary school children in 1997 were absent on average 15 days per year; Indigenous students were absent at a rate twice that of other students (New South Wales Department of Schools 1997 cited in Herbert et al. 1998: 21). A recent in-depth study of absence rates in South Australia in 1997 revealed that Indigenous students were absent about 17 per cent of the time (one day in every six) while other students were absent around 7 per cent of the time (Department of Education, Training and Employment 1999).

Absenteeism is sometimes cast as a cultural issue related to individual autonomy (Schwab 1998). At the same time, the attitudes of parents toward their children's attendance and participation play a part:

> I know as a parent that I want my children to succeed and I'm pushing my children to succeed, but yet you still have the element of doubt of saying, 'You know it's going to be bloody tough out there when they get out there in the real world'. And you think to yourself, 'What is the point of making them go to school if they're not going to get anywhere?' (Indigenous parent quoted in Munns and McFadden 1997).

The MCEETYA report explains the lower than average attendance rates of Indigenous students as a function of cultural and family obligations, mobility for employment, poverty, ill-health and student and parental choice (MCEETYA 1997: 69). The first of these, cultural and family obligations, appear not to be supported by the South Australian study, which revealed little difference between Indigenous and non-Indigenous students in the percentage of absences explained as 'family/social'. In fact, non-Indigenous students were more likely to explain absences in these terms than their Indigenous peers were. This could be a function, however, of the relative degree of providing explanations for absence. While about 37 per cent of non-Indigenous absences were unexplained, nearly 65 per cent of Indigenous absences were unexplained (Department of Education, Training and Employment 1999).

Research from overseas found that high absenteeism was significant for predicting 'dropping out' among American Indian students (Chan and Osthimer 1983). Additional research examining factors that contribute to early school leaving found that, while the predictive value of some factors varied between groups of American blacks, Hispanic and white students, high absenteeism was associated with early withdrawal from school for all three groups. Students who were absent 25 per cent of the time were three to five times more likely to 'drop out' than were other students (Rumberger 1995). The link between low attendance and early school leaving has been well demonstrated for Australia as well.

In a wide-ranging inquiry into truancy, the House of Representatives Standing Committee on Employment, Education and Training found that absenteeism was linked to a range of factors including low socioeconomic status, low parental achievement, domestic violence, child abuse and drug and alcohol abuse (Commonwealth of Australia 1996). Indigenous student attendance levels have long been known to be lower than those of other students and there seems no logical reason to assume that these factors do not also apply to them. Indeed, in a study of Indigenous attendance, suspension and exclusion in schools in New South Wales and the Northern Territory, these factors were all prominent (Herbert et al. 1998).

It is interesting to note that the South Australian analysis of school absences also revealed that nearly 24 per cent of Indigenous students had no whole-day absences, a Figure that is nearly identical to that of other students. The authors of the report cite these figures when they propose that the issue of non-attendance may be one of alienation from education rather than truancy (Department of Education, Training and Employment 1999). This is an important insight and suggests that absenteeism – and low rates of retention – must be considered within a much wider context of interlinked factors which may contribute to some sense of alienation from school.

Socioeconomic background

The correlation of low socioeconomic status with early school leaving has been well documented in Australia (Ainley, Batten and Miller 1984; Power 1984; Williams et al. 1993; Lamb 1997). Batten and Russell, in their review of the 'at risk' student literature,

referred to a 'social gradient' wherein the likelihood of dropping out of school rises as economic status declines (Batten and Russell 1995). This pattern has been identified in the United States as well, where Rumberger showed that Grade 8 students one standard deviation below the mean in socioeconomic status were three times more likely to leave school than were students at the mean (Rumberger 1995: 603). Even when controlling for a range of other factors, socioeconomic status was still a powerful predictor of early school leaving.

In a recent (and as yet unreleased) study of early school-leavers, it has been found that the link between socioeconomic background and school retention may not be as strong as previously suggested. Using a multivariate analysis, it was found that, when compared to other students, Indigenous students are 'more likely to leave school even when controlling for socioeconomic background and school achievement' (Marks and Fleming 1999). This is not to say that socioeconomic background does not influence Indigenous retention, but Marks and Fleming suggest that a substantial component of the low retention rate must be explained by other factors associated with being Indigenous.

Arrest

Hunter and Schwab examined the determinants of educational attainment of young Indigenous Australians using data from the last three censuses and the 1994 National Aboriginal and Torres Strait Islanders Survey. Using a multivariate technique, they analysed the significance of correlations among a range of characteristics of school-age Indigenous people (13 to 17 year olds). The dependent variable for this group was whether an individual was still at school. While several factors were identified as significant, arrest had a powerful effect, reducing the likelihood of a young person being in secondary school by about 26 per cent for males and around 18 per cent for females (Hunter and Schwab 1998: 8). This is a particularly troubling finding given that Indigenous young people are more likely to be involved with the police than their non-Indigenous peers (Gale, Bailey-Harris and Wundersitz 1990; Cuneen 1994; Blagg and Wilkie 1995).

Family and household structure

In addition to identifying the effect of arrest, Hunter and Schwab showed that a range of family and household structure variables influence the likelihood of a young (13 to 17 years) Indigenous person being at school (Hunter and Schwab 1998). If a young Indigenous person is married or in a de facto relationship, chances of attending school increase by about 25 per cent for both males and females, while being a sole parent also appears to increase the chances of attending school (by 25 per cent for males and 21 per cent for females). Living in a mixed family (where one parent is Indigenous and the other non-Indigenous) appears to increase the likelihood of school for girls (by 8 per cent) but has no effect for boys.

Living in households where others have been arrested reduces the probability of males attending school by an additional 23 per cent, while the presence of household members

with educational qualifications or who are enrolled in school raises the chances of attending school by about 16 per cent. This same general pattern holds for females, with the presence of qualified persons boosting the chances of being in school by around 23 per cent, while living in a household with individuals who have a history of arrest has a negative impact on school attendance of nearly 20 per cent.

Most significant of all factors for males was the variable designed to test the effect of crowding and poor housing stock. Sharing a bedroom with three others and living in a house where none of the major utilities worked reduced the chances of school-age males attending school by about 28 percentage points. These factors were less significant for females of school age though they did reduce the probability of being at school by around 12 per cent.

Munns and McFadden identify several of these factors in their research on Indigenous student responses to education. In their twin studies of a collection of inner-city students who left school and a second group of Indigenous students who returned to enrol in 'second chance' education program, they concluded that for many Indigenous students 'school…is where the factors of unstable home life, lack of permanent and stable accommodation and lack of familial support interact' and result in early school-leaving and low-skill employment at best and unemployment at worst (Munns and McFadden 1997: 8). Similar perceptions of linkages between family dysfunction, poverty and student non-attendance and early school leaving have been reported for Indigenous people in New South Wales and the Northern Territory (Herbert et al. 1998).

Parents' occupation and education

Reflecting on longitudinal studies of early school-leavers in Australia, Lamb notes that father's occupation has varied in explanatory power in recent times. In 1988, when schools were in an expansion phase, father's occupation was an important determinant for boys. By 1991, school growth had levelled and Year 12 participation had become much more common; a boy's father's occupation was no longer a statistically significant predictor of his likelihood of completing school. In 1994, however, following a period of decline in school completion, father's occupation again became significant.

> Other things equal, boys from unskilled manual backgrounds were significantly less likely to complete school compared with boys from intermediate non-manual origins, reflecting the stronger decline in school completion rates for the lower socioeconomic group (Lamb 1998: 24).

Girls whose fathers held professional or managerial jobs were significantly more likely to remain in school to Year 12.

In contrast, a recent study by Marks and Fleming finds that the effects of parental occupation are weak. This is true whether the analysis is based on a simple bivariate correlation between parental occupation status and early school leaving or a multivariate analysis. More significant is the effect of parents' education on early-school leaving: 'a one year increase in parents' average years of education is associated with a decrease of

0.9 in the odds of early school-leaving, other things being equal' (Marks and Fleming 1999). This pattern was confirmed by research overseas that found that parental education was a powerful predictor of school retention in the United States as well (Bryk and Thum 1989; Ekstrom et al. 1986). While there appears to be no specific research on the links between school retention and Indigenous parents' education or occupation, it seems likely the same general effects observed for non-Indigenous Australians would hold true.

Gender

Apparent retention rates in recent years at both the State and national levels show clearly that females, both Indigenous and non-Indigenous, are more likely to remain to Year 12 than males. Research suggests this was not always the case. In 1988 there was no significant difference between males and females and the trend in recent years has involved a widening of the gap between male and female retention rates (Lamb 1998). Marks and Fleming found that, in a simple bivariate analysis, boys are 1.5 times more likely to leave school early than girls. When school achievement is controlled for and other factors held equal, the effect increases to 1.9. This effect dissipates to an odds ratio of 1.5 when attitudes to school and aspirations are taken into account, indicating that 'differences between males and females in attitudes to school and aspirations account for some of the difference in early school-leaving. (Marks and Fleming 1999: 19). Lamb attributes the difference in part to the fact that girls have comparatively low access to apprenticeships and suffer more severely when labour market opportunities decline (Lamb 1997: 13). Though Marks and Fleming include no separate analysis of the effect of gender among Indigenous students, existing apparent retention rate data suggest that the effect holds for Indigenous people too.

Rurality

The contrasts between rural and urban retention rates drew considerable attention in the 1980s and early 1990s (Ainley, Batten and Miller 1984; Williams 1987; Department of Employment, Education and Training 1987; Department of Education, Queensland 1993). In general, research during that period identified a persistent pattern wherein rural secondary completion rates lagged about 10 percentage points behind urban rates (Lamb 1998). The relative differences between students in urban and rural areas hold true in more recent analyses. Marks and Fleming found that students living in non-metropolitan areas are more likely than their metropolitan peers to leave school early when the analysis is limited to a simple bivariate. When controlling for school achievement, attitudes toward school and other factors, the effect declined and remained only for boys (Marks and Fleming 1999: 23).

Hunter and Schwab's study of school attendance aligns with Marks and Fleming's findings in showing that Indigenous students (aged 13 to 17) who reside in remote areas are about 20 per cent less likely to attend school than their capital city counterparts; the effect was less powerful for rural students and only applied to females, for whom the

probability of attending school was 8.5 percentage points lower (Hunter and Schwab 1998: 8). While there appear to be no published analyses using a multivariate analysis focused specifically on retention of Indigenous rural students, it seems likely that similar effects would be observed for them. It should be noted, however, that, given the comparatively more rural distribution of the Indigenous population, the effect of rurality on retention is probably more pronounced for Indigenous people than for other Australians.

School sector

Attendance at a private or non-government school has long been assumed to be predictive of higher rates of retention. Research in the United States in the 1980s showed that not only were students attending Catholic high schools less likely to leave school early, but achievement levels were higher as well (Bryk and Thum 1989; Coleman and Hoffer 1987). Australian research indicates that apparent retention rates for non-government schools are in fact higher than those of government schools (Lamb 1998). However, when other factors are controlled for, the effect of school sector on early school-leaving disappears for both boys and girls. In other words, the real differences in early school-leaving within the sector can be attributed not to the sector variable, but to student-level differences in social background and school achievement (Marks and Fleming 1999: 26).

There is no specific analysis of the effect of school sector on Indigenous students, but it is known that Indigenous students are far more likely to be enrolled in government secondary schools than their non-Indigenous peers. According to the ABS, 84.5 per cent of Indigenous secondary students in 1998 were enrolled in government schools, compared to 65.2 per cent of all Australian secondary students. Yet, even acknowledging the fact that apparent retention rates for non-government schools are likely to rise as a result of the effect of student transfer from government to non-government schools, the continuing growth in the gap between government and non-government rates might be problematic for Indigenous students. As Lamb points out, the populations which 'had the most ground to make up and historically had made the least use of extended schooling, have been the most vulnerable to the recent pressures influencing the move away from school' (Lamb 1998: 16).

School achievement levels

In a range of studies of school completion patterns in the 1980s, a strong relationship between school achievement and school retention was demonstrated for Australia (Williams et al. 1993). More recent research found very strong effects for school achievement, where students in the top achievement quartile were seven to eight times more likely to complete school than students who performed at the lowest quartile (Robinson cited in Marks and Fleming 1999: 2). In a simple bivariate analysis, Marks and Fleming found that school achievement as measured by Year 9 literacy and numeracy scores revealed that 46 per cent of early school-leavers were in the lowest achievement

category while 76 per cent had achievement scores below the mean (Marks and Fleming 1999: 11). When a multivariate analysis was conducted on these same data, the strong effect was reduced, though not extinguished, by the addition of variables for schools' general achievement, attitudes to school and aspirations (Marks and Fleming 1999: 26). School achievement, as measured by literacy and numeracy skills, will be the focus of additional analysis below.

Factors associated with Indigenous culture and history

The Longitudinal Survey of Australian Youth provides the most comprehensive analysis of the interplay of factors influencing Indigenous retention. The research found that 20 per cent of Indigenous students have already left school by the beginning of Year 11, a rate 2.5 times that of other students. Controlling for school achievement and economic and social background, Indigenous students remained 1.5 times more likely to leave school. The implications of this are profound:

> The higher rate of leaving among Aboriginal and Torres Strait Islander students is only partially explained by their lower levels of achievement and lower socioeconomic backgrounds. A substantial component is due to other factors associated with being an Aboriginal and Torres Strait Islander. These other factors may include social and cultural norms regarding early school leaving, pessimism about their ability to remain at school, a lack of encouragement to do so, or a feeling that remaining at school would not 'pay off' either in terms of further education or better jobs (Marks and Fleming 1999: 34).

It appears there is something in the particular cultural and historical experience of Indigenous people that shapes their perceptions of and commitment to education. Dispossession, forced extinguishment of languages and cultural practices, racism, discrimination and forced assimilation most likely all come into play as Indigenous people make decisions about the degree to which they participate in what has historically been an imposed and foreign system. While recent policy shifts have attempted to increase Indigenous ownership in education, there remains a powerful legacy of history and continuing conflicts in cultural assumptions about child rearing and autonomy that affect educational participation (Schwab 1998).

Certainly there has been much written to suggest that Indigenous parents often feel intensely uncomfortable with teachers and unsure about how best to interact (if at all) with schools. In addition, Indigenous students sometimes perceive themselves to be victims of racism, discrimination and harassment by white students. Discomfort with what is often perceived as a threatening and alien institution, and perceptions that Indigenous children are victimised in some schools, contribute to both a lack of achievement and early disillusionment and withdrawal from school (Howard 1998).

In the Indigenous education literature in Australia, there are dozens of books and papers drawing on various theoretical models of 'resistance' to explain student behaviour in, and withdrawal from, schooling (Folds 1987; Malin 1990; Munns and McFadden 1997). Most of these authors cite the strong sense of solidarity among Indigenous students, who view

their behaviour as resistance to an alien educational system – who feel some sense of satisfaction in rejecting notions of 'success' in the mainstream educational system. In addition, powerful cultural notions of shame among Indigenous people are probably related to low retention rates in terms of the crippling effects of fear of embarrassment in the classroom and perceptions of risks of failure in school. As Munns and McFadden have noted, quitting school is often associated with failure, but 'in the Koori community, there appeared to be less shame in running the streets than with fighting a losing classroom battle' (Munns and McFadden 1997: 6).

There is also a widely held view among Indigenous people that an investment in education at the primary level does not guarantee success at the secondary level and the low retention rates of Indigenous children in secondary school provide evidence to support that view. Educational failure is not only anticipated in many Indigenous communities, it is expected. This is also related to the emergent realisation among many Indigenous children around Years 5 and 6 that they are different from their non-Indigenous peers and that the structures and expectations of school do not always match those of the wider Indigenous community (Howard 1998). This was illustrated starkly by research on the educational outcomes of Indigenous secondary students. When asked which image best described their school, the most common response among Indigenous Year 10 students (about 58 per cent in the Victorian sample and about 47 per cent in the Queensland sample) was 'prison' (Teese, Charlton and Polesel 1995; Polesel and Teese 1996). These patterns all have resonance overseas as well, where factors such as lack of family support, absence of parental supervision and low parental expectations were shown to be associated with early school-leaving (Rumberger et al. 1990; Astone and McLanahan 1991; Reyhner 1992).

Many education researchers claim that cultural discontinuities play a prominent role in Indigenous withdrawal from schooling. The argument is based on the assumption that there are many key cultural differences between the homes and communities of Indigenous students and Western educational institutions. According to this view, children come to school with a range of skills and knowledge, but there is a mismatch between those and the knowledge and skills demanded by school. This model has roots in both the United States (Erickson 1987) and Australia (Harris 1990) and has been extremely influential in bringing about changes to curriculum and instruction. It has also been significant in increasing Indigenous presence in classrooms and schools as a means to reduce culture shock for students. One prominent aspect of this model has been promotion of recognition by educators of different 'cultural learning styles' among Indigenous students (Harris 1984; Hughes 1988a). Yet these views have been strongly criticised as coming close to 'blaming the victim' and attributing failure to minority students' inability to adapt to White schools rather than acknowledging fundamental imbalances of power (Nicholls, Crowley and Watt 1996). These 'learning styles' are not culturally specific, it is argued, but passive and defensive styles having more to do with structural and economic inequality than with culture (Ogbu 1982). While these debates will no doubt continue, it is very clear that many Indigenous people in Australia perceive teachers, schools and education as hostile and alien rather than avenues and vehicles to success. While and where that is a common perception, retention will remain low.

Factors influencing retention: a summary

Research indicates that there are a range of interlinking factors that appear to influence – or are at least strongly associated with – patterns of retention. It is very difficult to disentangle these factors from one another, but research has shown that the following are most likely those which most powerfully shape Indigenous retention patterns:

Absenteeism

There is abundant evidence to show that Indigenous students are absent from school at a rate around twice that of other students. Though research for this paper identified no studies of a direct link between Indigenous absenteeism and low retention, it has been well demonstrated both overseas and in Australia for other groups. Research also indicates that Indigenous absenteeism – and low rates of retention – must be considered within a much wider context of interlinked factors which may contribute to some sense of alienation from school.

Socioeconomic background

It has long been known that low socioeconomic background correlates with early school leaving. Research has shown this to be a factor with Indigenous students too. Yet recent analyses show that, even when controlling for socioeconomic background, Indigenous students are more likely to leave school early, which suggests other factors are also involved.

Arrest

Arrest has been shown to have a powerful effect in increasing the likelihood that an Indigenous young person will not be in secondary school.

Family and household structure

If a young Indigenous person is married or in a de facto relationship, chances of attending school increase. Living in a household with other individuals with educational qualifications also increases the likelihood of being in school. In contrast, the presence of individuals who have been arrested, or residence in crowded and poorly maintained housing, has a strong negative effect for being in school. Domestic violence and other characteristics of dysfunctional families negatively affect educational participation as well.

Parents' occupation and education

There are no specific empirical studies that identify a link between Indigenous parents' education and occupation and low school retention, but there is clear evidence to suggest that these are associated for other Australians. Parents' education is particularly significant in this association.

Gender

While there is no separate analysis of the effect of gender on Indigenous school retention, apparent retention rates for males and females show that females are more likely to remain to Year 12.

Rurality

There is a clear association between residence in a rural or remote region and lower levels of school retention. This is particularly important for Indigenous students, who are relatively more likely than other Australians to live outside of urban areas.

School sector

Though there is no specific analysis of the effect of school sector on Indigenous retention, it is well known that retention rates are higher for non-government schools. Indigenous students are also far more likely to be enrolled in government schools than other students.

School achievement levels

There are many studies in Australia that show very strong effects for school achievement on retention. Indigenous students tend to rank much lower on achievement tests than other students and, not coincidentally, their retention rates are lower as well.

Factors associated with Indigenous culture and history

When factors such as school achievement and socioeconomic background are controlled for, Indigenous students still leave school at a rate that far exceeds that of other students. It appears likely that the differences in the relative rates can be explained by factors associated with the historical and cultural experience of being Indigenous in Australia, by parental discomfort with schools, and by strong cultural notions of shame and fear of failure by schoolchildren.

4. Exploring the link between literacy and Indigenous retention

Research Question: *To what extent are low literacy or numeracy skills primary causes?*

As was discussed above, literacy and numeracy achievement are powerful predictors of school retention patterns, yet there are still no reliable, adequately sampled, comparable and long-term data at the national level. The ABS Survey of Aspects of Literacy (SAL), covering Australians between the ages of 15 and 74, conducted interviews with respondents related to basic reading writing and maths skills and included an objective assessment of some literacy skills (ABS 1996a, 1996b). The SAL included an Indigenous sample but was biased toward urban areas and excluded the 27 per cent of Indigenous people who reside in rural and sparsely settled areas. Consequently, the results cannot be considered representative of the total Indigenous population but they do give a glimpse into the literacy skills of this more urban group. The survey found that 98 per cent of the Indigenous people responding reported that they speak English as their first language, yet a significantly greater proportion of Indigenous people were at low literacy levels compared to other Australians who spoke English as their first language. In addition, the Indigenous respondents' skills showed greater variation across the three scales used in the survey. The survey found that 41 per cent of Indigenous people sampled exhibited skills at Level 1 (of four levels) in prose, 45 per cent at Level 1 in documents and 47 per cent at Level 1 in the quantitative skills.

Comparable assessments of literacy and numeracy skills of Indigenous children at the national level are not yet available, but the various States and Territories have recently committed themselves to developing common indicators to track national progress. At the present time, the only national assessment data come from the Australian Youth Surveys (1975), the Youth in Transition surveys (1995) and the 1996 National School English Literacy Survey. Data from the first two of these surveys were compared in an analysis of Year 9 students focusing on reading skills and numeracy. The earlier study found that Indigenous students were 20 scale points lower than other students in 1975. Multivariate analyses revealed that much of the difference could be accounted for by observable socioeconomic, language and school differences; the remaining eight points' difference could not be explained by the observable characteristics and therefore must be due to a range of unobservable factors such as culture, history, attitudes and aspirations, all factors associated with being an Aboriginal or Torres Strait Islander. The gap between Indigenous and other students had been reduced to 10 points by 1995, but multivariate analyses further reduced the gap to seven points, suggesting that social background and schools explained a smaller part of the difference between Indigenous and non-Indigenous students in the 1995 sample. The actual gain in literacy scores for Indigenous students between 1975 and 1995 is therefore most likely a function of differences between the two Indigenous samples rather than any real increase in Indigenous literacy scores (Marks and Ainley 1997: 9). The persistent seven to eight point gap after 20 years of increasing literacy levels illustrates how intractable a problem that gap may remain.

1996 National School English Literacy Survey

The 1996 National School English Literacy Survey had a special Indigenous sample but, like the SAL, it had some important sampling biases that restrict the breadth of interpretation (National School English Literacy Survey Management Committee 1997). The sample was drawn from schools reporting at least five Indigenous students at both Year 3 and Year 5, thus this is not a sample representative of all Indigenous students. Though it is biased toward rural and remote schools, and consequently can't be compared to the main sample (of which 3 per cent were Indigenous), it is nonetheless a glimpse of the literacy skills of a subset of all Indigenous students that was never before possible. Overall, students in the Indigenous sample had very low levels of literacy. They were on average three to four levels (out of five) below students in the Main Sample: 93 per cent of Special Indigenous Sample Year 3 students were reading at Level 2 or Level 1 and below; and 72 per cent of Year 5 Special Indigenous Sample students were reading at Level 2.[4] The key findings highlighted:

- High levels of movement between schools: on average, 47 per cent of Special Indigenous Sample students attended more than one school, and 21 per cent attended more than two schools. In comparison, 39 per cent of the Main Sample attended more than one school and 11 per cent more than two schools.
- High rates of non-attendance: Special Indigenous Sample students were absent from school an average of 17.9 days per year compared to 6.2 days in the general population.
- Less time on homework: while 68 per cent of students from the Main Sample reported doing homework every day, only 36 per cent of Special Indigenous Sample students did so. About 26 per cent of Special Indigenous Sample reported never or hardly ever doing homework, compared to only 5.1 per cent of children in the Main Sample.
- Less book reading at home: while about 70 per cent of Main Sample students read books at home every day, only about 42 per cent of Special Indigenous Sample students did so. About 23 per cent of Special Indigenous Sample students reported that they never or hardly ever read books at home, compared to about 5 per cent of students in the Main Sample.
- More time spent watching television and videos: about 55 per cent of students in the Special Indigenous Sample reported watching three or more hours of television or videos each weekday outside school hours; this compared to 41 per cent of children in the Main Sample.

State-level literacy data

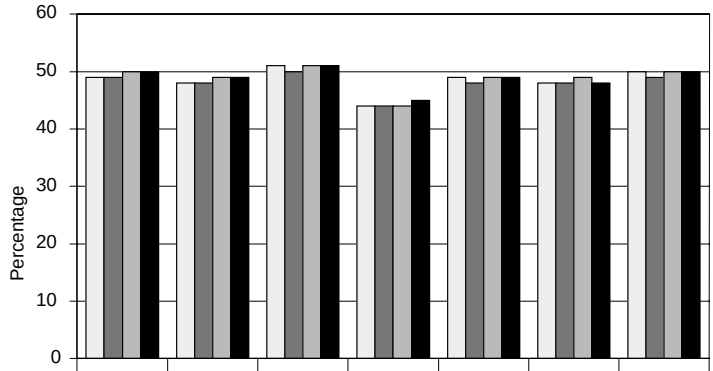
As with apparent retention data, literacy and numeracy data are often uneven and not always comparable between States. A recent agreement among the State and Territory education Ministers will bring about a single, standardised approach which should lead to comparable data. At the moment, however, testing and assessment instruments differ

and States and Territories may chose to test different years and subject areas. In addition, not all have chosen to identify Indigenous students in the tests. Still, there are some interesting patterns relevant to Indigenous students for States which choose to release such data. Examples are presented below for New South Wales and Queensland.

New South Wales[5]

As Figures 6 to 9 show, mean scores of literacy assessments for Indigenous students rose between 1994 and 1997 at both the Year 3 and 5 levels.

Figure 6. New South Wales Basic Skills Test Mean Test Scores: Year 3 Literacy (government schools), 1994–97



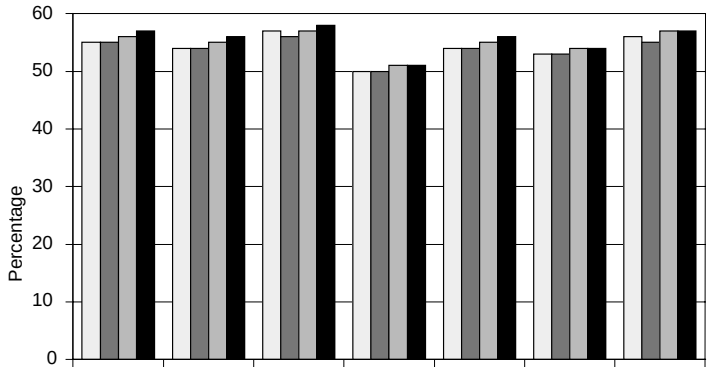
	All students	Male	Female	ATSI	NESB(1)	NESB(2)	ESB
1994	49	48	51	44	49	48	50
1995	49	48	50	44	48	48	49
1996	50	49	51	44	49	49	50
1997	50	49	51	45	49	48	50

Source:
Derived from Steering Committee for the Review of Commonwealth/State Service Provision (1999: 118).

Indigenous student gains in both Year 3 and 5 gains kept pace with gains for all students in New South Wales. The Year 3 increases for all students appear to have been propelled by gains in mean test scores of boys; gains for all students in Year 5 reflect gains by both boys and girls.

Numeracy scores for Year 3 Indigenous and non-Indigenous students (Figure 7) showed no change between 1994 and 1997; numeracy scores for Year 5 students (Figure 9), however, showed gains during that same period for all groups of students.

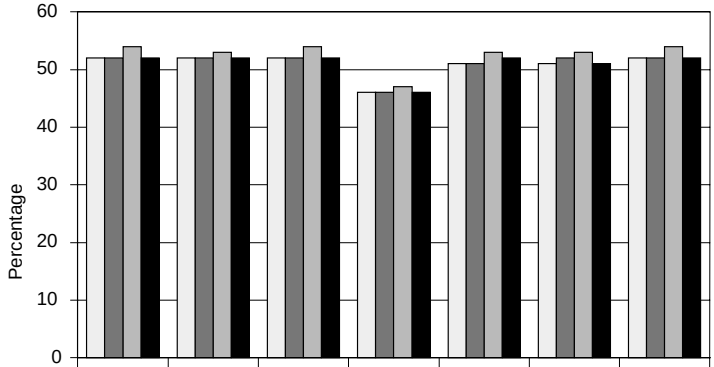
Figure 7. New South Wales Basic Skills Test Mean Test Scores: Year 5 Literacy (government schools), 1994–97



	All students	Male	Female	ATSI	NESB(1)	NESB(2)	ESB
1994	55	54	57	50	54	53	56
1995	55	54	56	50	54	53	55
1996	56	55	57	51	55	54	57
1997	57	56	58	51	56	54	57

Source:
Derived from Steering Committee for the Review of Commonwealth/State Service Provision (1999: 118).

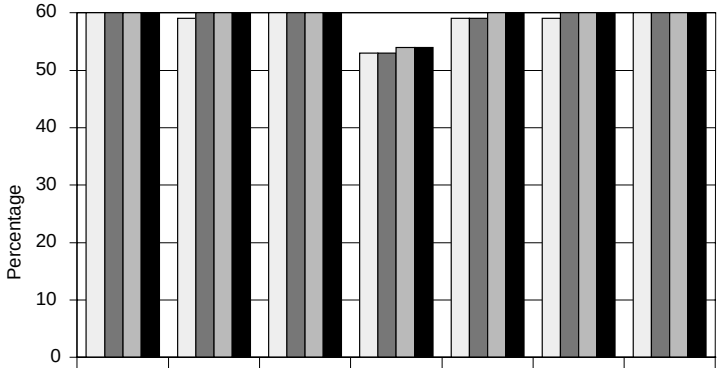
Figure 8. New South Wales Basic Skills Test Mean Test Scores: Year 3 Numeracy (government schools), 1994–97



	All students	Male	Female	ATSI	NESB(1)	NESB(2)	ESB
1994	52	52	52	46	51	51	52
1995	52	52	52	46	51	52	52
1996	54	53	54	47	53	53	54
1997	52	52	52	46	52	51	52

Source:
Derived from Steering Committee for the Review of Commonwealth/State Service Provision (1999: 118).

Figure 9. New South Wales Basic Skills Test Mean Test Scores: Year 5 Numeracy (government schools), 1994–97



	All students	Male	Female	ATSI	NESB(1)	NESB(2)	ESB
1994	60	59	60	53	59	59	60
1995	60	60	60	53	59	60	60
1996	60	60	60	54	60	60	60
1997	60	60	60	54	60	60	60

Source:
Derived from Steering Committee for the Review of Commonwealth/State Service Provision (1999: 118).

The most striking thing about all of these figures is that, even where gains were evident in literacy and numeracy, Indigenous students remained well below other Australian students. In addition, they remained well below students of non-English-speaking backgrounds (NESB1 and NESB2), including students who had lived in Australia for four years or less and said they never, or only sometimes, spoke English at home.

Table 3 provides a slightly different perspective on the New South Wales literacy scores. Focusing on 1997 Year 5 literacy test scores, it portrays variations in scores based on degree of school rurality and the relative proportions of Indigenous students. The first

Table 3. New South Wales Basic Skills Test Year 5 Mean Test Scores: literacy, by type of school (government schools), 1997

Type of school	Indigenous students	All students
Sydney Metropolitan (624) [a]	52	57
CAP (159) [b]	48	55
Other (865) [c]	51	56
Schools with 10 per cent or more Indigenous enrolment	50	54
Schools with less than 10 per cent Indigenous enrolment	52	57

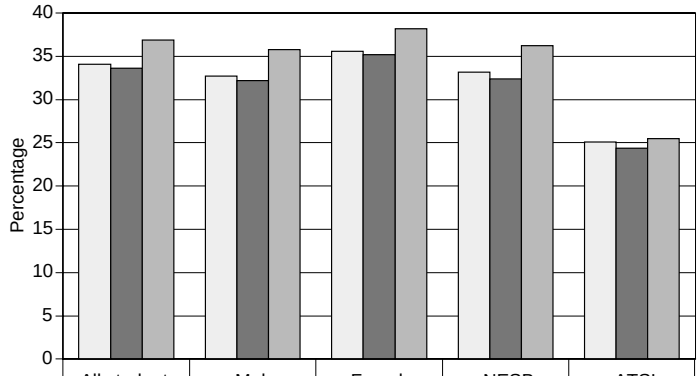
Source:
New South Wales Department of Education and Training unpublished data.

Notes:
a. These primary schools belong to the 16 Sydney Metropolitan school districts.
b. Students in Country Areas Program (CAP) schools are recognised as disadvantaged by geographic isolation.
c. These primary schools are neither Sydney metropolitan nor CAP schools.

three rows depict scores for all New South Wales government primary schools divided into Sydney metropolitan schools, schools classed as geographically disadvantaged and 'other' schools which are neither Sydney metropolitan nor geographically disadvantaged.[6] The fourth and fifth depict all New South Wales government primary schools according to proportion of Indigenous enrolment: schools with 10 per cent or more and schools with less than 10 per cent Indigenous enrolment. The geographic data show that mean test scores for both Indigenous and all students are highest in Sydney metropolitan and lowest in areas identified as geographically disadvantaged. The compositional breakdown shows that students in schools with relatively higher concentrations of Indigenous students achieved lower scores than did students in schools with lower proportions of Indigenous students. The gap between Indigenous and all students ranges from four to seven points with the gap being narrowest in schools where Indigenous students comprise 10 per cent or more students and widest in CAP (geographically disadvantaged) schools.

While it is difficult to interpret the variations, there is some suggestion in the data that there exists a rural effect wherein literacy achievement is lower in rural areas and higher in urban metropolitan ones; the effect appears more marked for Indigenous students. There is also some indication in the data that overall literacy performance is lower in schools with higher concentration of Indigenous students. While the lower mean scores for all students might be a function of a increased numbers of Indigenous students (with lower literacy scores) lowering the mean scores in schools with higher number proportions of Indigenous enrolment, it might also be the result of a rurality since schools

Figure 10. Queensland Year 6 Test (government schools), Aspects of Literacy Mean Test Scores – Reading and Viewing, 1995–97



	All students	Male	Female	NESB	ATSI
1995	34.1	32.7	35.6	33.2	25.1
1996	33.6	32.2	35.2	32.4	24.4
1997	36.9	35.8	38.2	36.2	25.5

Source:
Education Queensland unpublished data.

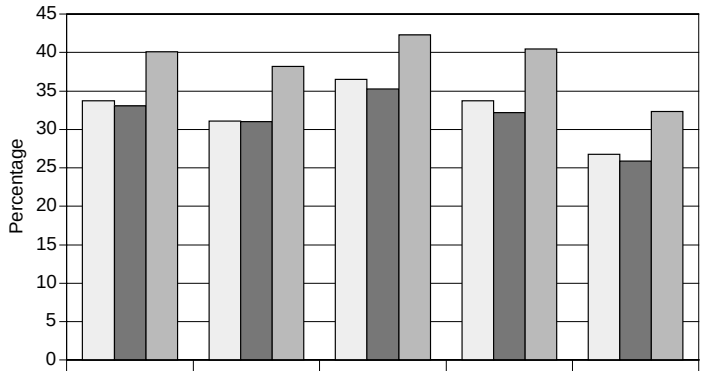
with high proportions of Indigenous students are more likely to be rural and geographically disadvantaged as a result of the relatively higher rurality of the Indigenous population in New South Wales.

Queensland[7]

As Figures 10 to 14 show, between 1995 and 1997, all Queensland Year 6 students showed gains in mean scores for all five of the aspects of literacy. The average mean test score in reading and viewing in 1997 was 36.9 for all students and 25.5 for Indigenous students.

The greatest relative increase in mean scores for Indigenous students during this period was a mean score increase of 5.7 in writing (Figure 11); mean scores increased even more for all students (6.6) and NESB students (7.1). In contrast, the increase in Indigenous mean score for reading and viewing (Figure 10) between 1995 and 1997 (0.7) is less than one-quarter the increase for all students (3.2) over this period.

Figure 11. Queensland Year 6 Test (government schools), Aspects of Literacy Mean Test Scores – Writing, 1995–97

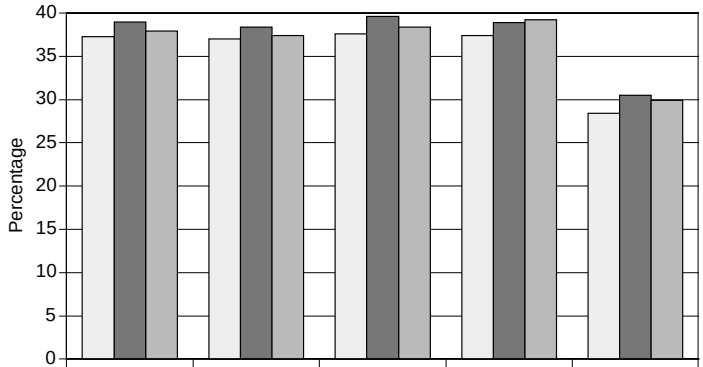


	All students	Male	Female	NESB	ATSI
1995	33.7	31.1	36.5	33.7	26.8
1996	33.1	31.0	35.3	32.2	25.9
1997	40.1	38.2	42.3	40.5	32.3

Source:
Education Queensland unpublished data.

Both Indigenous and non-Indigenous students showed gains in number skills between 1995 and 1997, though Indigenous students remained well below all others (Figure 12). As Figure 13 shows, measurement skills appear to have increased for all groups between 1995 and 1997, though Indigenous students remained about seven points below their non-Indigenous peers.

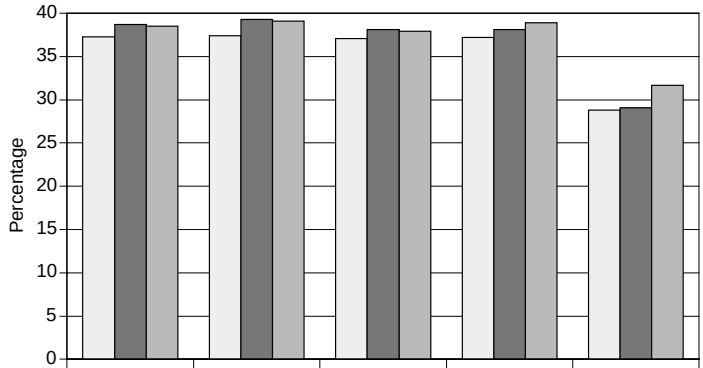
Figure 12. Queensland Year 6 Test (government schools), Aspects of Literacy Mean Test Scores – Number, 1995–97



	All students	Male	Female	NESB	ATSI
1995	37.3	37.0	37.6	37.4	28.4
1996	39.0	38.4	39.6	38.9	30.5
1997	37.9	37.4	38.4	39.2	29.9

Source:
Education Queensland unpublished data.

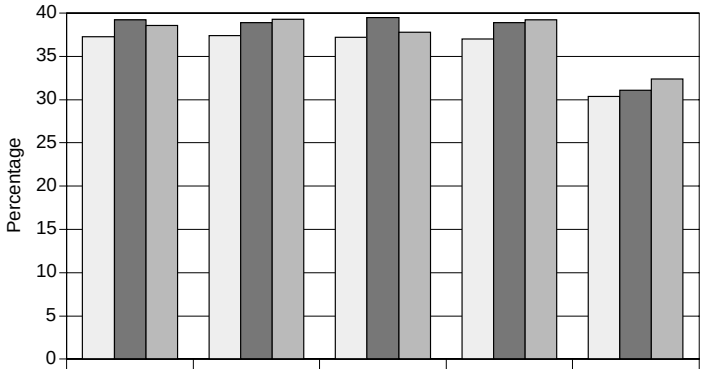
Figure 13. Queensland Year 6 Test (government schools), Aspects of Literacy Mean Test Scores – Measurement, 1995–97



	All students	Male	Female	NESB	ATSI
1995	37.3	37.4	37.1	37.2	28.8
1996	38.7	39.3	38.1	38.1	29.1
1997	38.5	39.1	37.9	38.9	31.7

Source:
Education Queensland unpublished data.

Figure 14. Queensland Year 6 Test (government schools), Aspects of Literacy Mean Test Scores – Space, 1995–97



	All students	Male	Female	NESB	ATSI
1995	37.3	37.4	37.2	37.0	30.4
1996	39.2	38.9	39.5	38.9	31.1
1997	38.6	39.3	37.8	39.2	32.4

Source:
Education Queensland unpublished data.

While the five aspects of literacy measure very different skills and so comparisons among them are not meaningful, it is interesting to note that in 1997 the span between Indigenous and all student mean scores was greatest for reading and viewing (Figure 10), where the two groups were separated by 11.9 points, and least for measurement (Figure 13), with a difference of 6.9 points. In other words, the literacy gap between Indigenous and other students was greatest for reading and viewing, and smallest (though still sizeable) for measurement. Yet, as in New South Wales, the Queensland assessment showed that in every aspect of literacy Indigenous students showed skills well below those of all other Queensland students, including those from non-English-speaking backgrounds.

Table 4 provides a different perspective on Queensland literacy scores and depicts the reading and viewing component of the Year 6 test in 1997 by sex and type of school. The table shows that, on average, males scored lower than females for both Indigenous and non-Indigenous students, and rural scores were consistently lower than urban scores. Indigenous mean scores were about three fourths those of non-Indigenous students for both urban and rural samples. The most striking contrast, however, was the mean scores for students in schools with 95 per cent or more Indigenous students. These students had mean scores in reading and viewing that were less than three-quarters those of Indigenous students in schools with less than 95 per cent Indigenous enrolment and half those of non-Indigenous students in either rural or urban schools. As was seen in the discussion of apparent retention rates, most of the schools with high proportions of Indigenous students are also rural schools, highlighting the possible link between rurality and poor academic performance.

Table 4. Queensland Year 6 Test (government schools),[a] Aspects of Literacy Mean Test Scores – Reading and Viewing, by sex and type of school, 1997

Type of school	Indigenous		Non-Indigenous	
	Male	Female	Male	Female
Rural schools (740)[b]	24.3	25.5	34.8	37.6
Urban schools (374)[c]	25.2	27.8	36.7	38.7
Schools with 95 per cent or more Indigenous enrolment (23)	17.7	17.8	–	–
Schools with less than 95 per cent Indigenous enrolment (1091)	25.2	27.3	36.5	39

Source:
Education Queensland unpublished data.

Notes:
a. Based on government schools with Indigenous students in Year 8 in 1994.
b. Rural schools are defined as those located in towns with a population less than 10,000.
c. Urban schools are situated in towns of 10,000 or more.

Research Question: *What are the most effective means of increasing literacy and numeracy in primary and early secondary school?*

Indigenous literacy and numeracy: what works?

In 1998 an exhaustive review of Australian research literacy was conducted and a cluster of case studies carried out focused on Indigenous English literacy (Batten et al. 1998). The published review, which describes itself as in part a meta-analysis, is notable not only for its detail but also for its complete lack of critical evaluation of the various programs and approaches. It is a useful overview of what's being done, but has no value in assisting to evaluate what actually works. This highlights a serious problem with approaches to Indigenous literacy and numeracy. While much attention has been given to promoting Indigenous literacy, and resources allocated to schools and communities, the outcomes of programs or strategies tend, at worst, to be assumed or, at best, they are merely stated or reported by the individuals or groups who implement them. There is little theoretical grounding in much of what is reported, and rigorous independent evaluations of Indigenous literacy programs appear to have been overlooked or displaced.

There is, however, a broad base of theoretically sound Australian and international research on effective practices for developing literacy skills relevant to Indigenous children, families and communities. The research base and accompanying literature is particularly important because it identifies predictors of success and failure in reading that relate directly to other factors identified as contributing to early school-leaving among secondary Indigenous students.

Empirical studies have demonstrated that children who are likely to have difficulties learning to read and write, and progressing through the development of a range of literacy skills, often begin school with fewer pre-reading skills and knowledge than students who succeed in their academic careers (Hammill and McNutt 1980; Stuart 1995; Scarborough 1998). In addition, research shows that children with hearing, nutritional or

other health problems are more likely than healthier children to experience slow literacy development (Wallace and Hooper 1997). Similarly, Australian research shows that children from disadvantaged socioeconomic backgrounds whose parents have low literacy skills or who lack appropriate home literacy experiences are far more likely to fall behind other students (Hess and Holloway 1984; Fowler and Cross 1986; Scarborough 1990; DeBaryshe 1993; Bus, van Ijzendoorn and Pellegrini 1995).

Recent Australian studies have shown that, while there are often marked differences between language and literacy practices of school and community, there is relatively little diversity in literacy practices within and between schools (Cairney et al. 1995). This aligns with earlier research which suggests that the differences between literacy practices in the home and at school are significant in the achievement or lack thereof of students in school (Scribner and Cole 1981; Heath 1983).[8]

While there are no easy answers to what is obviously a complex problem with many intertwined threads, early diagnosis of potential literacy problems followed by targeted intervention is crucial. Intensive individual intervention has been shown to be effective with primary school children with literacy difficulties, but literacy is often a family and sometimes a community problem, and research has shown that effective interventions target not just children but their parents and caregivers as well (United States Department of Education 1994; Wagner 1995). Proven theoretical and practical approaches to family- and community-based literacy fall into three major arenas: home-school partnerships, intergenerational literacy programs and ethnographic studies of family literacy.

Home-school partnerships typically involve parents, caregivers and other family members working together with schools to support literacy activities linked to school lessons and goals. Intergenerational literacy programs focus on enhancing literacy for both adults and children by providing adults with literacy instruction which enables them to assist their children to develop literacy skills. Ethnographic studies of family literacy involve long-term studies of how literacy is constructed and reproduced within the social and cultural contexts of different communities and families. All of these approaches aim to overcome mismatches between home and school and to set the stage for developing curricula appropriate to the varying needs of students (Cairney and Ruge 1997). Because of their particular attention to cultural context and mismatch between home and school, these approaches have enormous potential for adaptation to Indigenous families and communities.

Literacy and Indigenous retention: a summary

An examination of findings from recent national literacy and numeracy surveys and scores from New South Wales and Queensland yield some general patterns worth considering.

- Literacy and numeracy achievement are powerful predictors of Australian school retention patterns, yet there are still no reliable, adequately sampled, comparable long-term data at the national level.

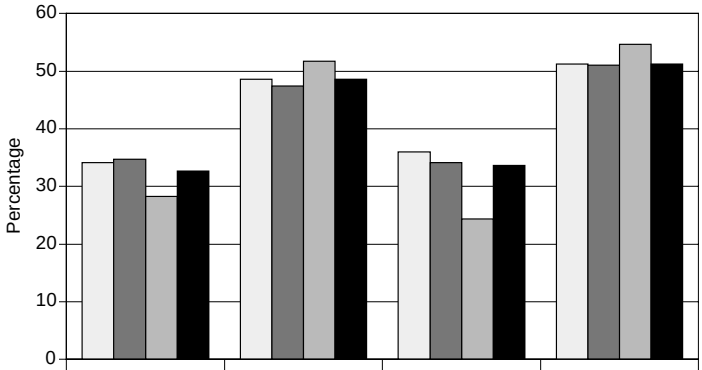
- Though biased toward rural and remote schools, the 1996 National School English Literacy Survey showed that Indigenous students were on average three to four levels (out of five) below other students.
- Keeping in mind this rural/remote bias, the National School English Literacy Survey found that Indigenous students were more likely to speak a language other than English, move between schools, have much higher absentee rates, do less homework, watch more television, and be less likely to read books at home than students in the main sample.
- Case study data from the New South Wales Basic Skills Test scores for 1994 to 1997 showed gains in literacy for Year 3 and 5 Indigenous students which kept pace with non-Indigenous students. Overall, however, Indigenous students remained well behind all students including those from non-English-speaking backgrounds.
- Case study data from New South Wales show that literacy achievement is lower in rural areas and higher in urban metropolitan ones and the effect appears more marked for Indigenous students. In addition, there is evidence that overall literacy performance is lower in schools with higher concentration of Indigenous students.
- Case study data from Queensland showed that Year 6 Indigenous students increased mean scores in every aspect of literacy between 1995 and 1997 but, like New South Wales students, they remained far below all other students, including those from non-English-speaking backgrounds.
- Case study data from Queensland showed that Indigenous students achieved reading and viewing scores only three-quarters of the scores of non-Indigenous students, while Indigenous students in schools with the high concentrations of Indigenous students were likely to achieve scores only half as high as non-Indigenous students.
- Though Indigenous literacy scores on every survey and test remain very low, there is no evidence of rigorous, systematic, empirical evaluations of Indigenous literacy programs.
- Research shows that children with hearing, nutritional or other health problems are more likely to experience slow literacy development.
- Research on factors affecting literacy shows that a range of 'pre-reading' literacy skills and knowledge are predictive of later academic success, and that children from disadvantaged socioeconomic backgrounds, whose parents have low literacy skills or who lack appropriate home literacy experiences are far more likely to fall behind other students.
- While intensive individual intervention has been shown to be effective with primary school children with literacy difficulties, literacy is often a family and community problem and research has shown that effective interventions target not just children but their parents and caregivers as well.

5. Some additional perspectives on Indigenous retention

Patterns in participation

Another source for insight into the issue of Indigenous retention is information collected in the Australian census by the ABS. Unfortunately, there is no specific information collected on retention, but there is other material from the census that can give useful glimpses of the context within which decisions are made about whether to continue to Year 12 or to leave school early. One source is information on school participation for individuals between the ages of 15 and 19. Figure 15 portrays participation rates for both Indigenous and non-Indigenous people enrolled in school in 1991 and 1996.[9]

Figure 15. Australian school participation rates for 15 to 19 year olds by region, 1991 and 1996



	Indigenous 1991	Non-Indigenous 1991	Indigenous 1996	Non-Indigenous 1996
Capital city	34.1	48.6	36.0	51.2
Other urban	34.7	47.4	34.1	51.0
Rural	28.3	51.7	24.4	54.6
All Australia	32.7	48.6	33.6	51.2

Source:
ABS 1991 and 1996 Censuses.

Overall, school participation increased for both non-Indigenous and Indigenous people between 1991 and 1996, though the ratio of non-Indigenous to Indigenous participation indicates that non-Indigenous participation outpaced Indigenous participation marginally over this time (0.67 in 1991 and 0.66 in 1996). In other words, while school participation rates for 15 to 19 year olds increased for both groups Australia-wide, the participation of Indigenous people relative to non-Indigenous people declined (nearly 1 per cent for Indigenous people and about 3 per cent for other Australians).

Increases in Indigenous participation were apparent only in capital cities; participation appears to have declined slightly in 'other urban' areas and to have fallen by nearly 4 per cent in rural areas. Non-Indigenous participation rates rose in all 'sections of State'. When viewed as a ratio of Indigenous to non-Indigenous participation, the gap between the two increased for other urban sections of state (from 0.73 in 1991 to 0.66 in 1996) and rural (from 0.55 in 1991 to 0.44 in 1996) except capital city, where the 0.70 ratio held steady for both 1991 and 1996. While these data do not relate directly to Indigenous retention to Year 12, they do reveal some large-scale changes that in affecting 15 to 19 year olds would certainly influence patterns of school retention. It appears clear that there were important changes occurring for Indigenous people in rural areas in the period between the censuses, in terms of their participation in school.

What do we know about those Indigenous students who are retained to Year 12?

The most common approach to the analysis of low school retention is to focus on the factors associated with early school-leaving. Yet that strategy may not give much insight into the factors that might be associated with remaining in school. In this section, the analysis will move in the opposite direction and attempt to uncover patterns within the atypical population of Indigenous students who have remained in education to Year 12.

Studies of Indigenous students who remain to Year 12

Surprisingly little is known about Indigenous students who remain to Year 12. What research is available is primarily ethnographic and portrays young people who are caught between their individual aspirations and community mistrust and suspicion that they would choose to continue down a road that has failed so many other Indigenous people (Munns, Mootz and Chapman 1996; Munns and McFadden 1997). Though the limited research provides important insight into community tensions surrounding education and individual strength, the focus is narrow and provides no glimpse of the range of factors which must contribute to a student's willingness to continue to Year 12.

ABS profile of Indigenous and non-Indigenous 17 year olds

While there is no published systematic research on Indigenous students in Year 12, it has been possible to use ABS census data to explore some of the characteristics of those who are still in school at age 17. This group was chosen because it includes not only most secondary school Year 12 students – as well as those involved in other types of education – but also 17 year olds who are not undertaking any form of study. Consequently, it allows comparisons between those who choose to study and those who choose not to.

Table 5. Indigenous and non-Indigenous 17 year olds by State and Territory and sex, Australia 1996

State	Indigenous			Non-Indigenous			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
NSW	997	919	1,916	40,053	38,345	78,398	41,050	39,264	80,314
Vic	184	197	381	30,228	28,848	59,076	30,412	29,045	59,457
Qld	953	963	1,916	22,254	21,257	43,511	23,207	22,220	45,427
SA	175	174	349	9,412	8,826	18,238	9,587	9,000	18,587
WA	467	496	963	11,855	11,484	23,339	12,322	11,980	24,302
Tas	135	187	322	3,128	3,024	6,152	3,263	3,211	6,474
NT	443	433	876	825	678	1,503	1,268	1,111	2,379
ACT	19	31	50	2,307	2,234	4,541	2,326	2,265	4,591
OT	4	3	7	4	4	8	8	7	15
Total[a]	3,377	3,403	6,780	120,066	114,700	234,766	123,443	118,103	241,546

Source:
ABS 1996 Census CProfile Table 103.

Note:
a. Total does not include the 6,110 individuals who did not state whether or not they were of Indigenous descent.

Number in Australia

Table 5 depicts Indigenous and non-Indigenous 17 year olds in Australia in 1996. There were 6,780 Indigenous 17 year olds in the country, in roughly equivalent proportions of male and females. The largest proportion of Indigenous 17 year olds live in New South Wales and Queensland, followed by Western Australian and the Northern Territory.

Number attending 'school'

Table 6 compares the relative proportions of two groups of Indigenous and non-Indigenous 17 year olds by State and Territory. Those groups comprise the total of all 17 year olds identified by the 1996 census and the subsets of 17 year olds who are still at school. The figure shows that Indigenous school attenders are slightly over-represented from what would be predicted from the distribution of population in the states of New South Wales, Victoria, Queensland, Tasmania and the Australian Capital Territory. Indigenous school attenders are under-represented in Western Australia and the Northern Territory, a pattern that is repeated, though to a lesser extent, among non-Indigenous 17 year old school attenders as well.

Of the Indigenous 17 year olds depicted in Table 6, about 37 per cent (2,529) were 'still in school'.[10] In comparison, there were 234,766 non-Indigenous 17 year olds of whom nearly 73 per cent (171,001) were 'still in school'. These proportions are not equivalent to apparent retention rates and so cannot be directly compared; as mentioned above, retention rates are based on quite different measures and calculations. Yet, even acknowledging their different bases, it does appear that the attendance ratio of Indigenous to non-Indigenous students as shown in the census (0.51) is less than the gap

shown in apparent retention rates (0.40). According to the 1996 Census, about 37 per cent of Indigenous students were still in school, while the apparent retention rate for Indigenous students in that year was around 29 per cent; in contrast, the apparent retention rate for non-Indigenous students in 1996 was about 72 per cent, a figure which is very similar to the percentage of non-Indigenous 17 year olds still at school (nearly 73 per cent) according to the Census.

Table 6. Indigenous and non-Indigenous 17 year olds, 'all' and 'attending school' by State and Territory, Australia 1996

State	Indigenous		Indigenous attending		Non-Indigenous		Non-Indigenous attending	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
NSW	1,916	28.26	846	33.45	78,398	33.39	59,250	34.65
Vic	381	5.62	199	7.87	59,076	25.16	46,923	27.44
Qld	1,916	28.26	739	29.22	43,511	18.53	28,528	16.68
SA	349	5.15	126	4.98	18,238	7.77	12,383	7.24
WA	963	14.20	258	10.20	23,339	9.94	15,255	8.92
Tas	322	4.75	130	5.14	6,152	2.62	3,865	2.26
NT	876	12.92	200	7.91	1,503	0.64	918	0.54
ACT	50	0.74	28	1.11	4,541	1.93	3,879	2.27
OT	7	0.10	3	0.12	8	0.00	0	0.00
Total[a]	6780	100.00	2529	100	234766	100.00	171001	100.00

Source:
ABS 1996 Census Cprofile Table 103 and unpublished ABS 1996 Census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Type of institution

Table 7 shows the type of 'school' attended by 17 year olds in 1996. For Australia as a whole, around 74 per cent of Indigenous 17 year olds (1,888) who were still in school were enrolled for study in secondary schools. In comparison, a relatively greater proportion (nearly 84 per cent) of non-Indigenous school attenders were enrolled in secondary school. Another 520 Indigenous students (about 20 per cent) were enrolled at technical or further education institutions, a rate double that of the non-Indigenous enrolment of about 10 per cent. A further 77 Indigenous students (about 3 per cent) were enrolled at university or other tertiary institutions; in comparison, the non-Indigenous enrolment was nearly 5 per cent for these institutions.

Table 7. Indigenous and non-Indigenous 17 year old school attenders by type of educational institution and State and Territory, Australia 1996

State	Type of institution	Indigenous		Non-Indigenous	
		Number	Per cent	Number	Per cent
NSW	Secondary	678	80.24	52,156	88.03
	Technical or further education institution	158	18.70	6,123	10.33
	University or other tertiary	6	0.71	507	0.86
	Other	3	0.36	464	0.78
	Total	845	100.00	59,250	100.00
Vic	Secondary	151	79.89	43,038	91.72
	Technical or further education institution	35	18.52	2,839	6.05
	University or other tertiary	3	1.59	557	1.19
	Other	0	0.00	489	1.04
	Total	189	100.00	46,923	100.00
Qld	Secondary	573	77.43	21,663	75.94
	Technical or further education institution	109	14.73	2,770	9.71
	University or other tertiary	45	6.08	3,695	12.95
	Other	13	1.76	397	1.39
	Total	740	100.00	28,525	100.00
SA	Secondary	88	67.69	9,659	77.97
	Technical or further education institution	39	30.00	1,394	11.25
	University or other tertiary	3	2.31	1,161	9.37
	Other	0	0.00	174	1.40
	Total	130	100.00	12,388	100.00
WA	Secondary	143	54.37	10,114	66.31
	Technical or further education institution	87	33.08	3,023	19.82
	University or other tertiary	11	4.18	1,854	12.15
	Other	22	8.37	262	1.72
	Total	263	100.00	15,253	100.00
Tas	Secondary	53	38.13	2,485	64.29
	Technical or further education institution	72	51.80	1,252	32.39
	University or other tertiary	0	0.00	45	1.16
	Other	14	10.07	83	2.15
	Total	139	100.00	3,865	100.00
NT	Secondary	178	88.12	736	80.26
	Technical or further education institution	15	7.43	96	10.47
	University or other tertiary	6	2.97	75	8.18
	Other	3	1.49	10	1.09
	Total	202	100.00	917	100.00
ACT	Secondary	21	72.41	3,461	89.27
	Technical or further education institution	5	17.24	299	7.71
	University or other tertiary	3	10.34	85	2.19
	Other	0	0.00	32	0.83
	Total	29	100.00	3,877	100.00

Table 7. Indigenous and non-Indigenous 17 year old school attenders by type of educational institution and State and Territory, Australia 1996 (continued)

State	Type of institution	Indigenous		Non-Indigenous	
		Number	Per cent	Number	Per cent
OT	Secondary	3	100.00	0	0
	Technical or further education institution	0	0.00	0	0
	University or other tertiary	0	0.00	0	0
	Other	0	0.00	0	0
	Total	3	100.00	0	0
Aust	Secondary	1,888	74.33	143,312	83.81
	Technical or further education institution	520	20.47	17,796	10.41
	University or other tertiary	77	3.03	7,979	4.67
	Other	55	2.17	1,911	1.12
	Total[a]	2,540	100.00	170,998	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Acknowledging that there are sizeable differences between States and Territories in the relative numbers of 17 year old Indigenous people enrolled in school, there are interesting contrasts worth noting. The Northern Territory has the highest proportion of secondary enrolment at just over 88 per cent, while New South Wales and Victoria have enrolment of around 80 per cent. The lowest proportions are found in South Australia (68 per cent), Western Australia (54 per cent) and Tasmania (38 per cent).

The highest proportion of 17 year olds were enrolled in technical or further educational institutions are found in Tasmania (nearly 52 per cent), Western Australia (33 per cent) and South Australia (30 per cent). It is interesting to note that the low secondary enrolment in Western Australia and Tasmania mirror similar lower than average enrolment for non-Indigenous 17 year olds in those states. The contrasts in the relative proportions in secondary enrolment offset by higher proportions of technical and further educational institution enrolment in some States illustrates why it can be misleading to compare apparent retention rates among States and Territories. While Year 12 retention rates appear low in South Australia, Western Australia and Tasmania, a sizeable portion of 17 year olds in these States were enrolled in technical and further educational institutions.

Sector

In general, Australian secondary students are most likely to be enrolled in government schools. This is true for both Indigenous and non-Indigenous students, though there were relatively more Indigenous students in the government school sector. According to ABS data, 84 per cent of Indigenous secondary students (at all levels) were enrolled in government schools in 1996, compared to 66 per cent of non-Indigenous students. Table 8 portrays the distribution of 17 year old secondary school attenders and shows

that the proportion is lower for both Indigenous students (81 per cent) and their non-Indigenous peers (62 per cent). This finding suggests that, in the senior years of secondary, the proportion of Indigenous students in non-government schools increases slightly, a pattern also seen among non-Indigenous students.

Table 8. Indigenous and non-Indigenous 17 year old secondary school attenders by sector, Australia 1996

Sector	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
Secondary: Government	1,530	81.12	88,725	61.91
Secondary: Catholic	204	10.82	31,806	22.19
Secondary: Other non-government	152	8.06	22,787	15.90
Total [a]	1,886	100.00	143,318	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Gender

Table 9 compares Indigenous and non-Indigenous school attenders by type of institution and by sex. Indigenous male and female school attenders are very similar in terms of their distribution among the various types of school. In contrast, an analysis of the distribution of non-Indigenous 17 year olds indicates that males are slightly less likely to be enrolled in secondary schools and more likely than females to be enrolled in technical and further educational institutions. Females are slightly more likely to be enrolled in university or other tertiary institutions.

Table 9. Indigenous and non-Indigenous 17 year old school attenders by type of institution and sex, Australia 1996

Type of educational institution	Indigenous				Non-Indigenous			
	Male		Female		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Secondary	900	74.26	988	74.40	69,029	82.14	74283	85.42
Technical or further education institution	253	20.87	267	20.11	10,909	12.98	6,887	7.92
University or other tertiary	36	2.97	41	3.09	3,307	3.94	4,672	5.37
Other	23	1.90	32	2.41	789	0.94	1,122	1.29
Total[a]	1,212	100.00	1,328	100.00	84,034	100.00	86,964	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Place of residence

Table 10 presents an analysis of the place of residence of the 17 year old students who were 'still attending school' and compares the distribution of residence with the total Indigenous and non-Indigenous populations. It is immediately apparent that the 17 year old Indigenous students were much less likely than their non-Indigenous peers to reside in major urban areas (urban centres with a population of 100,000 and over). While about 37.2 per cent of Indigenous students were in major urban centres, 66.8 per cent of non-Indigenous students lived in these areas. On the other hand, Indigenous students were more than twice as likely to live in 'other urban' areas (urban centres with a population of 1,000 to 99,999).

It may be that these patterns reflect the general residence patterns of all Indigenous and non-Indigenous populations across the country, wherein a greater proportion of Indigenous people live in other urban rather than major urban areas while the greatest proportion of non-Indigenous people live in major urban centres. Further analysis suggests, however, that other factors are probably at play. While non-Indigenous students resident in bounded localities and rural balance areas appear in proportions that align with the distribution of the total non-Indigenous population, Indigenous students are proportionately under-represented in these areas. For example, about 10.8 per cent of the total Indigenous population resides in bounded localities (population clusters of 200 to 999 people), but only about 5.4 per cent of Indigenous 17 year old students reside there; only about 1.7 per cent of non-Indigenous students are found in these areas, a figure that aligns with the total population. The relatively lower proportion of Indigenous students in non-urban areas suggests that lack of access to secondary or other educational facilities in these areas may be adversely affecting participation.

Table 10. Indigenous and non-Indigenous 17 year old school attenders compared to total Indigenous and non-Indigenous population by section of State, Australia 1996

Section of State	Indigenous attending		Total Indigenous		Non-Indigenous attending		Total non-Indigenous	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Major urban	946	37.24	106,937	30.33	114,282	66.84	11,023,158	63.40
Other urban	1,135	44.69	149,263	42.33	34,861	20.39	3,977,679	22.88
Bounded locality	137	5.39	38,016	10.78	2,862	1.67	408,294	2.35
Rural balance	322	12.68	58,406	16.56	18,978	11.10	1,977,773	11.38
Total [a]	2,540	100.00	352,622	100.00	170,983	100.00	17,386,904	100.00

Source:
Derived from ABS Table 1.4 cat. 2034.0, 1996 and ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Table 11. Indigenous and non-Indigenous 17 year old school attenders by section of State and type of institution, Australia 1996

Section of State	Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent
Major urban				
Secondary	685	72.41	95,905	83.92
Technical or further education institution	189	19.98	10,610	9.28
University or other tertiary	44	4.65	6,415	5.61
Other	28	2.96	1,352	1.18
Total	946	100.00	114,282	100.00
Other urban				
Secondary	838	73.83	28,913	82.94
Technical or further education institution	258	22.73	4,632	13.29
University or other tertiary	24	2.11	969	2.78
Other	15	1.32	347	1.00
Total	1,135	100.00	34,861	100.00
Bounded localities				
Secondary	110	80.29	2,472	86.37
Technical or further education institution	21	15.33	341	11.91
University or other tertiary	3	2.19	25	0.87
Other	3	2.19	24	0.84
Total	137	100.00	2,862	100.00
Rural balance				
Secondary	255	79.19	16,019	84.41
Technical or further education institution	52	16.15	2,210	11.65
University or other tertiary	6	1.86	561	2.96
Other	9	2.80	188	0.99
Total[a]	322	100.00	18,978	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Section of State

As Table 11 shows, many of the patterns in type of institution identified in an examination of the distribution of Indigenous 17 year olds at the national level appear when section of State is the focus. For each of the four sections of State, Indigenous students are less likely than other students to be in secondary and more likely to be enrolled in technical or further education institutions. They are also less likely to attending university in urban and other urban areas and more likely to be attending 'other' types of institutions regardless of residence. The relatively higher proportions of technical and further educational attendance by Indigenous people should also be viewed

in the light of other research findings which show that Indigenous TAFE graduates are about twice as likely as their non-Indigenous peers to undertake study for personal development rather than specific job skill acquisition (Schwab 1997). That finding suggests that many Indigenous people attend TAFE with intentions and goals that may differ significantly from other Australians. The different patterns of Indigenous and non-Indigenous university attendance in urban and rural regions might also reflect variable access to institutions. Research has shown that Indigenous people are over-represented in the regional 'new universities' and under represented in the capital city 'Great 8' research institutions (Schwab 1996).

Household type

Over 90 per cent of Indigenous 17 year olds who are attending school live with their families in private dwellings of some sort. Yet Indigenous families are often multi-generational and fluid and ABS data do not easily capture their complexity (Smith 1991; Daly and Smith 1995; Daly and Smith 1999). The census category 'household type' comes closest to capturing this complexity, in that it allows for multiple families resident in one location (Ross 1998). Table 12 shows that the majority of both Indigenous and non-Indigenous 17 year old school attenders live in single-family households (88.1 and 95.6 per cent, respectively), but Indigenous students are less likely to do so. Indigenous school attenders are four times more likely (6.4 per cent) than non-Indigenous students to live in multi-family (two- or three-family) households, yet they are only about one-third (19.1 per cent) as likely as Indigenous school non-attenders. Lone and group households are not common among Indigenous school attenders (they comprise only 3.9 per cent of all households), but are found with slightly greater frequency than among non-Indigenous attenders, for whom they comprise 2.6 per cent of households.

Table 12. Indigenous and non-Indigenous 17 year olds by school attendance and household type, Australia 1996

Household type	Indigenous attending		Indigenous not attending		Non-Indigenous attending		Non-Indigenous not attending	
	Total	Per cent	Total	Per cent	Total	Per cent	Total	Per cent
One-family household	2,215	88.11	2,713	72.40	162,609	95.55	47,104	86.16
Two-family household	131	5.21	505	13.48	2,463	1.45	1,472	2.69
Three-family household	30	1.19	211	5.63	39	0.02	35	0.06
Lone-person household	41	1.63	112	2.99	1,706	1.00	1,837	3.36
Group household	57	2.27	163	4.35	2,666	1.57	3,655	6.69
Visitors and others not classifiable	40	1.59	43	1.15	708	0.42	565	1.03
Total[a]	2,514	100.00	3,747	100.00	170,191	100.00	54,668	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

These data show that Indigenous school attenders come from households that are typically somewhat larger than those of other Australians students of the same age – a pattern that has long been documented for Indigenous families in general – yet, overall, 17 year old Indigenous students' household structures look more like those of non-Indigenous students than they resemble the households of non-attending Indigenous 17 year olds. It is important to note that many studies have shown that, while large households may have many economic and social benefits for residents, they can also result in crowding and a lack of privacy necessary for study and academic success.

Family type

Table 13 depicts the distribution of Indigenous and non-Indigenous 17 year olds across three family types: couple family, lone parent family and a residual category, other family. The majority of 17 year olds live in couple families. This is the case for both Indigenous and non-Indigenous whether or not they are attending school. Yet Indigenous 17 year olds who are not in couple families, regardless of whether or not they are in school, are more likely to reside with lone parent families than non-Indigenous 17 year olds. Indigenous students are more likely to be in couple families (65.1 per cent) than Indigenous 17 year olds who are not attending school (57.9 per cent), a pattern that is observable for non-Indigenous attenders and non-attenders too (82.0 per cent versus 73.4 per cent). While not much can be concluded from these patterns, if it is the case that the presence of a couple family is a sign of stability for children and stability is associated with school success, then it is not surprising that both Indigenous and non-Indigenous students have a tendency to come from such family types.

Table 13. Indigenous and non-Indigenous 17 year olds by school attendance and family type, Australia 1996

Family type	Indigenous attending		Indigenous not attending		Non-Indigenous attending		Non-Indigenous not attending	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Couple family	1,413	65.06	1,738	57.89	131,947	82.02	32,750	73.38
Lone parent family	701	32.27	1,121	37.34	26,375	16.39	10,532	23.60
Other family	58	2.67	143	4.76	2554	1.59	1,350	3.02
Total[a]	2,172	100.00	3,002	100.00	160,876	100.00	44,632	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Household income

Table 14 shows the distribution of 17 year olds within households according to income categories. The estimated median income for the households of both 17 year old Indigenous attenders and non-attenders is virtually identical at about $691 per week. The estimated median income for households to which non-Indigenous 17 year olds belong is quite different; the estimated median income for households to which non-Indigenous 17 year old school attenders belong is about $958 per week, compared to $816 per week for non-attenders. It is important to note, however, that the estimated median incomes for Indigenous households are somewhat misleading, since Indigenous households tend to have more people resident in those households than other Australians. Consequently the income is used to support more people in an Indigenous household. This feature will be examined more closely below. Comparing Indigenous and non-Indigenous households in this table, it appears that, unlike the case for non-Indigenous households, the presence of a 17 year old who is in school does correlate with increased household income.

Table 14. Distribution of Indigenous and non-Indigenous 17 year olds across weekly household income by school attendance, Australia 1996

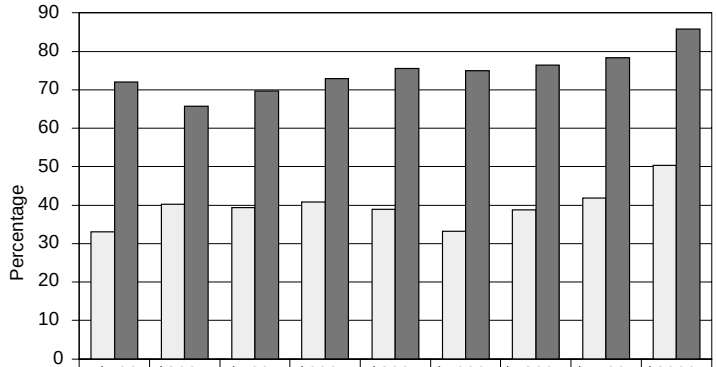
Household income per week	Indigenous attending		Indigenous not attending		Non-Indigenous attending		Non-Indigenous not attending	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
<$199	73	3.82	148	5.01	4,062	3.02	1,576	3.43
$200–$399	295	15.45	439	14.85	11,141	8.28	5,817	12.67
$400–$599	414	21.68	639	21.61	18,391	13.68	8,026	17.49
$600–$799	375	19.63	544	18.40	18,865	14.03	7,011	15.28
$800–$999	264	13.82	414	14.00	18,540	13.79	5,990	13.05
$1,000–$1,199	148	7.75	297	10.04	15,373	11.43	5,136	11.19
$1,200–$1,499	164	8.59	259	8.76	18,208	13.54	5,616	12.24
$1,500–$1,999	104	5.45	145	4.90	15,953	11.86	4,406	9.60
$2,000 +	73	3.82	72	2.43	13,951	10.37	2,316	5.05
Total[ab]	1,910	100.00	2,957	100.00	134,484	100.00	45,894	100.00
Median income	$690.81		$691.37		$957.67		$816.18	

Source:
ABS 1996 unpublished census data.

Notes:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.
b. Does not include approximately 24 per cent of Indigenous students, 21 per cent of non-Indigenous students, 21 per cent of Indigenous or 16 per cent of non-Indigenous 17 year olds who were not attending school and did not report household incomes.

Figure 16 is derived from Table 14 but presents the data in a different way. It compares the proportion of Indigenous 17 year old school attenders to non-attenders with the proportion of non-Indigenous 17 year old school attenders to non-attenders according to weekly household income.

Figure 16. Proportion of Indigenous to non-Indigenous 17 year olds attending school by fortnightly household income, Australia 1996



	<$199	$200–$399	$400–$599	$600–$799	$800–$999	$1000–$1199	$1200–$1499	$1500–$1999	$2000+
Indigenous attending	33.0	40.1	39.3	40.8	38.9	33.2	38.7	41.7	50.3
Non-Indigenous attending	72.0	65.7	69.6	72.9	75.5	74.9	76.4	78.3	85.7

Source:
ABS 1996 unpublished census data.

Figure 16 shows two things clearly: comparatively fewer Indigenous 17 year olds were in school in 1996 (about 37 per cent compared to about 73 per cent of non-Indigenous 17 year olds) and for both groups, as household income increased, the likelihood of the 17 year olds within those households being in school increased as well (though it increased slightly more for non-Indigenous 17 year olds). While this pattern is strongly suggestive of a class effect for education and income, the median incomes for the Indigenous households would seem not to support this view. An alternative explanation may be that the interplay of other factors such as geographic location and economic opportunity are involved. For example, it is well known that both economic and educational opportunities are greater in the south and south-east of the country, and in urban areas (Taylor 1993; ABS/Centre for Aboriginal Economic Policy Research (ABS/CAEPR) 1996) the higher income and educational attendance correlation are reflecting Indigenous and non-Indigenous school attendance in capital cities while the lower incomes and lower attendance occur in rural areas.

As noted above, not all school attenders reside with their families. Of the 2,540 Indigenous 17 year olds attending school in 1996, 201 (7.9 per cent) live in boarding schools or hostels or other types of non-private dwelling. In contrast, proportionately about half (4.1 per cent) of non-Indigenous school attenders live in such places. Table 15 shows the relative distribution of students among the various types.

Table 15. Indigenous and non-Indigenous 17 year old school attenders in non-private dwellings, Australia 1996

	Indigenous attending		Indigenous not attending		Non-Indigenous attending		Non-Indigenous not attending	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Boarding house, private hotel	27	13.43	12	10.53	306	4.34	67	5.85
Boarding school	101	50.25	3	2.63	4,212	59.75	51	4.45
Residential college, hall of residence	27	13.43	0	0.00	1,514	21.48	21	1.83
Hostel for the disabled	0	0.00	0	0.00	47	0.67	12	1.05
Hostel for homeless, refuge, etc.	3	1.49	15	13.16	61	0.87	93	8.12
Corrective institution for children	26	12.94	16	14.04	32	0.45	43	3.75
Prison, corrective or detention institution for adults	0	0.00	10	8.77	0	0.00	13	1.13
Other	17	8.46	58	50.88	877	12.44	846	73.82
Total[a]	201	100.00	114	100.00	7,049	100.00	1,146	100.00

Source:
ABS 1996 unpublished census data.

Note:
a. Variations in totals may occur as a result of ABS automatic randomisation of small cells to ensure confidentiality.

Most of these students live in boarding schools (50.2 per cent of Indigenous students and 59.8 per cent of their non-Indigenous peers). A larger proportion of the Indigenous students (13.4 per cent versus 10.5 per cent) live in boarding houses or private hotels, but non-Indigenous students are far more likely to live in residential colleges or halls of residence (21.5 per cent compared to 13.4 per cent). The higher proportion of Indigenous students in boarding houses may reflect a preference for (or the availability of) Aboriginal hostels. Most surprising, perhaps, is the proportion of 17 year old students who are held in corrective institutions. Of the 201 students in non-private dwellings, 26 are in corrective custody. While this reflects only 1 per cent of the total population of 17 year old Indigenous students, it is far beyond the proportion of non-Indigenous students so held. As a proportion of all non-Indigenous 17 year olds in non-private dwellings, those in corrective institutions for children comprise only 0.4 per cent but, as a proportion of all non-Indigenous 17 year old students, they are less than .02 per cent.

Indigenous 17 year olds: a summary

While this exercise has been largely exploratory, it has revealed some important patterns in the population of Indigenous 17 year olds and suggests some issues for further consideration:

- While not directly comparable, the census data for 17 year olds provide a reminder that relying exclusively on apparent retention rates for a measure of educational

participation masks a significant proportion of Indigenous students who choose to study outside secondary schools.

- While secondary school remains the primary educational delivery mechanism for 17 year olds, it is not the only avenue. Though a large majority of Indigenous 17 year old school attenders were in secondary schools, they were twice as likely as non-Indigenous school attenders to be enrolled in technical or further education institutions.
- Given the low Indigenous secondary school participation in the Northern Territory, the very low technical or further education enrolments there are alarming. This suggests a large unmet need which needs to be addressed.
- Of those Indigenous 17 year old students enrolled for secondary studies, over 81 per cent attend government schools; Indigenous students are over-represented in the sector in comparison to non-Indigenous students, who are comparatively more less likely to be enrolled in government schools (62 per cent).
- In terms of access to education, non-Indigenous students in rural areas attend in proportion to their population density in these areas, while Indigenous people are under-represented. This suggests Indigenous students are under-served in terms of educational facilities in rural areas.
- Most Indigenous 17 year old school attenders live in a household occupied by a single family, yet, compared to their non-Indigenous peers, they are four times more likely to live in multi-family households.
- Though most Indigenous 17 year old school attenders are from couple families, they come from such families at a rate well below that of non-Indigenous 17 year olds, regardless of whether or not they are school attenders.
- The median household income for school-attending 17 year old Indigenous students is the same as for other Indigenous 17 year olds but the median income is much lower than either non-Indigenous non-attenders or attenders.
- Among 17 year old school attenders living in non-private dwellings, 13 per cent are in corrective custody.

6. Increasing retention: targeted policy interventions

Research Question: *What are the most appropriate policy interventions to produce increased retention rates?*

Research from the United States shows that students who do not complete secondary studies place a significant economic burden on society. They have higher levels of unemployment, receive reduced earnings and are more likely to have health problems. They engage in criminal activities and have a greater tendency to become dependent on various forms of government subsidy and welfare than do those who graduate from secondary schools (Rumberger 1987). Similar research in Australia found that not completing Year 12 increases the likelihood of unemployment and decreases earnings (Marks and Fleming 1998). Australian research also shows that early school leavers create significant financial costs both to their families, to whom they return or never leave, and to the taxpayer in the form of welfare payments (Dwyer 1996).

This discussion paper set out to identify and explore factors that cause low Indigenous retention to Year 12. While it is not always easy to separate cause from effect, and symptom from core problem, a variety of empirical studies – both in Australia and abroad – have been useful for highlighting multiple factors associated with the likelihood of Indigenous students continuing or not continuing into secondary school. Based on this research, it is possible to suggest a range of policy interventions to directly and indirectly address the unacceptably low Indigenous retention rates in Australia today. In the section that follows, specific interventions are proposed to address vital issues in seven broad areas: data standardisation; literacy; integration of schools with communities; rural disadvantage; educational pathways; promising practices; and successful students.

Data standardisation

The States and Territories are moving forward in their efforts to identify assessment procedures and instruments that will yield comparable data for literacy and numeracy. Reliable, comparable retention data are still not available. Historically, States and Territories have been reluctant to release retention data, fearing uninformed attempts to compare rates between States and Territories that have been collected and calculated in varying contexts and based on differing definitions. Still, retention data are vital for policy development and planning. Standardisation of collection and reporting procedures are certainly possible if States and Territories are willing to make the effort and if protocols are agreed to ensure that individual schools or regions are not disadvantaged.

Recommendation 1

Commonwealth, State and Territory Ministers and their education departments should move rapidly to reach agreement on standardised data collection and reporting

procedures and protocols to enable national reporting of Indigenous apparent retention rates.

Literacy

International and Australian research shows that low literacy and numeracy levels are clearly associated with lack of academic success and increased rates of early withdrawal from school; assessment instruments indicate that Indigenous students are well below other students in literacy and numeracy achievement. Literacy is a complex phenomenon but there is much evidence to indicate that particular factors amenable to policy intervention are associated with literacy development. Damaged hearing as a result of chronic ear infections, for example, is highly predictive of decreased literacy development, and early screening has been found to be highly effective in identifying and treating children with such conditions. Research also shows conclusively that there are a variety of language and pre-literacy aptitudes and experiences, often referred to as indicators of 'reading readiness' that, when lacking, are predictive of learning difficulties. Being 'reading ready' is strongly associated with later literacy development and success in school. In this sense, research indicates that literacy is a critical skill, the foundation of which is laid down well before the child first enters a classroom. Yet it is also clear that there are many Indigenous parents and caregivers who themselves lack the literacy skills to assist their young children. Many of these are unable to provide books and other literacy materials at home. As a result, illiteracy is perpetuated and passed on to the next generation.

While early diagnosis and intervention is crucial for school children with learning difficulties, research has shown that earlier intervention at the level of the family and community is highly successful in other contexts and holds great promise for Indigenous communities. Among the most successful approaches are family literacy programs. Such programs often begin working with parents during their children's infancy and encourage language development through the provision of books and other print materials suitable to the literacy skills of all family members. Some family literacy approaches extend beyond literacy learning activity and facilitate family access to medical, social and educational services. Significantly, such programs have also been shown to be extremely effective models for improving not only children's literacy and pre-literacy skills but they directly benefit adults with low literacy levels as well. Research has also shown that parental expectations for their children's learning increase significantly after family literacy program participation. While there are many good models, in Australia and overseas, little is known about how to implement such approaches in Indigenous communities.

Recommendation 2

The Commonwealth should fund a focused long-term study of family literacy interventions and strategies to assess the impact and longevity of these for Indigenous children, families and communities.

Integration of schools with communities

As shown in the research cited earlier, many Indigenous early school-leavers come from families unable to provide the guidance, encouragement and support necessary for educational success. Indeed, parents educational qualifications are strongly predictive of whether or not a child will remain in school. As shown, many Indigenous parents and caregivers find schools alienating and far removed from the experience of their everyday lives. They often feel little or no sense of ownership or connection with their children's schools. High levels of absenteeism are often the norm and failure in school is for many Indigenous children a family and community expectation.

In the past, enormous energy has been invested in finding ways to increase Indigenous involvement in education through the creation of community consultative structures, increased numbers of Indigenous school staff and development of curricula which are more accurate about and relevant to Indigenous students. While these efforts are to be commended, they are not sufficient, and the continuing low retention rates are proof. Radical new approaches are necessary to integrate schools with their communities, to make schools part of and not peripheral to communities. The Northern Territory Department of Education, for example, developed but never fully implemented a model wherein education for the whole community was to be the focus of what were once traditional primary school services. In the Community Education Centre model, schools were envisaged as institutions that expanded their reach beyond traditional delivery of education to children, to delivery of education and training to adults and families. This expansion and promotion of education beyond traditional boundaries was intended to foster a sense of community ownership and adult participation in education in a way that raised the profile of education in the community and made education part of everyday life. While many Indigenous people have years of uncomfortable experience to support their view that 'school' is ultimately not for everyone, there is much evidence to show that, in contrast, many believe 'education' is. The challenge is to dismantle the real and imagined boundaries between communities and government institutions housed in school buildings and recast them as community-owned facilities for the facilitation of community-wide education.

Recommendation 3

States and Territories should explore new models of educational delivery that integrate communities and schools, enabling true lifelong learning from preschool to adulthood.

Given that many Indigenous parents and caregivers perceive schools as 'places for kids' and not adults, it is not surprising that some parents and caregivers have difficulty encouraging attendance and achievement by their children. One approach to making schools feature more prominently in everyday lives is to make them hubs for a range of family, community and educational services. One approach, which maps well onto the Community Education Centre model and has been shown to be highly successful overseas, is to provide facilities for health and family services on the school premises and

integrate them more fully with educational service provision (Nissani and Hagans 1992). While there are obvious efficiencies in such approaches in rural areas, overseas experience shows them to be successful in urban areas and in ethnically diverse communities.

One of the potential outcomes of this arrangement in terms of possible gains in educational success and eventual increased retention is that service integration such as this could allow for early screening of and intervention for pre-school-age children with particular health, developmental and language problems associated with later learning and literacy difficulties.

The comfortable presence of parents and caregivers on school grounds and in school buildings is in itself an important advance. If school is to be seen as an integral part of community life, practical ways in which adults can feel that schools are part of the community, and that they as members of that community not only have a place but have responsibilities to be part of the school, must be found. Yet this is a relatively new and untested approach in Australia and there is a need for objective research into how to most efficiently and effectively coordinate health care, education and service delivery in the complex cultural contexts of Indigenous communities.

Recommendation 4

Commonwealth, State and Territory education departments should develop models and fund demonstration projects to promote the integration of education, health and family services.

Rural disadvantage

Data show that low secondary school retention is a particularly important issue in rural areas, and schools with high proportions of Indigenous students are often rural. This is partly because Indigenous Australians are disproportionately over-represented in rural areas, Indigenous students are thus especially vulnerable to factors that contribute to low rural retention rates.

Analysis of 1996 census data showed that in many rural communities in the Northern Territory, Western Australia and Queensland, secondary-age students typically are required to leave their communities to attend school. While most communities have ready access to primary schools, secondary schools are centralised and often great distances from the homes of potential students. Again, given the disproportionate distribution of Indigenous people in rural areas, they suffer a distinct disadvantage. If this were the case for such a large segment of the non-Indigenous community, the public outcry would be deafening. Policy makers need to address this inequity if increased school retention in rural areas is a real and not just a rhetorical goal.

Recommendation 5

Commonwealth, State and Territory governments must address and resolve the inequity of secondary education access for rural Indigenous populations.

Alternative pathways

While acknowledging that there is a troubling gap between the retention rates of Indigenous and non-Indigenous Australians, it is important to note that research has shown that some Indigenous youth who have not been retained to Year 12 do in fact continue their education outside of secondary schools. Alternative pathways, particularly through the Vocational Education and Training sector and other private and/or independent Indigenous education providers, appear to be vitally important to many Indigenous young people for whom Year 12 studies have not been a viable option. Research shows that Indigenous 17 year olds are twice as likely as other Australians to enrol in technical and further educational institutions, yet access to such courses remains a problem in non-urban areas; Indigenous people in those areas are not being adequately served in terms of educational alternatives to secondary school. This could be particularly important in the light of shifts to increased provision of adult education and training in non-urban areas by private providers. A focused research project to gauge the degree of need and assess levels of current educational service provision to Indigenous people in rural areas is urgently needed.

Recommendation 6

The Commonwealth should commission a major study to assess need and the degree to which rural Indigenous communities have appropriate levels of access to non-secondary education.

Promising practices, dissemination and rigorous evaluation

There are many examples of programs that appear successful in extending Indigenous retention in late secondary school and those approaches need to be publicised and their adaptation to other places and contexts needs to be supported. The DETYA Strategic Results Projects, wherein a range of non-capital projects have been funded to develop innovative approaches to enhancing Indigenous educational outcomes, is a very positive step, and the soon to be released national evaluation report should provide direction for further development. Still, innovation cannot be considered a success just because it is innovative. Without rigorous, independent evaluation, it is impossible to fully assess the value of such programs. Similarly, if a program or approach works, it must be actively disseminated. Policy makers should continue to provide for the injection of funds for short-term demonstration projects leading to innovative practice, but they should also require objective, independent evaluations and provide funding for the innovators to actively disseminate results.

Recommendation 7

While innovative projects aimed at increasing Indigenous retention should continue to be funded, objective, independent evaluation of such projects should be required and funded.

Recommendation 8

When funding innovative projects aimed at increasing Indigenous retention, funding should also be provided to enable the innovators to disseminate their results.

Research on successful students

There is a natural tendency for educators and policy makers to focus energy on 'the problem'. Problem students demand attention and students who are 'at risk' deserve care, but there is potentially a great deal to learn from successful students as well. Indigenous students who are still in school at Year 12 are in one sense 'deviants' because they are a minority. Understanding why and how they 'swim against the stream' is just as important as understanding what factors contribute to leaving school early. Until now the successful students have been praised but largely ignored.

Recommendation 9

A long-term research project on successful Indigenous secondary school students should be commissioned.

Conclusion

Noel Pearson, one of Indigenous Australia's most influential leaders, has recently emphasised the importance of mutual obligation in escaping welfare dependency and has highlighted the responsibility of Indigenous people themselves in relation to self-improvement through education. He stated that self-improvement through education and the personal acquisition of skills, knowledge and training is the most powerful contribution a person can make to their society. While this may be true, it is clear that the development of skills necessary to succeed to Year 12 will not emerge out of the expectation that children and communities must pull themselves up by their own bootstraps. Similarly, penalising parents for their poverty or lack of educational success is unlikely to increase student retention. As research suggests, educational success will not easily result from tireless individual initiative. It is more likely to emerge from a mix of appropriate educational opportunities, individual confidence, community commitment, family support, social and economic stability, appropriate curriculum and the professional skills of educators and administrators. All of these require continued attention and support.

Notes

1. See Long and Frigo (1998) and Long, Frigo and Batten (1998).
2. It is important to note that, across the country, there are secondary students classified as 'ungraded' who are outside the Year-level system that is used to calculate apparent retention rates. These students accounted for about 8 per cent of all Indigenous secondary students in 1998 (compared to 1.2 per cent among non-Indigenous students) but about 46 per cent in the Northern Territory. The fact that apparent retention rates exclude ungraded students results in an overestimation of Indigenous retention and an underestimation of the difference between Indigenous and non-Indigenous apparent retention rates (Long, Frigo and Batten 1998: 44).
3. The ratio is calculated by dividing the Indigenous rate into the non-Indigenous rate for a particular year. For example, the ratio of the Indigenous apparent retention to the non-Indigenous rate for 1998 was calculated by dividing 31.2 per cent by 72.7 per cent, yielding a ratio of 0.44 for all Australia. The ratio in the Australian Capital Territory exceeds 1.0, which is most likely attributable to the small number of students and Indigenous students moving into the Territory from interstate to undertake study in the secondary college (Years 11 and 12) system and thus pushing up the apparent Year 12 retention rate.
4. The survey found that 29 per cent of Special Indigenous Sample students spoke a language other than English at home and about 10 per cent of the indigenous students hardly ever or never spoke English at home. This highlights the fact that the particular sampling methodology was biased away from urban indigenous students, who would be much less likely to speak a language other than English at home. By comparison, about 3 per cent of the Main Sample hardly ever or never speak English at home. Around 26 per cent of Special Indigenous Sample students had some competence in a language other than English, compared to 12 per cent in students in the Main Sample.
5. Rescaling of 1994 results in New South Wales were undertaken to make them comparable with the 1996 results. The new common scale ranged from 25 to 65. ATSI students were Aboriginal and Torres Strait Islander students. NESB(1) were non-English-speaking background students who answered 'Yes' to the question 'Does anyone speak a language other than English in your home?'. NESB(2) were non-English-speaking background students who had lived in Australia for four years or less and never or only sometimes spoke English at home. ESB were English-speaking background students who answered 'No' to the question 'Does anyone speak a language other than English in your home?'.
6. Country Areas Program (CAP) schools receive targeted funding from DETYA to improve the educational opportunities, participation, learning outcomes and personal development of rural and geographically isolated primary students.

7. Results are expressed on a scale of 15 to 55. NESB are non-English-speaking background students who answered 'No' to the question 'Is English the language you speak at home most of the time?' or 'Is English the first language spoken by both your parents or caregivers?' and who are not classified as ATSI. ATSI students included those who students who answered 'Yes' to either of the questions 'Are you an Aboriginal person?' or 'Are you a Torres Strait Islander person?'.
8. See Cairney and Ruge (1997) for a major review of community literacy practices and schooling in Australia.
9. It is important to note that the ABS definition of 'school' is very broad and includes not just primary and secondary school but preschool, technical and further education as well as tertiary training education.
10. According to the ABS census in 1996, 'still at school' includes persons attending school or any other educational institution, including preschool, primary or secondary school, technical or further educational institutions, and university or other tertiary institutions.

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During the period 1994–98, fewer than one in three Indigenous students in Australia progressed to Year 12. Such low retention rates have long been recognised in Australia as a significant problem, with profound implications in a range of social arenas.

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