



CENTRE FOR ABORIGINAL ECONOMIC POLICY RESEARCH

Practical reconciliation and recent trends in Indigenous education

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Abbreviations and acronyms

ABS	Australian Bureau of Statistics
ABSCQ	ABS Classification of Qualifications
Abstudy	Aboriginal Study Assistance Scheme
AGPS	Australian Government Publishing Service
ANU	The Australian National University
ASCED	Australian Standard Classification of Education
ATSIC	Aboriginal and Torres Strait Islander Commission
Austudy	Australian Study Assistance Scheme
CAE	College of Advanced Education
CAEPR	Centre for Aboriginal Economic Policy Research
CDEP	Community Development Employment Projects
DEST	Department of Education, Science and Training
HECS	Higher Education Contribution Scheme
HREOC	Human Rights and Equal Opportunity Commission
TAFE	Technical and Further Education (institution)

Abstract

The release of 2001 Census data provides an opportunity to evaluate the Howard government's performance in Indigenous affairs in broad terms. One major policy shift has been the call for a more 'practical' reconciliation that attempts to address the immediate needs of Indigenous people in areas such as employment, health, housing and education. If practical reconciliation were a reality, then one would expect there to be some evidence of a convergence in the last two censuses in the economic and educational status of Indigenous and other Australians. Furthermore, enhancing Indigenous education is important in ensuring that Indigenous engagement with the mainstream economy is sustainable, especially in view of the skill bias evident in recent economic growth.

This paper analyses recent trends in the engagement of Indigenous people with the Australian education system between 1986 and 2001. A cohort analysis of changes in educational participation is presented, along with an analysis of the differences between the level and type of educational qualifications of Indigenous and non-Indigenous Australians over the last four censuses. The main finding is that while there have been some absolute improvements in Indigenous educational outcomes over the period 1986 to 2001, these gains are less evident when measured relative to non-Indigenous outcomes. The lack of improvement relative to the non-Indigenous population is seen not only in the proportion of the population with post-secondary qualifications, but also in the proportion of Indigenous teenagers staying at school. By any measure the Indigenous population remains severely disadvantaged. Another finding is that for younger age groups the non-Indigenous population has a higher participation rate in post-secondary education than the Indigenous population. On a more positive note, older Indigenous people are actually more likely to be enrolled in a post-secondary course than their non-Indigenous counterparts—probably as a response to the history of disadvantage within the education sector.

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Practical reconciliation and educational outcomes

Indigenous education policy in Australia has long been underpinned by an awareness that improvement of Indigenous educational outcomes is one possible measure for ameliorating the future prospects of the Indigenous population.¹ Over the course of more than 30 years there have been many policy and program reviews and many reports dealing with Indigenous education (Aboriginal Consultative Group 1975; Commonwealth of Australia 1995, 2000a; Hughes 1988), and training and employment (Aboriginal and Torres Strait Islander Commission (ATSIC) 1994; Commonwealth of Australia 1991, 2000b; Miller 1985). In every review, report or policy recommendation over this period, access, participation and equity have been primary themes.

In its 'Motion of Reconciliation' adopted by both Houses of the Australian Parliament on 26 July 1999, the Howard government articulated its Indigenous policy orientation in terms of the principle of 'practical reconciliation'. In that motion the government declared its view that reconciliation will emerge from 'practical measures leading to practical results'. Commonwealth Indigenous policies and the various programs it has put into effect since that time are all underpinned by this policy framework. Practical reconciliation has been roundly criticised in general terms as assimilationist and focused on formal equality—on identical treatment without reference to differing opportunities or legacies—with limited recognition of cultural difference (Aboriginal and Torres Strait Islander Social Justice Commissioner 2000, 2001). While it is relatively easy to develop new policy, it is often difficult to measure its impact. In this paper we examine the impact of recent government policy changes to the Aboriginal Study Assistance Scheme (Abstudy) on educational outcomes for Indigenous Australians.

Abstudy has long included a range of programs and income support allowances and supplements intended to foster Indigenous participation in education beyond secondary schooling. It is undoubtedly one of the most contentious special programs in Indigenous affairs and is poorly understood by many in the community; it is sometimes cited as a program that provides an unfair advantage to Indigenous students and their families. When the Howard government first indicated it was considering changes to Abstudy, a number of researchers suggested the changes were likely to have a negative impact on Indigenous participation in education (Schwab & Campbell 1997; Stanley & Hansen 1998). Nonetheless, changes to the Abstudy scheme were implemented by the Howard government and put into effect in January 2000, 20 months before the 2001 Census.

The changes to Abstudy involved the implementation of means testing and closer alignment with the mainstream Youth Allowance and NewStart programs. The Department of Education, Science and Training (DEST) claims the changes have had no discernible impact on the numbers of individuals who draw upon the scheme; indeed they claim the changes have resulted in increased access by many Abstudy recipients to supplementary allowances previously unavailable to them. On the other hand some critics claim the changes have had a detrimental

effect on Indigenous participation in education programs (Brabham et al. 2002; Bunda & McConville 2002). In this paper, in contrast to the approach taken by other critics, our aim is to focus on an analysis of educational outcomes rather than on participation, since the former is what practical reconciliation is claimed to be addressing. While it is always difficult to prove a causal relationship between program changes and behavioural outcomes, census data collected by the Australian Bureau of Statistics (ABS) provide a useful means of charting changes in a range of important social indicators of education outcomes.

The general level of educational attainment for all Australians has increased significantly over the period from 1986 to 2001. While this is certainly good news, the aggregate numbers do not reveal important variations within the overall population. If minority groups fail to keep up with the rate of increase of other Australians, it is likely that they will suffer increasing disadvantage and marginalisation in labour markets; indeed, it can be argued that disadvantaged groups need to greatly exceed the general rate of change if they are to make real gains. It is important, therefore, to examine how Indigenous Australians fare as the general level of educational attainment continues to rise. If they do not keep up with the rest of the population, then it is likely that they will remain uncompetitive in the labour market and that high rates of Indigenous poverty will be perpetuated indefinitely (Hunter & Gray 2001).²

This paper focuses on recent trends in Indigenous and non-Indigenous education using data from the 1986, 1991, 1996 and 2001 censuses.³ The statistics presented summarise recent patterns and provide a basis for considering ways to improve the educational outcomes and the related economic status of Indigenous Australians. The paper presents an aggregate analysis at the national level and is intended to provide a summary and overview targeted to policy makers.

Inter-censal changes in Australian education, 1986–2001

Attendance at educational institutions

The relatively poor educational attainment of Indigenous people is a function of leaving school at a younger age, on average, than the non-Indigenous population (Hunter & Schwab 1998). In 1996, 3.4 per cent of Indigenous males and 3.1 per cent of Indigenous females had never attended school as compared to only 0.6 per cent of non-Indigenous males and 0.9 of non-Indigenous females. Only 22.0 per cent of Indigenous males and 23.4 per cent of Indigenous females left school when aged 17 years or over as compared to 38.7 per cent of non-Indigenous males and 36.8 per cent of non-Indigenous females. Regrettably, a change in the ABS system of classifying highest level of secondary schooling means that it is not possible to compare 2001 results with those of earlier censuses (Hunter & Dungey 2003). Changes in the information collected appears to have differentially affected cohorts living in various States and, consequently, it is not possible to conduct any cohort analysis for the Indigenous population using 2001 data on highest level of schooling completed.

One factor underpinning poor secondary school completion rates for Indigenous students is their relatively high rates of suspension and expulsion from schools. For example, while Indigenous children and young people comprise 3 per cent of the student population in New South Wales, they make up 12 per cent of school suspensions. Children as young as 5 years of age are being suspended, excluded and expelled from schools (Commonwealth of Australia 1997). In addition, Groome and Hamilton find that 'Aboriginal students are likely to lose between two and four years of schooling through absenteeism. [The] rates for the total population are less than half these' (1995: 3).

Hunter and Schwab (1998) have shown that there has been some improvement in school retention of Indigenous teenagers between 1986 and 1996, with an increasing proportion staying at school longer. While this has led to marginal relative improvement in the position of Indigenous to non-Indigenous Australians for all ages (except 18 year-old females), it is disconcerting to note that the absolute negative difference between Indigenous and non-Indigenous teenagers in the percentages at school increased for all age groups over 15 years of age. Long and Frigo (1998) reach similar conclusions.

An implication of these statistics is that Indigenous people are likely to continue to be under-represented in post-secondary education as a proportion of all Australian students. Table 1 shows the proportion of the working-age population attending different categories of educational institutions. The proportion of Indigenous males attending an educational institution increased from 17.6 per cent to 19.9 per cent between 1986 and 2001. This is against a decrease of 1.6 percentage points to 15.0 per cent for non-Indigenous males. Therefore, over the period from 1986 to 2001 a higher proportion of Indigenous males were attending an educational institution than non-Indigenous males, and the gap increased over the last four censuses. Similarly, a higher (and increasing) proportion of the Indigenous female population were attending an educational institution than non-Indigenous females over this period. However, Hunter and Schwab (1998) have shown that the apparent over-representation of the Indigenous population attending educational institutions is merely an artefact of the distinct demography of Indigenous people who continue to be disproportionately concentrated in younger age groups.⁴ Notwithstanding, it is useful to examine the compositional changes in post-secondary education.

Within the tertiary education sector there are several significant differences between the Indigenous and non-Indigenous populations. Apart from 1986 (when the generalisation applies only to Indigenous males), Indigenous males and females were more likely to be attending a Technical and Further Education institution (TAFE) than their non-Indigenous counterparts. For Indigenous males, the participation rate at TAFE increased in each inter-censal period till 1996, then fell slightly to 6.9 per cent at the 2001 Census (but not below its level in 1986 or 1991). Over the same period the participation rate of non-Indigenous males fell from 5.5 per cent in 1986 to 3.8 per cent in 1996.

Table 1. Proportion of the working-age population attending educational Institutions, 1986–2001^a

	Indigenous				Non-Indigenous			
	1986	1991	1996	2001	1986	1991	1996	2001
Male								
Government secondary school	6.4	6.0	5.6	7.1	3.6	3.5	3.3	3.2
Non-government secondary school	0.9	1.1	1.2	1.8	1.6	1.6	1.8	1.9
TAFE	5.6	6.3	7.3	6.9	5.5	4.6	4.2	3.8
University ^b	3.4	3.2	4.2	3.1	4.7	4.8	5.3	5.2
Other educational institution	1.4	1.5	1.0	1.0	1.3	1.2	0.9	0.9
Total	17.6	18.1	19.2	19.9	16.6	15.7	15.5	15.0
Female								
Government secondary school	6.3	5.6	5.2	6.3	3.4	3.3	3.2	3.1
Non-government secondary school	0.9	0.9	1.2	1.4	1.6	1.6	1.7	1.9
TAFE	7.1	6.3	7.8	6.8	4.9	3.8	4.0	3.7
University ^b	3.5	4.3	5.1	4.7	4.7	5.3	5.9	6.0
Other educational institution	1.4	1.3	1.0	1.3	1.5	1.5	1.4	1.2
Total	19.2	18.5	20.3	20.6	16.1	15.5	16.2	16.0

Notes: a. Working-age population is defined as those aged 15 years and over.

b. In 1988 the division between Universities and Colleges of Advanced Education (CAEs) was eliminated and CAEs were renamed universities. In this table, 'University' includes Colleges of Advanced Education.

Source: Customised cross-tabulations from the 1986, 1991, 1996 and 2001 censuses.

For Indigenous females the participation rate at TAFE fell from 7.1 per cent in 1986 to 6.3 per cent in 1991, but increased to 7.8 per cent in 1996, and then fell again to 6.8 per cent in 2001. For non-Indigenous females the participation rate fell more or less consistently from 4.9 per cent in 1986 to 3.7 per cent in 2001. Clearly, Indigenous people are more likely to attend TAFE than other Australians, presumably because TAFE is more accessible in regional Australia and has a vocational focus. Consequently, TAFE has tended to foster the development of Indigenous education units to address the specific cultural needs of Indigenous people (Robertson & Hughes 1999). In addition, and not surprisingly, Indigenous students enter TAFE by way of employment programs designed to bring the

unemployed into the workforce. Another factor is that since it is possible to work on a Community Development Employment Projects (CDEP) scheme and receive Abstudy, more Indigenous people may choose TAFE courses to augment their skills because they are often compatible with part-time work (Gray & Thacker 2000).

Participation rates at universities increased over the period from 1986 to 1996 for both Indigenous and non-Indigenous males and females. For Indigenous males, there was a fall from 3.4 per cent in 1986 to 3.2 per cent in 1991, and then an increase to 4.2 per cent in 1996. Unfortunately, the attendance of Indigenous males at university in 2001 was at the lowest level since 1986, with only 3.1 per cent of working-age males attending. For non-Indigenous males, while participation increased in both inter-censal periods between 1986 and 1996, there was a small decrease in the last inter-censal period. However, in contrast to the result for Indigenous males, the increase in the percentage of non-Indigenous males at university is substantially higher in 2001 (5.2%) than it was in 1986 (4.7%).

For Indigenous females there was also an increase in attendance rates at universities from 3.5 per cent in 1986 to 5.1 per cent in 1996. Like Indigenous and non-Indigenous males, there was a fall in attendance between the last two censuses. For non-Indigenous females, attendance increased in each inter-censal period, although the size of the 1996–2001 increase was much smaller than for previous inter-censal periods. While non-Indigenous female attendance at universities between 1996 and 2001 appears to defy the trends evident for other groups, their outcomes may be depressed relative to what they would have been if the tertiary education sector had continued to grow at the same rate as it had done in the early 1990s.

In summary, while the participation rate of Indigenous people at tertiary institutions remains below that of their non-Indigenous counterparts, there has been some evidence of catch-up, at least up until the 1996 Census. For males the ratio of the Indigenous to the non-Indigenous participation rate increased from 0.72 to 0.79 between 1986 and 1996 before falling back to 0.59. For females, the ratio increased from 0.74 to 0.86 before falling to 0.78. The different demographic structure of the Indigenous and non-Indigenous populations means that more Indigenous people of working age are youths, and hence closer to the age conventionally associated with attendance at tertiary educational institutions. These relativities are therefore of particular concern. Among other things, the implied shortfall in Indigenous graduates means that Indigenous people are going to be disadvantaged in the increasingly intense competition for skilled jobs requiring a university education. The cohort analysis in the following section examines educational attendance for particular age groups so that demographic distortions of the interpretation are minimised.

Cohort analysis of educational attendance

The 1986, 1991, 1996, and 2001 censuses are cross-sectional data that, in principle, include the entire Australian population. However, they can be treated as panel data by grouping individuals into cohorts, and treating the averages within these cohorts as individual observations that vary over time. These cohorts do not track individual persons, but rather the totality of persons. They are defined in such a way that each individual is a member of only one cohort and remains in that cohort, for purposes of analysis, over time. In this paper, cohorts are defined on the basis of year of birth and sex. We define cohorts by five-year age groups starting with those 0 to 4 years old in 1986.

Table 2 presents the results of disaggregating the proportion of the cohort population attending university into age cohorts. Table 3 does the same for the proportion attending either TAFE or other non-university educational institutions. Of course, while attendance is an important step to securing an educational qualification, the successful completion of courses is what counts in terms of enhancing economic outcomes. However, attendance is a necessary step, and hence the following tables provide a leading indicator of the likely trends in Indigenous educational qualification.

As an example of the interpretation of the cohort analysis in Table 2, consider Indigenous males aged 25 to 29 in 1986. The proportion of this group attending a university was 4.4 per cent in 1986. In 1996, when this group were aged 35 to 39 years, the proportion of the cohort attending a university had increased to 5.0 per cent. The 1986 data for this cohort can also be compared to people who were 25 to 29 years old in 1996 (and 15 to 19 years old in 1986), of whom 5.4 per cent were attending university. That is, the proportion of this age group attending a university increased by 1 per cent to 5.4 per cent between 1986 and 1996. In this way, the changing age structure of educational participation can also be analysed.⁵

It is striking that while there have been increases in the Indigenous youth participation rate at universities, the increases for non-Indigenous youth have been much larger. For example, in 1986 the participation rate for Indigenous females aged 20 to 24 was 3.7 per cent. By 2001, participation for this age group had increased to 8.5 per cent, an increase of 4.8 percentage points. This can be contrasted to non-Indigenous females aged 20 to 24, whose participation rate was 9.7 per cent in 1986 and had increased to 25.0 per cent in 1996, an increase of 15.3 percentage points. A similar observation can be made for male youth, although the size of the increase tends to be smaller. That is, controlling for age there has been a significant increase in the participation of youth in higher education, especially for non-Indigenous youth.

Table 2. Cohort analysis of the proportion of the population attending university, 1986–2001

Age (years) at 1986 Census	Indigenous				Non-Indigenous			
	1986	1991	1996	2001	1986	1991	1996	2001
Male								
0–4				1.8				9.8
5–9			2.3	5.9			9.2	20.6
10–14		2.1	6.0	5.1		9.0	17.3	8.7
15–19	1.3	4.8	5.4	4.9	6.4	15.0	7.7	5.6
20–24	3.8	3.5	4.9	4.5	10.8	6.1	5.5	4.1
25–29	4.4	4.2	5.0	3.7	5.5	4.8	4.5	3.2
30–34	4.0	3.4	4.1	2.9	4.9	4.0	3.5	2.3
35–39	4.4	3.4	3.2	2.8	4.1	2.8	2.5	1.5
40–44	3.7	2.7	3.5	1.4	3.2	1.9	1.7	0.9
45–49	3.6	2.0	3.2	0.8	2.5	1.2	1.2	0.6
50–54	6.0	3.3	1.2	0.6	2.0	0.9	0.9	0.4
55–59	2.1	0.0	0.0	0.0	1.9	0.8	1.1	0.5
60–64	0.0	0.0	2.0	4.1	2.0	1.2	1.6	0.7
65+	3.9	2.6	4.0	2.0	3.3	1.6	2.0	1.0
Total 15+	3.4	3.2	4.2	3.1	4.7	4.8	5.3	5.2
Female								
0–4				3.6				14.1
5–9			3.5	8.5			13	25.0
10–14		3.4	6.8	6.3		12.1	19.4	8.9
15–19	2.5	5.9	5.7	5.9	7.8	15.7	7.6	5.7
20–24	3.7	4.5	5.5	5.4	9.7	5.7	5.3	4.5
25–29	3.7	4.8	6.0	5.5	4.6	4.6	4.7	3.8
30–34	5.0	5.6	5.9	4.1	4.4	4.4	4.2	3.0
35–39	4.8	4.7	4.9	3.3	4.4	3.8	3.3	1.9
40–44	5.0	4.2	5.3	2.8	3.9	2.8	2.2	1.1
45–49	3.9	3.8	3.3	1.5	3.1	1.8	1.4	0.6
50–54	4.3	2.3	2	0.4	2.5	1.2	1.1	0.4
55–59	1.2	0.9	0.0	0.0	2.3	1.0	1.1	0.5
60–64	0.0	0.0	1.5	3.0	2.5	1.3	1.7	0.7
65+	1.9	2.2	2.4	3.8	3.5	1.9	2.3	1.1
Total 15+	3.5	4.3	5.1	4.7	4.7	5.3	5.9	6.0

Source: Customised cross-tabulations from the 1986, 1991, 1996 and 2001 censuses.

In 2001 and earlier censuses, the participation rate at universities for Indigenous males and females aged 30 years and older was generally higher than for non-Indigenous males and females of the same age. This is suggestive of some catch-up of educational attainment for older Indigenous males and females. The differential is particularly pronounced in middle age groups, where income is highest relative to the rest of the life cycle. This may reflect better government funding for Indigenous students, full pay scholarships, study leave with pay, and perhaps positive changes in the attitudes, programs and entry procedures of universities and vocational education and training institutions and providers (Schwab 1996). It is also possible that the advent of the Higher Education Contribution Scheme (HECS) discourages older non-Indigenous people from returning to study, contributing greatly to the already higher opportunity costs of study at an older age and subsequent lower rate of return. In addition, the generally higher income of mature age students means that they will have to pay back fees faster than the non-Indigenous population. However, this cannot be the whole story since the differential between Indigenous and non-Indigenous participation for males aged 50 to 54 years is highest in 1986, well before the introduction of HECS.

Perhaps the most remarkable feature of Table 2 is the fact that so many people do not go to university until after they are 25 years old. Australia is clearly an open post-industrial economy where workers need to upgrade their skills and qualifications to meet the demands of employers. While older Indigenous age cohorts appear to be rising to the challenge, the main challenge for policy makers is to encourage Indigenous youth to participate in the university system, because this is where the greatest gains can be made for the individuals involved and the Indigenous community as a whole.

Table 3 presents a cohort analysis of participation rates at TAFE and the other non-university tertiary education institutions. Of the cohort of Indigenous males and females aged 15 to 24 years in 2001, a smaller proportion was attending such an institution than was the case for the corresponding non-Indigenous cohort. However, there was a narrowing of the gap in participation rates for Indigenous compared to non-Indigenous people. For example, the differential in attendance for males aged 15 to 19 was 5.0 per cent in 1986 (8.0% and 13.0% for Indigenous and non-Indigenous males respectively), but this had fallen to 1.8 per cent by 2001 (10.6% and 12.4% respectively). Indeed, in 2001 Indigenous females were actually more likely to attend TAFE than non-Indigenous females in this age group. This is a positive development since it reflects a greater Indigenous engagement in the TAFE system at an earlier age than was evident in the university sector.

Table 3. Cohort analysis of the proportion of the population attending a non-university post-secondary educational institution, 1986–2001

Age (years) at 1986 Census	Indigenous				Non-Indigenous			
	1986	1991	1996	2001	1986	1991	1996	2001
Male								
0–4				10.6				12.4
5–9			8.8	12.0			11.1	11.8
10–14		9.1	9.9	10.2		12.3	10.9	6.7
15–19	8.0	9.4	8.9	9.2	13.0	11.1	6.3	5.2
20–24	8.9	7.8	8.2	8.8	10.5	7.1	5.3	4.3
25–29	7.2	7.2	7.8	7.7	7.3	6.0	4.5	3.6
30–34	7.4	6.7	6.8	7.2	6.1	4.9	3.6	3.0
35–39	7.1	5.8	7.2	5.9	5.2	3.7	2.7	2.2
40–44	6.6	6.3	7.3	6.0	4.3	3.0	2.3	1.8
45–49	7.1	7.2	7.0	5.9	3.8	2.5	2.4	1.5
50–54	2.8	6.3	8.5	5.1	3.7	2.2	2.3	1.4
55–59	0.0	7.1	5.7	2.1	4.0	2.3	2.6	1.5
60–64	2.4	4.2	4.9	4.1	4.9	2.7	2.9	1.6
65+	3.9	9.0	4.0	10.2	6.7	4.4	3.4	2.0
Total 15+	7.0	7.8	8.3	8.0	6.8	5.8	5.1	4.7
Female								
0–4				10.7				9.9
5–9			8.3	9.6			8.9	10.0
10–14		7.8	8.7	9.1		8.7	9.4	7.2
15–19	6.6	7.1	8.5	9.0	8.3	8.5	6.5	6.1
20–24	8.6	7.9	9.7	9.0	7.6	6.0	5.7	6.0
25–29	9.1	8.2	9.2	8.6	5.8	5.5	5.5	5.6
30–34	10.1	7.7	8.8	7.6	5.8	5.2	4.8	4.5
35–39	9.6	6.7	8.1	7.2	5.7	4.4	3.7	3.3
40–44	7.8	7.5	7.5	6.7	4.9	3.5	3.0	2.5
45–49	8.5	7.7	9.8	5.8	4.3	2.8	2.6	1.9
50–54	8.3	8.7	10.3	4.9	4.4	2.6	2.8	1.9
55–59	9.7	8.9	11.5	5.5	5.1	2.9	3.4	2.0
60–64	7.5	1.8	6.1	6.0	6.6	3.6	4.1	2.1
65+	9.7	8.1	7.8	4.3	8.7	5.4	4.5	2.7
Total 15+	8.5	7.6	8.8	8.1	6.4	5.3	5.3	5.0

Source: Customised cross-tabulations from the 1986, 1991, 1996 and 2001 censuses.

In all four censuses, the proportion of Indigenous people aged over 24 years attending a TAFE or other post-secondary educational institution tends to be higher than that recorded for the non-Indigenous population. The only exception to this observation was for males aged 65 years and over in 1986. In 2001, Indigenous people were more likely to attend TAFE than non-Indigenous people of the same age, except in the youngest age groups.

An important point revealed by Tables 2 and 3 is that the life-cycle profile of participation in post-secondary education differs between the Indigenous and the non-Indigenous population. The non-Indigenous population has a higher participation rate in post-secondary education at a younger age than does the Indigenous population, which shows much higher participation rates later in the life-cycle.

A significant component of the *Working Nation* labour market program of the early 1990s was the provision of formal training.⁶ This may provide an institutional explanation of the later Indigenous starts in TAFE and other post-secondary courses. However, if training programs from *Working Nation* were heavily weighted towards Indigenous youth, as were the labour market programs from that policy (Hunter & Gray 1998), then one should not place too much emphasis on this as an explanation of the substantial increases in post-secondary participation of older Indigenous people.

The human capital investment model of education (see Becker 1975) suggests that the level of education a person decides to pursue is an investment decision, where the costs are incurred now and the returns (if successful) accrue over the rest of the person's working life. The human capital model therefore predicts that investment in human capital is more likely to occur early in a person's life as this will leave the longest period for the returns to that investment to be realised. Thus the delayed educational participation pattern of Indigenous Australians presents an apparent paradox to the model. One possible explanation is that to Indigenous individuals the return from education is not the private gain of higher future earnings but rather a gain which is realised by the entire community in the form of increased cultural capital (Schwab 1996). Family formation at a younger age may also limit participation in education. For example, it is difficult to combine child care and study, and an interruption to educational participation may become permanent, especially among young Indigenous women who necessarily take time off at the birth of a child.

Recent trends in qualifications gained

Some comparisons between the 1986 and 1991 Censuses are complicated by significant changes to the vocational education and training and the higher education sectors during that period. For example, in 1988 the Commonwealth eliminated the 'binary divide' that had separated universities and colleges of advanced education (CAEs) for 25 years; suddenly the number of Australian universities increased from 19 to 36. Comparisons of qualifications during this period can be difficult as a result of these changes. Perhaps more significantly,

changes in the system of classification of qualification field and level used by the ABS make comparison between the 1986 and 1991 Censuses highly problematic.⁷ In this paper we therefore limit comparison of qualification field and type to the 1991, 1996 and 2001 Censuses (Table 4, and Figs 1 and 2).

Table 4. Highest level of qualification in the working-age population, 1991–2001^a

	Indigenous			Non-Indigenous		
	1991	1996	2001	1991	1996	2001
Male						
Basic vocational	3.0	2.7	2.8	3.3	2.6	2.2
Skilled vocational	15.3	16.3	18.7	24.6	23.8	24.7
Associate diploma	1.0	2.0	2.8	2.1	3.6	4.3
Undergraduate diploma	1.1	1.3	1.4	3	3.1	3.4
Bachelor degree	1.2	2.6	3.1	8.4	10.1	11.3
Postgraduate diploma	0.2	0.4	0.5	1	1.3	1.3
Higher degree	0.2	0.3	0.5	1.9	2.4	2.8
Total qualification (males)	22.0	25.6	29.8	44.2	46.9	50.1
Female						
Basic vocational	7.1	6.2	5.9	6.5	5.5	4.9
Skilled vocational	2.7	3.3	5.7	3.5	4.1	5.5
Associate diploma	1.6	3.6	4.9	1.7	3.5	5.1
Undergraduate diploma	4.4	3.2	2.7	8.9	6.8	5.6
Bachelor degree	2.1	4.3	5.4	8.3	11.4	14.2
Postgraduate diploma	0.6	0.9	0.9	2	2.4	2.3
Higher degree	0.1	0.4	0.6	0.9	1.4	1.9
Total qualification (females)	18.6	21.9	26.0	31.8	35.1	39.5

Notes: a. The 'not stated' and 'inadequately described' categories are proportionately allocated to other cells. The working-age population is defined as those aged 15 and over. The change in the ABS classification of educational qualifications between 1996 and 2001 means that it was necessary to make assumptions to facilitate broad comparisons between these two censuses. The standard correspondences between the respective classification systems were used (see Appendix A).

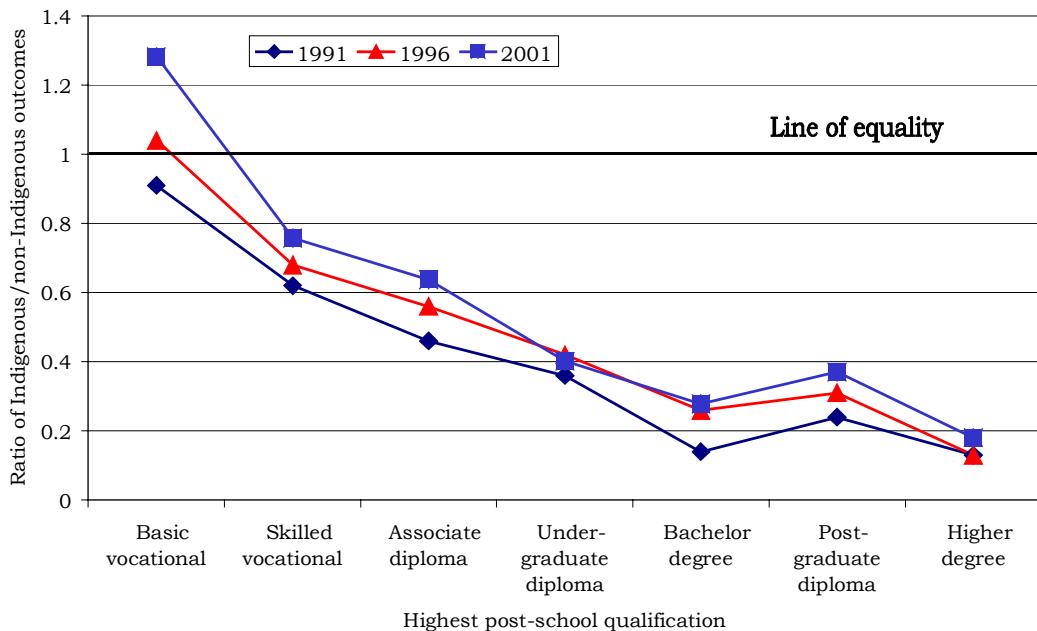
Source: Customised cross-tabulations from the 1991, 1996 and 2001 censuses.

While there have been absolute increases in the proportion of the Indigenous population with a post-secondary qualification, there have also been increases for the non-Indigenous population. Both Indigenous males and Indigenous females remain severely disadvantaged in terms of post-secondary educational qualifications. For Indigenous females, the proportion with any qualification increased steadily from 18.6 per cent in 1991 to 26.0 per cent in 2001. For non-Indigenous females, the proportion with some post-secondary qualification also

increased steadily by 7.7 percentage points to 39.5 per cent in 2001—with increases of roughly equal magnitude in the two inter-censal periods. For Indigenous males the proportion with some qualification increased from 22.0 per cent in 1991 to 29.8 per cent in 2001, an increase of 7.8 percentage points spread approximately evenly across the two inter-censal periods. Within the non-Indigenous male population the proportion with some qualification increased by 5.9 percentage points to 50.1 per cent in 1996.

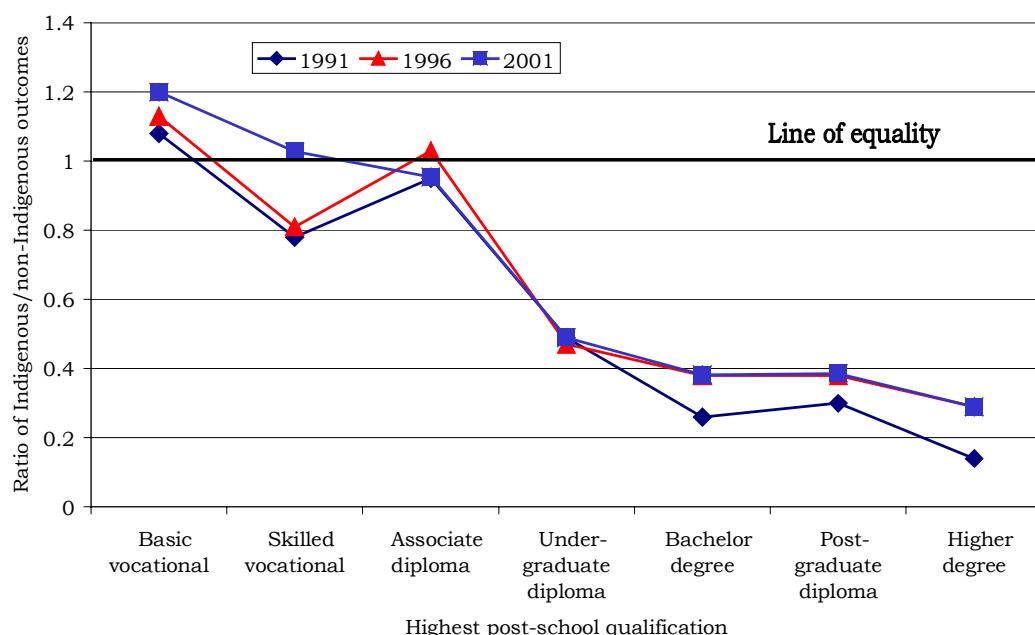
Therefore the absolute improvement in the proportion of the adult population with qualifications was actually greater for Indigenous males than it was for non-Indigenous males, and was marginally smaller for Indigenous females compared to their non-Indigenous counterparts. However, the overall ratio of Indigenous to non-Indigenous outcomes for educational qualification increased for both males and females (from 0.50 to 0.59 and from 0.59 to 0.66 respectively between 1991 and 2001). Given that the absolute improvement in outcomes is of a similar magnitude for the respective populations, or even marginally smaller in the case of Indigenous females, this relative improvement is due largely to the low base from which the Indigenous population is building their human capital.

Fig. 1. Highest post-school qualification attained by males, 1991–2001: ratio of Indigenous to non-Indigenous outcomes



Source: Calculations based on Table 4.

Fig. 2. Highest post-school qualification attained by females, 1991–2001: ratio of Indigenous to non-Indigenous outcomes



Source: Calculations based on Table 4.

Because of the changes in the classification of courses and educational institutions, it is prudent to focus our attention on the ratio of the proportion of the Indigenous population with a particular qualification to the proportion of the non-Indigenous population with the same qualification (Figs 1 and 2). As this ratio gets closer to one the less inequality in educational attainment there is between the Indigenous and non-Indigenous populations.

For Indigenous males and females, the degree of inequality in educational attainment as compared to non-Indigenous males and females increases with qualification level. That is, Indigenous people tend to have fewer higher qualifications relative to their non-Indigenous counterparts than they do for the more basic vocational qualifications. Between 1991 and 2001 there was a significant narrowing of the gap for almost all educational levels. Indeed, Indigenous males were more qualified than their non-Indigenous counterparts for basic vocational qualifications. For Indigenous females there already had been complete catch-up in basic vocational qualifications by 1991, and convergence also was apparent in relation to associate diplomas and skilled vocational qualifications by the time of the 1996 and 2001 censuses.

The extent of catch-up in the proportion of the population with a bachelor degree is also noteworthy. For Indigenous females, the ratio of the proportion of the Indigenous to non-Indigenous population with a higher degree increased from 0.11 in 1991 to 0.32 in 2001. While the relative increase for Indigenous males was not as large, the ratios of Indigenous to non-Indigenous outcomes almost doubled for both postgraduate diplomas and bachelor degrees for males in the last two inter-censal periods.

Gray, Hunter and Schwab (2000) report the field of qualification for the 1991 and 1996 censuses. However, it is impossible to replicate this analysis for 2001 in its entirety because changes to the ABS system of classification render many of the comparisons somewhat problematic. Appendix A discusses the main implications of changing to the Australian Standard Classification of Education (ASCED) from the Australian Bureau of Statistics Classification of Qualifications (ABSCQ), which was used in the 1996 Census. This caveat notwithstanding, several generalisations can be made about the indicative trends or rather relativities in the field of educational qualification. The following discussion focuses on the period 1991 to 1996 to avoid difficulties arising from the classification changes.

For each qualification field in the ABSQ classification, Indigenous people have a lower proportion of their population with a qualification than does the non-Indigenous population (with the exception of males with a miscellaneous qualification). The pattern of increases in educational qualifications by field of qualification for Indigenous males and females is very closely correlated with that in the non-Indigenous population. Between 1991 and 1996 there was a faster rate of growth in the proportion of the population of Indigenous males with qualifications in all fields except for the field of natural and physical sciences. For Indigenous females there was a faster rate of growth in the proportion of the population with qualifications in the fields of education, society and culture, engineering and miscellaneous fields.

As noted above, for the field of qualification variable the correspondences between ABSQ and ASCED are very rough. However, 2001 census data reveal that Indigenous qualifications continue to be concentrated in engineering and building oriented areas for Indigenous males, whereas Indigenous females tend to be concentrated in business, and in fields associated with society and culture, for example health and education.⁸

The main finding of this paper is that there have been some absolute improvements in Indigenous educational outcomes over the period 1986 to 2001. Indigenous post-secondary qualification rates, especially for mature age students, have increased at a faster rate than the rates for non-Indigenous Australians. However it is of concern that relative to the rate of improvement for non-Indigenous Australians there has been little or no gain. This relative lack of improvement occurs not only in the proportion of the population with post-secondary qualifications, but also in the proportion of Indigenous teenagers staying at school. By any measure the Indigenous population remains relatively disadvantaged.

The report card on practical reconciliation and Indigenous education

In 2000 the Council for Aboriginal Reconciliation submitted its final report and made a series of recommendations to the Prime Minister, the government, and the Australian people. Two years later the government provided its response, accepting only one of the six recommendations and reaffirming its focus on practical over symbolic reconciliation (Commonwealth of Australia 2002). In this paper we have examined the impact of the policy of practical reconciliation on the reshaping of the Abstudy scheme in 2000 as seen in the educational outcomes of Indigenous Australians subsequent to those changes. In this section, we would like to reflect on some of the issues that these outcomes raise for policy makers. Some of these are concrete, others more speculative, but all are relevant to the formulation of future education policy.

To be fair to the ‘practical reconciliation’ agenda, it should be recognised that other factors may have been affecting education outcomes during the last intercensal period. For example, large demographic shifts in the Indigenous population mean that large numbers of Indigenous youth entered the working-age population between 1996 and 2001 (Taylor & Hunter 1998). These demographic factors have ongoing implications for Indigenous policy settings for the foreseeable future, with extra expenditure on Indigenous education being required just to maintain the status quo. That is, even if the practical reconciliation agenda were sufficient to redress Indigenous disadvantage within the education system, the appropriate budget needs to expand in proportion to the size of the cohorts entering the relevant age groups. Note that the Indigenous cohort born between 1996 and 2001 appears to be smaller than other recent cohorts, and consequently the expenditure on Indigenous education required to maintain the status quo may possibly fall in about ten years time (ABS 2003). However, any predictions on future Indigenous population and budgetary requirements are heavily contingent upon the propensity of Australians to identify as Indigenous (Gray 1997; Hunter & Dungey 2003).

The upshot is that trends in Indigenous education outcomes cannot be reduced to an argument about the trade-off between practical reconciliation and symbolic reconciliation. The rhetoric of practical reconciliation needs to be backed up by real resources commensurate with the task at hand if its putative goals are to be realised. The remainder of this paper documents the ongoing impediments to improving Indigenous education outcomes.

Barriers to Indigenous education

As we pointed out in an earlier paper, there is a range of explanations for low levels of school attendance by Indigenous students (Hunter & Schwab 1998). A range of social environmental factors was found to affect the likelihood of a young person attending school. Both poor quality housing and residence in a household where others have been arrested decrease the probability that a young person will

be attending school, while the presence of household members with qualifications or who are attending school significantly increases the likelihood of school attendance. The research also indicated that difficulty with English is an important predictor of whether or not an individual has educational qualifications. Disaffection with school and teachers, difficulties in attending school arising from poverty, high mobility, Indigenous inter-group tensions, family pressures particularly in single parent families, high levels of sickness and high death rates among adults and the consequent social obligations placed on the young are prominent among the reasons that Indigenous students have difficulties with formal education (Groome & Hamilton 1995: 4; Hunter & Schwab 1998; Schwab 1998).

Cultural conflict, cross-cultural miscommunication, and the experience of racism are additional important factors influencing decisions by some Indigenous students to abandon school. A significant number of Indigenous students, when asked to reflect on why they had left school, discussed the depersonalised nature of their educational experience and the subsequent loss of self-esteem under the pressure of racial harassment and 'put downs' from both teachers and students (Groome & Hamilton 1995: 45).

Racism from teachers is a more difficult experience to deal with than racism from other students. The types of racism experienced include racial abuse and vilification, negative comments about families and behaviour made on the basis of race, prejudicial treatment, and negative personal comments about 'extra money' and 'special benefits' (Groome & Hamilton 1995: 37).

Many of these factors arise from a prolonged history of cultural conflict and policies that failed to meet the distinctive needs of Indigenous students. Indeed, a number of submissions to the Inquiry into the 'Stolen Generation' drew attention to the relationship between past racist policies and practices in education which excluded or marginalised Indigenous children, and contemporary low secondary school retention rates and low participation rates in tertiary education (Commonwealth of Australia 1997).

Policy reviews over the past 30 years have identified a range of possible interventions to improve outcomes in Indigenous education. Prominent among these are increased engagement and ownership by Indigenous families, educators and communities in educational decision making at the local, regional and national levels; increased numbers of Indigenous people employed in education and training; promoting and ensuring equitable access to and participation in education and training; promotion, maintenance and support of the teaching of Indigenous studies, cultures and languages; and the provision of community development and training including English literacy and numeracy for Indigenous adults. Obviously, it will continue to be important to track and assess the outcomes of policies aimed at assisting Indigenous people as they attempt to overcome the many impediments to their educational participation.

Indigenous education outcomes in rural and remote areas

Our analysis of variables that influence school attendance also provided some important insights to the unique circumstances of Indigenous students in rural and remote areas that remains relevant today (Hunter & Schwab 1998). In that analysis we found that place of residence affects school attendance only for teenagers in remote communities, who are markedly less likely to be in school than their urban counterparts.⁹

Indigenous Australians in rural and remote areas have very low levels of educational attainment, compared both to Indigenous Australians in urban areas and to non-Indigenous Australians in rural areas (ABS 1995a). In 1991, for example, 42 per cent of persons in rural areas aged 15 and over had left school before they were 16 years old, as compared to only 36 per cent of persons living in urban areas in the same category (ABS 1995b). The proportion of men in rural areas with post-school qualifications (27 per cent) was less than that of men in urban areas (32 per cent). For females, there was little difference between women in rural and urban areas, with similar proportions having post-school qualifications.

In regional areas there is surplus labour and the jobs which are available have to be rationed in some way. If improved educational qualifications increase the size of the pool of jobs from which a person could potentially be employed, or even if they just give the person a better chance of getting a rationed job, then this may lead to improvements in Indigenous labour market outcomes. However if, as seems to be the case, regional economies are declining in importance, then Indigenous workers in rural areas are competing in a better-educated workforce for a declining pool of jobs. That is, the relative educational deficit of the rural Indigenous population, vis-à-vis other rural residents, is even more significant than it once was.

The continuing need for targeted assistance in Indigenous education

Changes to Abstudy instituted by the Howard government in 2000 reduced access to and eligibility for the program for some Indigenous students who would have in the past been Abstudy recipients. Contrary to government predictions, our analysis of census data between 1996 and 2001 shows a corresponding reduction in educational outcomes for Indigenous Australians.

Abstudy and its predecessor have been in place for nearly three decades and have come to symbolise recognition of the special educational disadvantage of Indigenous Australians. Indigenous people regard the program as a 'tried and true' means of enabling access and participation where it would otherwise be difficult (Schwab & Campbell 1997; Stanley & Hansen 1998). At the same time, it has long been clear that Indigenous students have had and continue to have unique needs as a result of cultural differences and a history of disadvantage and dispossession. Where there have been achievements in Indigenous access,

participation and outcomes in education, there has often been a corresponding recognition of cultural difference that has assisted these advances (Bourke, Burden & Moore 1996). Programs which encourage Indigenous participation in education while simultaneously being responsive to family, community and cultural commitments have been powerful tools for bringing Indigenous students into educational settings. The variety of course delivery modes Abstudy enabled prior to 2000 was instrumental in allowing individuals to choose the level of engagement, study environment and method of study most suitable to them at particular stages of their lives. The scheme provided much greater programmatic and administrative flexibility to meet the special cultural needs of Indigenous students than is possible under the mainstream Austudy or Youth Allowance schemes or the post-2000 Abstudy. The decline in educational outcomes suggests the continuing need for targeted assistance programs.

The low level of Indigenous employment remains one of the most intractable of contemporary social issues and it is likely that current reforms in industrial relations and labour market programs will, if anything, exacerbate this problem (Hunter 1997, 1998b; Hunter & Hawke 2001, 2002; Taylor & Hunter 1998). Policies aimed at reducing or eliminating targeted educational support programs for Indigenous people in favour of mainstream programs risk undermining past gains in educational participation, and ultimately in employment.

Other effects of education on the practical reconciliation agenda

The criticisms of practical reconciliation rehearsed in this paper obviously resonate with other policy issues including Indigenous disadvantage in the labour market, in health status and so on. This section briefly explores the implications for Indigenous labour market success of an absolute improvement but a relative decline in Indigenous educational outcomes. If education in itself leads to increases in productivity and employability, then we would expect this to translate into absolute improvements in the labour market outcomes (in terms of employment rates and wage level) of Indigenous Australians. But these absolute improvements notwithstanding, we would also expect a decline in employment and wage rates relative to the non-Indigenous population.

While conventionally it is argued that increased education leads to improved labour market outcomes by increasing individual productivity, an alternative view is that it leads to improved labour market outcomes by providing a signal to employers of a person's innate productivity. This is sometimes called the 'screening' hypothesis. When an employer is deciding whom to employ for a job, they cannot determine precisely what each applicant's actual productivity will be. They therefore have to make some assessment or educated guess as to the probable productivity of each applicant. If people who have a higher level of educational attainment have higher innate productivity, then employers may use the person's highest level of education as an indicator of their potential productivity. In this case employers are not looking at a person's absolute level of educational attainment, but rather that person's relative attainment.

If education levels of a given population double, this will have no effect on the probability of any particular individual being employed vis-à-vis any other individual. In addition it should have no effect on wages. However, if the education level of Indigenous Australians increased in absolute terms, but fell relative to the education attainment of non-Indigenous Australians, then employers may assume, on the basis of relative educational attainment, that Indigenous workers have lower potential productivity. The outcome could well be that Indigenous employment rates and wages would fall relative to that of non-Indigenous workers and might, in fact, worsen in absolute terms (particularly if there is surplus labour supply). Indeed, Hunter and Gray (1998) point to an absolute and relative decline in employment between 1986 and 1996. Preliminary analysis of the 2001 Census reveals that there was some evidence of improvement in Indigenous employment outcomes, but relative labour force status is continuing to decline (Hunter, Kinfu & Taylor forthcoming). That is, employment to population ratios increased for both Indigenous and non-Indigenous Australians, but they increased by less for Indigenous Australians.¹⁰

Therefore the evidence about Indigenous Australian education and employment over the last 15 years points to a possible role both for the conventional productivity hypothesis and for the screening hypothesis. If the screening hypothesis is valid, then practical reconciliation would have to be applied extremely vigorously to have the desired effect—that is, to close the gap between Indigenous and other Australians. In these circumstances, substantial improvements in Indigenous labour force status will only occur with a large improvement in relative educational status.

Notes

1. The Australian Bureau of Statistics (ABS) standard for Indigenous status is as follows: ‘An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives’ (ABS 2001a).
2. Noting, of course, that there are some areas of the country (e.g. some remote regions) where labour markets do not exist. Employment levels among Indigenous people in those areas are unlikely to rise.
3. The education levels reported do not tell us what happened to the educational attainment of the original population. In order to motivate the inter-censal comparisons, we need to assume that the experience of people who identified as Indigenous for the first time in the last census is the same, at least in terms of education, as those who identified in 1986 and 1991 (see Hunter 1998a).
4. This is despite an apparent decline in Indigenous fertility rates between 1996 and 2001 (Kinfu & Taylor 2002).
5. That is, in addition to its primary function, which is to facilitate a cohort analysis.

6. In May 1994 the federal government introduced a set of labour market programs targeted at the long-term unemployed. The main features included the provision of formal training (typically at TAFE), a big expansion in labour market programs, case management of the unemployed, a Youth Training Initiative, training wages for all trainees, and direct job creation. In addition, any person who had been on unemployment allowances for over 18 months was offered a full-time job (for at least 12 months) mainly in the private sector. The programs were phased out after the change of federal government in March 1996.
7. The ABS classification system of the field of qualification changed between 1986 and 1991 to the ABS Classification of Qualifications (ABSCQ). According to the ABS the ABSCQ maintained some degree of comparability with the 1986 Census classification. However, differences in the classification structure coding process used in the 1986 Census may pose practical difficulties when attempting detailed comparison (see Appendix A).
8. It should be noted that the high proportion of males in the engineering field is a function of ABS coding that includes in this category a broad range of manual tasks including plant and machine operations, vehicle mechanics and cleaning. Similarly, the high proportion of females in the business field can be explained by the inclusion of tasks classed as being in the hospitality sector.
9. Rural areas and urban centres are defined respectively as population clusters of less than 1,000 people and 1,000 or more people. Remote areas are defined as being in a rural area that is more than 100 kilometres from the nearest TAFE.
10. Note that if CDEP scheme jobs are not treated as employment, Indigenous employment to population ratios actually fell from 30.8 to 29.5 per cent between the 1996 and 2001 censuses. This result is consistent with the predictions in Taylor & Hunter (1998) based on demographic projections and basic CDEP scheme participation numbers.

Appendix A. Recent changes to the ABS system for classification of education

The 2001 *Census Dictionary* (ABS 2001a), and the ASCED (ABS 2001b) describe the major revisions to the standard Australian system of classification of qualifications and education between 1996 and 2001. The Australian Standard Classification of Education (ASCED) replaces the Australian Bureau of Statistics Classification of Qualifications (ABSCQ), which was used in the 1996 Census. ASCED is the classification used for the following 2001 Census variables referred to or utilised in this study:

- Highest Level of Schooling Completed
- Non-School Qualification: Field of Study
- Non-School Qualification: Level of Education

The 'Highest Level of Schooling Completed' variable is based on the new ASCED classification that replaces the 'Age Left School' classification used in the 1996 Census. In past censuses, Age Left School was collected as a surrogate for Highest Level of Schooling Completed, which could not be collected directly because of the differences in the education systems within Australia. Testing for the 2001 Census found that the standard designation of levels in Australian schools is well established and that Highest Level of Schooling Completed can now be collected directly.

Highest Level of Schooling Completed data are an important adjunct to data on Highest Non-School Qualification, as well as an important indicator of educational need or disadvantage. This information is particularly important because of the extent of change occurring in education participation and in labour market adjustment. Data on Highest Level of Schooling Completed are required for:

- assessing the usefulness of extension courses or other educational programs; and
- as an indicator of disadvantage because it shows the level of education reached by people with no other educational qualifications.

The new classification includes non-school qualifications such as Certificate Level qualifications, which may be attained while the person is still attending school. The name of this variable has been changed to 'Non-School Qualification: Level of Education'.

ABS correspondences between the 'Non-School Qualification: Level of Education' variable and its counterpart in previous censuses revealed that it was possible to compare the resulting statistics only in broad terms (ABS 2001b: 207). Appendix Table A1 shows that the correspondence between the classification hierarchy was not one-to-one between the standard output for the broad level of aggregation in 1996 and 2001, and hence special cross-tabulations were required for the 2001

to make it comparable with previous censuses (e.g. the 1996 category of Associate Diploma includes Diploma and Certificate IV in 2001).

Table A1. ABSCQ-ASCED level correspondence

ABSCQ Level of Attainment (1996)	ASCED Level of Education (2001)
1 Higher Degree	111 Higher Doctorate 112 Doctorate by Research 113 Doctorate by Coursework 114 Professional Specialist Qualification at Doctoral Degree Level 121 Master Degree by Research 122 Master Degree by Coursework 123 Professional Specialist Qualification at Master Degree Level
2 Postgraduate Diploma	211 Graduate Diploma 212 Graduate Qualifying or Preliminary 213 Professional Specialist Qualification at Graduate Diploma Level 221 Graduate Certificate 222 Professional Specialist Qualification at Graduate Certificate Level
3 Bachelor Degree	311 Bachelor (Honours) Degree 312 Bachelor (Pass) Degree
4 Undergraduate Diploma	411 Advanced Diploma
5 Associate Diploma	421 Diploma 511 Certificate IV
6 Skilled Vocational Qualifications	514 Certificate III
7 Basic Vocational Qualifications	521 Certificate II

Source: ABS (2001b: 207).

While many detailed correspondence tables are provided by the ABS to link the old to the new classification system, the change limits the tractability of analysis that compares changes over time. For example, in our judgement, the complexity of correspondences between the classifications of the field of study meant that it was not possible to replicate the analysis in Gray, Hunter and Schwab (2000). However, indicative statements may be possible in broad terms. Preliminary analysis of the highest level of schooling completed revealed that it is also not possible to replicate the analysis of the age left school variable in previous censuses (Hunter & Dungey 2003).

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