THE EDUCATION OF BOYS

**SUBMISSION TO THE HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON EMPLOYMENT,
EDUCATION AND WORKPLACE RELATIONS**

DEPARTMENT OF EDUCATION,
TRAINING AND YOUTH AFFAIRS

Prepared by the Analysis and Equity Branch, DETYA, August 2000

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Introduction

The Department of Education, Training and Youth Affairs (DETYA) welcomes the opportunity to present a submission to the House of Representatives Standing Committee on Employment, Education and Workplace Relations Inquiry into the Education of Boys.

The portfolio supports the Government's efforts to respond in an integrated and balanced way to the education and training needs of all Australians, and particularly its young people. It sets a national policy framework for school level education, post-compulsory education and the transition between education and work. It improves access to education for disadvantaged groups including Indigenous Australians and rural and isolated students. It also co-ordinates Commonwealth policy in relation to young people.

This submission presents the key issues emerging for the educational outcomes of boys and compares them with the educational outcomes of girls, and the outcomes of boys in the past. It is important to recognise that identifying boys as a group at particular risk of underachievement does not imply that all boys are failing to achieve satisfactorily. Nor does it mean that all members of other groups are achieving to their potential. However there is evidence that some boys are failing to achieve the results of which they are capable. Indeed, our work in this area responds to increasing concern about boys' relatively poor levels of school achievement compared with girls over recent years, particularly in the key area of literacy.

These concerns are not unique to this country. Studies from New Zealand, the United States and the United Kingdom for example, have also focused policy attention on the need to develop strategies to ensure that boys reach their full potential in the early and middle years of schooling, where the facilitative skills of basic literacy and numeracy are founded.

Concerns about the educational outcomes of certain groups of males in Australia focus on a number of key areas across the education sectors. In the primary phase of schooling boys, as well as girls, need to develop basic skills of literacy and numeracy which will facilitate their ongoing development. However, boys consistently have poorer outcomes against national literacy standards than do girls. Fewer boys achieve the benchmarks, and more boys group at the lowest levels in literacy tests. By contrast, there are not significant differences between boys and girls on numeracy measures.

In secondary schooling, the issues of concern for boys' education are their higher rates of early school leaving compared to girls, lower than average levels of Year 12 completions, and uneven patterns of participation and achievement in Year 12 in specific areas and overall. Boys are less likely to finish school, boys study a narrower range of subjects, boys' average Year 12 scores are lower than those for girls and appear to be declining, and fewer boys go on to higher education.

Effectively addressing gender differences in school achievement is a priority of the Commonwealth, State and Territory Ministers for Education, and the issues are being discussed under the auspices of the Conference of Education Systems Chief Executive Officers' (CESCEO's) Gender Equity Working Group and by the Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA). It was the MCEETYA Gender Equity Taskforce and Reference Group that developed the Gender Equity Framework under which Department of Employment, Education, Training and Youth Affairs (DEETYA) funded the *Schools Work Towards Gender Equity*, a guide to gender reform for Australian schools, in 1997.

This submission covers the main areas of concern relating to boys' participation, performance and achievement in education, and outlines successful strategies being adopted to address the issues. Chapter 1 gives an overview of the current and historical situation of boys in education in Australia. Chapter 2 explores overseas experience, in terms of both the performance of boys and girls in education and the strategies being adopted in the United States, New Zealand, and United Kingdom to address gender differences in educational outcomes.

Chapter 3 considers some strategies which have been adopted in Australia to address boys' literacy and numeracy, general performance, and transitions to independence.

Chapter 4 weighs up the evidence and concludes that the best way to ensure optimum student achievement is through a soundly based system that is outcome-focused and provides quality education supported by appropriate accountability and reporting arrangements. This should be complemented by identification and adoption of successful strategies to improve educational outcomes of boys, drawing from lessons learnt in both Australia and overseas.

1. Major Features and Trends in the Education of Boys

This section examines the performance of boys in the key areas of literacy and numeracy, school completion, subject choice, Year 12 achievement, and post-school destinations. In so doing, it traces the pathways of males through the education system and shows how poor attainment of basic literacy can lead to poorer outcomes in education and employment upon leaving school. Where possible, special attention is given to changes in boys' performance relative to girls over time and, for school performance, differences across the states and territories.

1.1.   BOYS AND LITERACY

There is strong evidence that the most reliable predictor of longer term educational outcomes is achievement of foundation literacy and numeracy skills in early childhood and in the early years of schooling (Ainley, 1999; DEETYA, 1998).

It has been argued that boys generally develop later than girls and that this impacts on their acquisition of literacy skills. There is no conclusive evidence to support this at the early childhood stage. Data from an Australian Council for Educational Research (ACER) study (1994) based on a summary of 1000 preparatory children participating in the Victorian First Steps Pilot Project found no significant gender differences when assessing basic school skills including literacy and numeracy. However, differences begin to appear during primary schooling.

The National School English Literacy Survey

The *National School English Literacy Survey* conducted in 1996 produced a rich picture of literacy achievements of school students to date in this country. Achievement data was enriched by an analysis of those home and school variables which appear to have a significant impact on literacy achievement. In 1997, the Government released the results of the survey and a national study into the literacy achievements of students in Years 3 and 5; *Mapping Literacy Achievement: Results of the 1996 National School English Literacy Survey* **http://www.detya.gov.au/mla/index.htm.**

Results indicate that males consistently perform less well on literacy benchmarks in primary school compared with girls. That is, average literacy levels for males are lower, males are less likely to be among the top performers and more likely to be among the bottom performers.

Table 1 (Appendix A) and Chart 1 (below) show the percentage of students in Years 3 and 5 performing at the literacy benchmark or better in 1997. This shows that in Year 3 a lower proportion of males met or were above the benchmark than females for both reading and writing, with a greater gender gap for writing. This gender difference was maintained in Year 5. In Year 5, there was also a significant drop in the proportion of both males and females who reached the writing benchmark.

The survey also indicates that:

- In each aspect of literacy – writing, reading, viewing, speaking, and listening – girls outperform boys. (p.20)

- Gender differences in literacy achievement are greater for writing and speaking (the expressive modes of literacy) than for reading, listening and viewing (the receptive modes). The greatest gender difference occurs in writing and the least for viewing. (p.vii)

Chart 1 Percentage of Year 3 and Year 5 students (national) who performed at or above the literacy benchmarks by gender (1997)
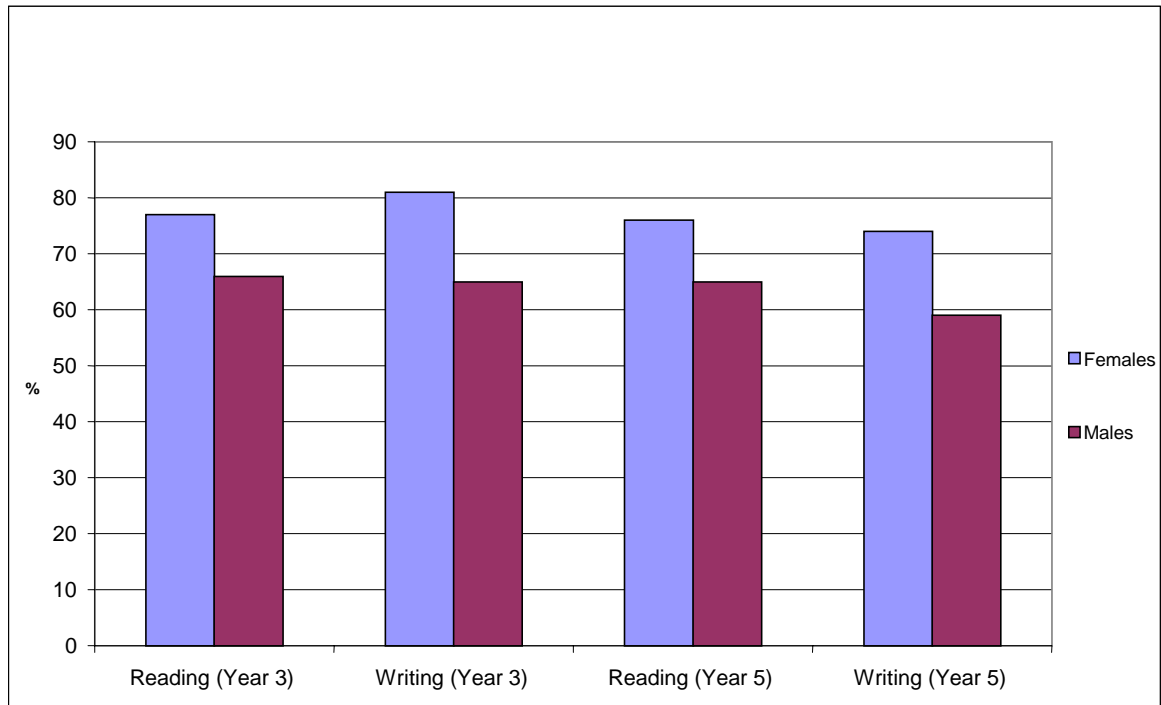
Source: ACER (1997) Australian School English Literacy Survey

- As shown in Chart 1 (above) between Year 3 and Year 5 the gender difference in achievement of boys and girls does not change significantly. (p.vii and p.20)

- The differences between boys' and girls' levels of literacy achievement are greater among students from low socioeconomic status (SES) backgrounds than among students from other socioeconomic groups. (p.vii)

A comparison of the medians for the three socioeconomic groups (high, medium, and low socioeconomic groups) revealed that, in reading, the least growth from Year 3 to Year 5 occurs for the children of unskilled manual workers. Most growth occurs for children of professional and managerial parents. This results in a widening of the reading achievement gap between high and low socioeconomic groups. The same trend occurs for listening. (p.189)

For writing and speaking, children of parents whose occupations are considered clerical/skilled manual, do not make the same progress between Year 3 and Year 5 as students from other socioeconomic groups. This means that there is some tendency for the gap between these students and students of professional and managerial parents to widen between Year 3 and Year 5 (p.189). Gender differences also begin to appear more clearly as boys progress through primary school. Victorian data (Table 2, Appendix A) confirms the national findings and shows that males are significantly over-represented in the lowest levels of achievement in Years 3 and 5 and under-represented in the upper levels.

National literacy and numeracy benchmarks

The development and agreement of national level literacy and numeracy benchmarks by the Commonwealth and State governments now permits assessment by all education systems of student performance against the agreed national standard. Benchmarks define or elaborate a level of performance which is regarded as appropriate or satisfactory. This involves a judgement, formed on the basis of expertise, about appropriate levels of achievement outcomes at a particular stage or year level in schooling.

Literacy benchmarks for Year 3 and Year 5 were approved by MCEETYA in April 1998. Nationally comparable data on the Year 3 literacy (reading) benchmark were reported in March 2000 showing that in 1999, 86.9 percent of Australian Year 3 students achieved the agreed minimum national standard in reading. On a State/Territory level, between 9 and 28 percent of all Year 3 students are below the reading benchmark. Nationally, there is a five percentage point gap between boys and girls, with 84.9 percent of boys and 89.7 percent of girls achieving the reading benchmark. (Table 3, Appendix A)

In addition, 1999 data shows that there are persistent differences between the performance of males and females across states and territories. The proportion of male students who achieve the benchmark ranges from 89.6 percent in New South Wales to 69.8 percent in the Northern Territory. The gap between the proportion of males and females achieving the benchmark ranges from 3.1 percentage points in New South Wales to 7.9 percentage points in Tasmania.

Reporting against the Year 3 benchmark for writing and spelling and the Year 5 reading benchmark is expected to occur in the second half of 2000. Numeracy benchmarks for Years 3 and 5 were approved at the March 2000 MCEETYA meeting and nationally comparable data against these benchmarks will be reported in 2001, based on 2000 data.

Year 7 benchmarks for literacy and numeracy were also approved at the March 2000 meeting. It is expected that systems will report nationally comparable Year 7 data against the literacy and numeracy benchmarks in 2002, based on 2001 data.

Development of benchmarks at Years 9 or 10 will await information from the OECD Programme for International Student Assessment (PISA) project, which will involve collection of data in 2000 on the achievement of Australian and international 15 year-olds in mathematics, science and reading.

Changes in boys' literacy skills over time

Western Australian data on literacy achievements by government school students in 1995 show that boys were behind girls in Year 3, with 88 per cent of boys compared with 93 per cent of girls at Level 2 or beyond in reading. By Year 7 the boys had caught up, with 94 per cent of boys and 95 per cent of girls at Level 3 or beyond. In Year 10, however, only 84 per cent of boys compared with 91 per cent of girls were at Level 3 or beyond. Similar results were found for writing, with boys catching up in Year 7 but then dropping back by Year 10. This tends to suggest that boys' poorer literacy performance at different stages of schooling may be related to different factors and late developers may not necessarily have literacy problems later on.

There is also evidence that boys' literacy skills have declined over time, while those of girls have remained relatively stable. Data on performance on reading comprehension drawn from longitudinal surveys conducted by the Australian Council for Educational Research (ACER) show that between 1975 and 1995 the proportion of 14-year old male students who demonstrated mastery on the reading tests conducted declined from 70 per cent to 66 per cent, while the corresponding proportion of female students changed little, from 73 per cent to 74 per cent. The

performance gap in 1995 (66/74 per cent) was statistically significant and multivariate analyses confirm that the gap between boys and girls in reading comprehension increased over time (Marks and Ainley, 1997).

Influences on literacy outcomes

Literacy performance varies between different groups of boys. Boys from rural and remote locations and boys of lower socioeconomic backgrounds appear to be disproportionately represented amongst those students with poorer outcomes. Indeed, the differences between levels of achievement in literacy for males and females are greater among students from unskilled and manual occupations than among children from other socioeconomic groups, and these differences do not appear to decline between Year 3 and Year 5.

Marks and Ainley (1997) found that high achievement in reading is associated with higher socioeconomic status (SES) and scores are lower for those students whose language at home is not English. Multivariate analyses of longitudinal data suggest that language background is the most important factor affecting literacy achievement, followed in order of importance by socio-economic background (measured by parents' occupational background) and gender. For every socioeconomic group, boys perform more poorly in literacy than girls, and the gender gap is larger for the lower SES groups. The ACER analysis also suggests, however, that the size of socio-economic impact appears to have diminished over time. In 1975 and 1989 20 per cent more students from professional-managerial background attained mastery compared to students from semi-skilled and unskilled background. By 1995 this gap had narrowed to about 12 per cent.

Locality and rurality also impinge upon the development of literacy. Data prepared by ACER (2000) about the numeracy and literacy levels of Year 9 students suggests that both male and female students in non-metropolitan areas have slightly lower literacy and numeracy levels than their counterparts in metropolitan areas. As with Year 12 completion rates, the gap between female students in the different kinds of area is smaller than the gap between male students. On a more positive note, between 1975 and 1996 the evidence suggests that the gap in achievement levels between non-metropolitan and metropolitan students has narrowed for both male and female students (see Table 4, Appendix A).

Differences in reading habits may be the cause, or the effect, of differences in literacy. Millard (1997) for example, found that boys aged eight to fourteen mainly only read in school while girls do most of their reading at home.

1.2.   BOYS AND NUMERACY

Each state and territory education system has its own assessment policy for numeracy, with testing of students in particular years undertaken by education authorities. The *Report on Government Services 2000* (http://www.indcom.gov.au/service/gsp/2000/index.html) reports student performance in these tests. In most cases, the information is provided in terms of the proportion of students who achieved the different levels in the state/territory curriculum or outcomes framework. Where reported, the performance of girls and boys is similar, as males and females appear to do equally well on average in numeracy tests in primary school.

The Third International Mathematics and Science Study (TIMSS) surveys the achievement of half a million school students in 45 countries in mathematics and science. In 1994-95 three student populations were tested, 9 year-olds, 13 year-olds and students in the final year of secondary education. The mathematics assessment included basic knowledge and computation

as well as higher order skills such as problem solving. The Australian results for both 9 and 13 year-old students showed no significant gender differences in mathematical achievement for middle primary students on performance assessment tasks (see Lokan, Ford and Greenwood (1997) and Table 5, Appendix A).

Table 6 (Appendix A) shows performance levels for Year 3 and Year 5 students in Victoria. This data indicates that slightly more males achieve the highest level of performance in Year 3 but in Year 5 there is a wider spread across performance levels for males, with more males than females in both the highest and lowest Curriculum and Standards Framework levels in measurement and number.

A similar pattern of performance is noted in the data from New South Wales. The mean test scores for numeracy from 1994 to 1997 (Basic Skills Test) show that the average male and the average female in NSW perform equally well when all the elements of the tests are taken into account. In Year 3 males slightly outperformed females in the *number* strand. Females outperformed males in the *chance and data* strand. Males and females in Country Area Program schools were performing at the same level as each other but both were a little behind the state average performance. In key areas of numeracy, data from Years 7 and 10 in Western Australian government schools show the average male performing comparably with the average female in all categories.

Marks and Ainley (1997) conclude that while there has been no overall change in numeracy outcomes for 14 year olds between 1975 and 1995, achievement in numeracy is marginally higher for males than females; the difference being approximately two scale points. Multivariate analysis showed that parents' occupational background had the largest (but declining) impact, with the net difference in performance of students from professional-managerial and unskilled backgrounds falling from six scale points in 1975 and 1989 to four points in 1995.

1.3.   RETENTION RATES, ATTENDANCE AND EARLY SCHOOL LEAVING

Retention Rates

More females than males complete school and have done so for more than 20 years. Apparent retention rates show the number of students who remain in Year 12 as a percentage of the number in that cohort who started secondary school the relevant number of years previously. Table 7 (Appendix A) and Chart 2 (below) show two features of gender interest in this data. One is the faltering of the upward creep in boys' retention from 1973 to 1982 while girls' retention continued to rise slowly. The second is the rapidly widening gap between the sexes from 1987 to 1990.

After reaching their respective peaks in 1992, retention rates fell for both males and females in the following four years before stabilising in the last three years. In 1999, the retention rate from the beginning of high school to Year 12 was 78.5 percent for females but only 66.4 percent for males, a difference of 12.1 percentage points. Chart 2 (below) shows that this gap is now at its widest point over the past twenty-three years.

Chart 2 Apparent retention rates from the commencement of secondary schooling to Year 12 (%) 1967-1999
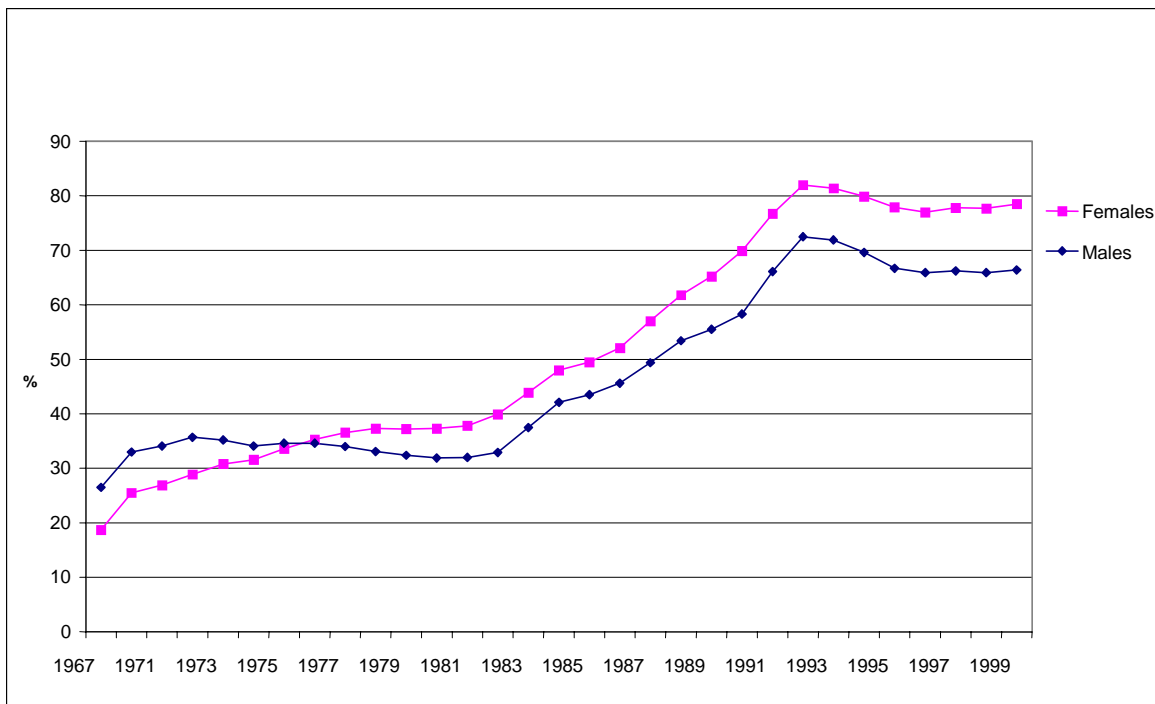
Sources: Australian Bureau of Statistics, Schools Australia, various years; Commonwealth Department of Education; Department of Employment, Education and Training (1991) Retention and Participation in Australian Schools, 1967 to 1990, AGPS, Canberra.

Boys' lower retention rates partly reflect the fact that more boys leave school early to take up apprenticeships and are more likely to find jobs which require lower skill levels. Similarly, the more pronounced changes in boys' retention rate over the economic cycle reflect the fact that the availability of apprenticeships and lower skilled jobs is more affected by labour market conditions.

The increase in Year 12 apparent retention rates has not been equal across the states and territories (see Table 8, Appendix A). All states have experienced a doubling of retention rates, mostly in the decade from the early 1980s to the early 1990s, but at different times. For example, the acceleration of retention rates over the decade in New South Wales and Western Australia lagged behind South Australia, Queensland and Victoria.

Since the national retention peak in 1992, these two lagging states (and Tasmania) have made up most of their lost ground. The current pattern shows a levelling of earlier difference across the mainland states, suggesting a levelling of post-compulsory curriculum offerings, post-compulsory school climate and of capacity to support students to stay on. Around 70 percent of young Australians now remain at school until Year 12. In the ACT the rate is twenty percentage points higher than this national figure (and the gender gap negligible) and in the Northern Territory the rate is thirty percentage points lower than the Australian figure.

While in all states the gap between females and males in retention rates to Year 12 has widened as retention rates have increased, the moment of acceleration of the gap has varied by state.   In Victoria the crucial period was the late 1970s when this state experienced a lowering of its retention rate for boys by 4 percentage points between 1974 and 1979. Girls' retention slowly increased over this period, creating a gender gap of 9 percentage points in retention to Year 12 by 1981. Victoria currently has the largest gender gap to Year 12 at fifteen percentage points

(83.7% female retention to 68.5% male). By contrast, in New South Wales there was still only a 4 percentage point gender gap in 1986. This widened to 9 points by the end of the 80s. It currently stands at 11.4 percentage points (73.0% female to 61.6% male).

Early School Leaving

Leaving school before completing Year 12 is of concern because of the high correlation between completing high school and achieving successful labour market outcomes. Expanded access to tertiary education over the last ten years and the growing importance of qualifications to meet the demands of a changing labour market appear to put many young people who leave school early at a considerable disadvantage.

Males are more likely than females to leave school before completing Years 11 and 12 (Table 9, Appendix A). While many male early leavers achieve successful pathways to full-time employment through apprenticeship training, as a group early leavers do less well in the labour market than those who complete Year 12 (see more detailed analysis below).

One of the main factors contributing to early school leaving is low school achievement in the early and middle years of schooling. One study shows that fewer than 50 percent of very low achievers in numeracy and literacy complete school (Marks and Ainley, 1997). Conversely, almost 90 percent of very high achievers complete school. Being a low achiever in numeracy decreases the chances of completing Year 12 by 20 percentage points. Failure to achieve average literacy skills significantly reduces the likelihood of remaining to Year 12 by 13.5 percent for very low achievers (Lamb, 1997: 6-7).

In addition to low achievement, locality exerts a major impact on boys' likelihood of leaving school. Table 9 (Appendix A) and Chart 3 (below) show how boys in rural and remote locations are considerably more likely to leave school early than both rural and remote girls and their urban counterparts.

Socioeconomic status is also an important predictor in early school leaving for both males and females. LSAY data (Lamb and Rumberger, 1999) shows that in 1994 those from low SES backgrounds (with parents in the lower groups of occupation, education and income) are more likely not to complete Year 12 than those from higher SES backgrounds.

Table 10 (Appendix A) and Chart 4 (below) plot the lowest three deciles of SES (calculated roughly from student home address postcodes) against the highest three deciles of SES by gender across Australia in 1996. This shows how SES intersects with gender to impact on school completion. There is a ten percentage point difference in completion rates between females from low SES backgrounds and males from high SES backgrounds. Within each gender group, the gap is twenty-one percentage points between high SES females and low SES females, and twenty-two percentage points between high SES males and low SES males.

In addition to school achievement, rurality and SES background, school type, language background and Indigeneity also exert independent impacts on school completion. Altogether, it is low SES boys from rural and remote areas who are most likely to leave school early.

In terms of changes over time, while the influence of school achievement and SES remain strong, they are declining. The reduced importance of SES could be expected to reflect the increase in Year 12 retention and completion rates over the past 20 years which would have drawn more lower SES students into the senior years of secondary education.

Despite significant improvements in Year 12 completion rates since the late 1980s, the gap between male and female completion rates has, with the exception of those in remote areas, continued to widen. During the period 1988 to 1998 in both urban and rural areas the gap

widened marginally from 10 to 11 percentage points and 14 to 16 percentage points respectively. Over the same period the gap narrowed marginally in remote areas (14 to 13 percentage points). Marks, Fleming, Long and McMillan (forthcoming) found that, controlling for other factors, gender has become a more important determinant of Year 12 completion since the 1980s, as the gender gap has widened.

Chart 3 Year 12 completion rates by locality and gender, 1984 to 1998 (%)

Source: National Report on Schooling in Australia, 1997

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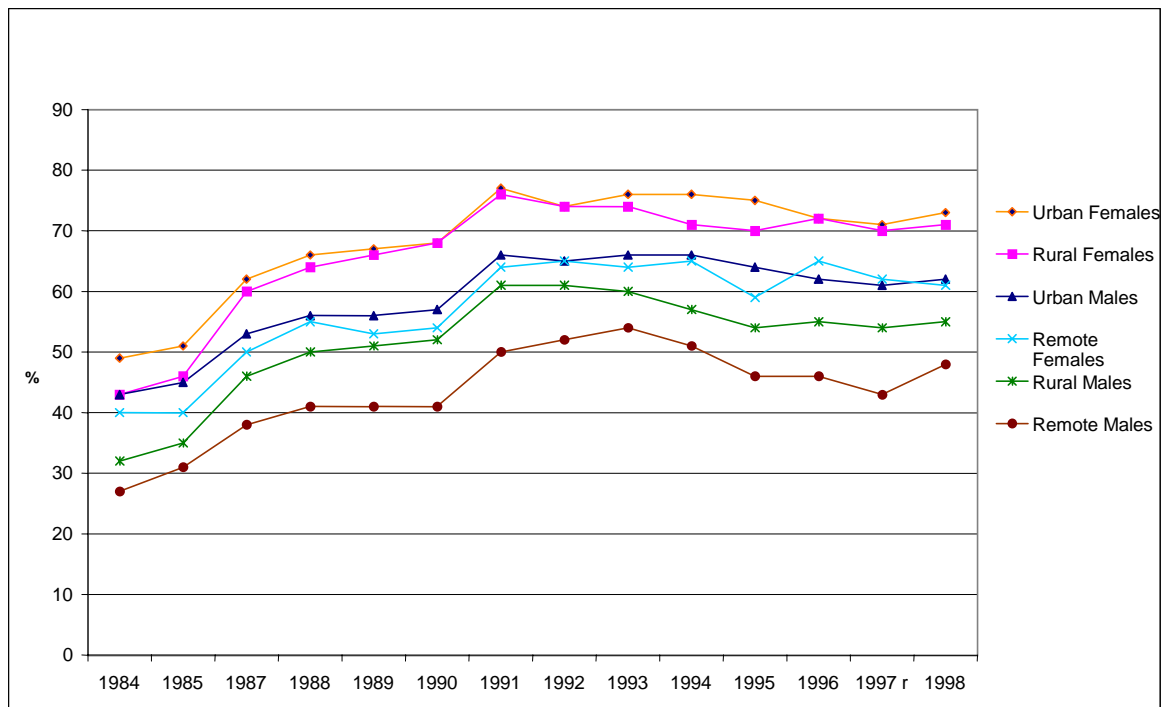
Chart 4 Year 12 completion rates, by SES and gender, 1996
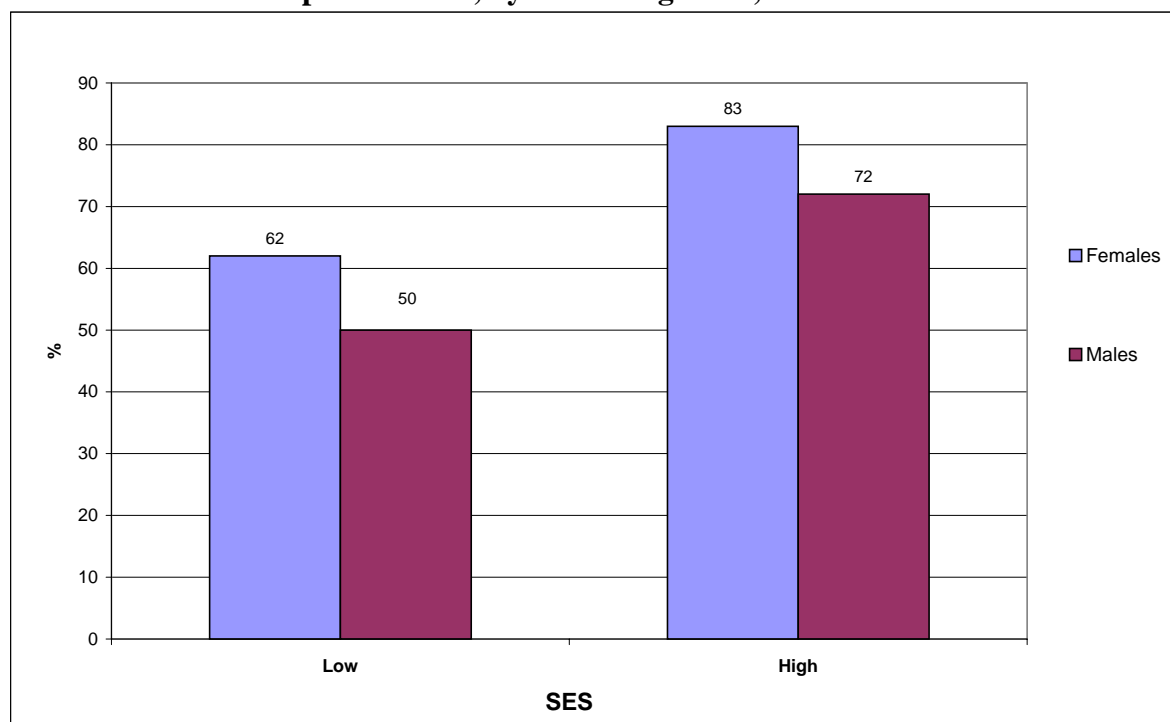
Source: Commonwealth DEETYA (derived from data provided by state accreditation authorities and the ABS)

Implications of Early School Leaving

The high personal, economic and social costs of early leaving can be seen by tracing the pathways of school leavers. Using longitudinal data on a sample of students who were in Year 10 in the late 1980s, Lamb and McKenzie (1999) found that seven years after leaving school, 21 percent of male Year 9 completers experienced mainly unemployment (four or more years of unemployment) compared with 12 percent for Year 10 and Year 11 completers and 7 percent for those who completed Year 12 (Table 11 (Appendix A)).

Female unemployment rates were around 5 or 6 percent for all years of leaving. However, the proportion mainly not in the labour force declined significantly as level of school attainment increased, from 58 percent of those who left in Year 9 to 7 percent of those who left in Year 12.

For those who make a successful transition, years of schooling make little difference to the proportion of males who obtained and remained in full-time work over the seven year period, and those who gained an apprenticeship or traineeship followed by full-time work (35 percent and 34 percent for Year 9 and Year 12 completers respectively). The consequence of early leaving for post-school choice, however, showed up in the proportion of Year 12 completers who participated in full-time study before entering full-time work (17 percent) compared with nil for those who exited from Year 9.

By the seventh year after leaving school, it appears that males may not be as disadvantaged as females by having left school early. In the seventh year 75 percent of male early school leavers and 79 percent of males who left school from Year 12 were in full-time work compared with 49.percent of female early school leavers and 69 percent of female Year 12 completers (Lamb and McKenzie).

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The labour market experience of early school leavers is also strongly influenced by labour market conditions. Drawing on the ACER longitudinal study of students who were in Year 9 in 1995, Marks and Fleming (1999) found that in 1997, 80 percent of male early leavers were in full-time work and 10 percent were looking for work, while 58 percent of female early leavers were in full-time work and 13 percent unemployed. There was also a high level of job stability (three-quarters of those who were in full-time work at the time of the survey were still in the same job they obtained after leaving school) and nearly 90 percent of early leavers indicated that they were happy or very happy that they had left school. The positive experience of this cohort of early leavers could be expected to reflect improving labour market conditions following the recession in the early 1990s.

Table 12 (Appendix A) presents the occupational distributions for those early school leavers who were employed at the time of the 1997 LSAY study. It shows that the occupations of early school leavers are highly clustered in particular occupational groups and there is a large gender difference in this clustering. Males tend to work in trade and unskilled manual occupations, and females in sales and personal service work. The lower proportion of females obtaining full-time jobs may be linked to the nature of the work they are obtaining as it is mainly in areas with a high part-time and casual workforce.

Patterns of School Attendance and Exclusion

In addition to SES, rural and Indigenous factors, patterns of school participation and exclusion also exert an impact on achievement levels. A study commissioned by DETYA in 2000 confirmed that, although there is little gender difference in overall rates of absence, suspension and expulsion rates are higher for males than for females (Ainley and Lonsdale, 2000:6).

Suspensions operate for up to ten days but typically for five. Rates are the highest for students aged between 13 and 15 years of age (44% of suspensions) and are markedly higher for boys than girls. Suspension and non-attendance seem to be greatest amongst those groups who are already the most marginally attached to schooling.

As well as showing significantly higher rates of suspension for males than for females, 1996 data from one Australian state indicates gender differences in terms of the causes of suspension. Thirteen percent of females who were temporarily excluded from school were suspended for substance abuse, compared with six percent of males. Forty-one percent of males were suspended for violence, compared with thirty-five percent of females. In other categories, such as theft and vandalism, male and female patterns were found to be similar.

Amongst Indigenous students too, apparent retention rates to senior secondary years for girls are consistently higher than for boys. In 1999, the retention rates to years 10 and 12 for Indigenous girls were 84.8% and 37.8% respectively, while for Indigenous boys the equivalent rates were 79.3% and 31.5%.

However, while some reports indicate that, in urban areas, school attendance is lower among Indigenous girls than among boys, (Groome and Hamilton 1995; Mander-Ross 1995), the reverse is reported to be the case in remote areas, with many male students dropping out of school in upper primary years as they reach the age of initiation. This problem is identified in the Desert Schools Project, (NLLIA 1996, Vol 2:286-287) which notes that while irregular attenders reportedly "included both sexes … the records show a greater incidence of male absenteeism and partial attendance."

1.4. BOYS' LATER SCHOOL PERFORMANCE

Boys and Subject choice

Table 13 (Appendix A) shows that boys cluster in traditional mathematics and physical sciences and/or hands on technology subjects, whereas more girls take clusters of subjects that spread across Key Learning Areas. This would suggest that boys may tend to position themselves in terms of employment prospects whereas girls' subject choices position them more in terms of broader educational experiences. Indeed, whereas boys generally have better labour market outcomes than girls, some commentators are concerned that narrow subject choice is detrimental to the development of broader educational and social skills. Of particular concern is boys' (more so than girls') increasing avoidance of humanities, history, and higher level English, which help students to develop an ability to articulate and discuss complex issues in society.

Forty-three percent of boys, compared with fifteen percent of girls, cluster in subjects in the more traditional mathematics, science area or in hands on technology. Kenway et al (2000:34) suggest that this means that they miss out on learning some of the skills which would enable them to participate fully in society.

In June 2000, the Australian Centre for Equity through Education in their interim report for the 'Strategies for Engaging 'At Risk' Youth in Education to Year 12' (a Full Service Schools (FSS) Strategic Project) reported on young people's perceptions and experiences of schooling (some students are and some are not participants in FSS activities). The report states that most of the young people interviewed (especially boys) preferred 'practical' over 'academic' subjects though this was, by no means, universal. Metal work, wood work and commerce were more often cited by the boys in the group. The girls had a more diverse array of preferred subjects. However, for both males and females the range of subjects varied considerably and often related to how well the subject was taught rather than notions of relevance though this did influence some students. Indeed, a South Australian study (Trent, 2000) examining the attitudes of males to school has found that a combination of TAFE type work-related programmes and programmes of perceived relevance to their future needs has the effect of encouraging males to continue at school.

Lamb and Ball (1999) identify that popular subject group choices vary by SES background and especially so for males. The lowest and highest SES groups have the clearest differences between male and female patterns. Well over a third of highest SES males take the traditional maths and physical sciences subject group. Lowest SES males tend to select between this subject group and one of the subject groups in the Vocational Education and Technology field of study. Upper middle SES students show the least gendered pattern because the males of this group show the greatest spread across fields of study.

Another study (Fullarton and Ainley 2000) has correlated the subject choices of males and females with SES and also with early schooling achievement. This shows that SES exerts a small impact on subject choice for males and females. Slightly higher SES females enrolled in the Arts whereas slightly lower SES males did so. Lower SES males were enrolled in technical studies but no association was found for females in this subject.

The study also investigated possible correlations between gender and early school achievement. For the Arts, it was found that there were more females than males enrolled regardless of levels of early achievement. Males in the lowest quartiles of achievement were the main participants in technical and computer studies. Females in the lowest two achievement quartiles were the majority of enrolments in home economics.

In general terms the span of subjects and courses studied by young people from regional areas tends to be narrower than for their city counterparts. Year 12 rural boys and girls are more likely

to be studying the more traditional clusters, although this is more pronounced among boys. In the latter's case they are more likely to study clusters involving mathematics and physical sciences, and vocational education and technology, including technical drawing, and less likely to include languages, economics and computing.

A similar pattern applies among TAFE students. Rural boys are far less likely to be in business and administration, or engineering and surveying, than their urban counterparts and more likely to study agriculture and land management (as you would expect). By contrast, the pattern among girls in rural areas is not much different to that of urban girls. In the apprenticeship training area, the balance among the trade groups in rural areas has remained relatively static in the last twenty years while there have been major shifts in the urban areas, away from the manufacturing-based metal and electrical trades and towards the food and building trades.

Year 12 Performance

Much attention has been given to Year 12 performance by boys, with girls taking out the highest number of university admissions. In Year 12 assessments, the average girl is outperforming the average boy in more subjects than vice versa. In the NSW 1998 HSC, of the 70 subjects which had 100 or more students, the girls' average mark exceeded the boys' in 64 subjects, by up to 11%. For the 5 subjects in which boys did better – computer studies, 3 unit economics, 2 unit Japanese, 2 unit maths in practice, and 3 unit music- their average exceeded girls' by 1% at most. Also, in 1998, Queensland had a greater proportion of girls than boys in the top performance band in 36 out of 45 subjects in Year 12 and in South Australia girls were over-represented in the top performance bands in 27 out of 34 subjects.(Buckingham, 2000: 29-30)

Kamperos (2000) provides an historic data series for NSW which suggests that females have performed proportionately better than males in more matriculation subjects since at least 1884. However, MacCann's graph (Chart 5, below) shows that in recent years the difference in performance has increased. The difference between boys' and girls' average Tertiary Entrance Score (TES), the NSW Year 12 aggregate, increased from 0.6 marks in 1981 to 19.4 marks in 1996. The largest divergence in the scores occurred in 1992 when the difference increased to 12.2 from 4.4 marks the previous year (MacCann, 1995 in Buckingham 2000:29-30). Chart 5 below shows the marks by which average Tertiary Entrance Scores for females exceeded the male average between 1981 and 1996.

The increasing gap in average score appears to be due to a major shift in the proportion of boys at the extreme ends of the performance scale. In 1984 boys made up 65% of those in the top TES band and 55% of those in the lowest TES band. By 1994 this had changed to 53% of the top band and 64% of the lowest band.

Some possible explanations for boys' poorer performance in Year 12 focus on subject choice and assessment methods. Boys are more likely to group in a narrower range of high pay off and/or traditional subjects with a higher risk of poor performance.

In addition, assessment methods may influence outcomes. Some assessment methods may favour students with high order literacy skills and some commentators argue that assessment of subjects is increasingly measuring literacy rather than subject knowledge. Boys with low levels of literacy demonstrate poor outcomes when essay writing/assignments are the principle measures of achievement.

From MacCann's comprehensive study of the 1995 NSW HSC, he observed that girls tend to perform better on essay responses, whereas the differences tend to be smaller or even reversed for multiple choice and short answer items.

Chart 5 Marks by which Female Average TES exceeded Male Average TES 1981-1996
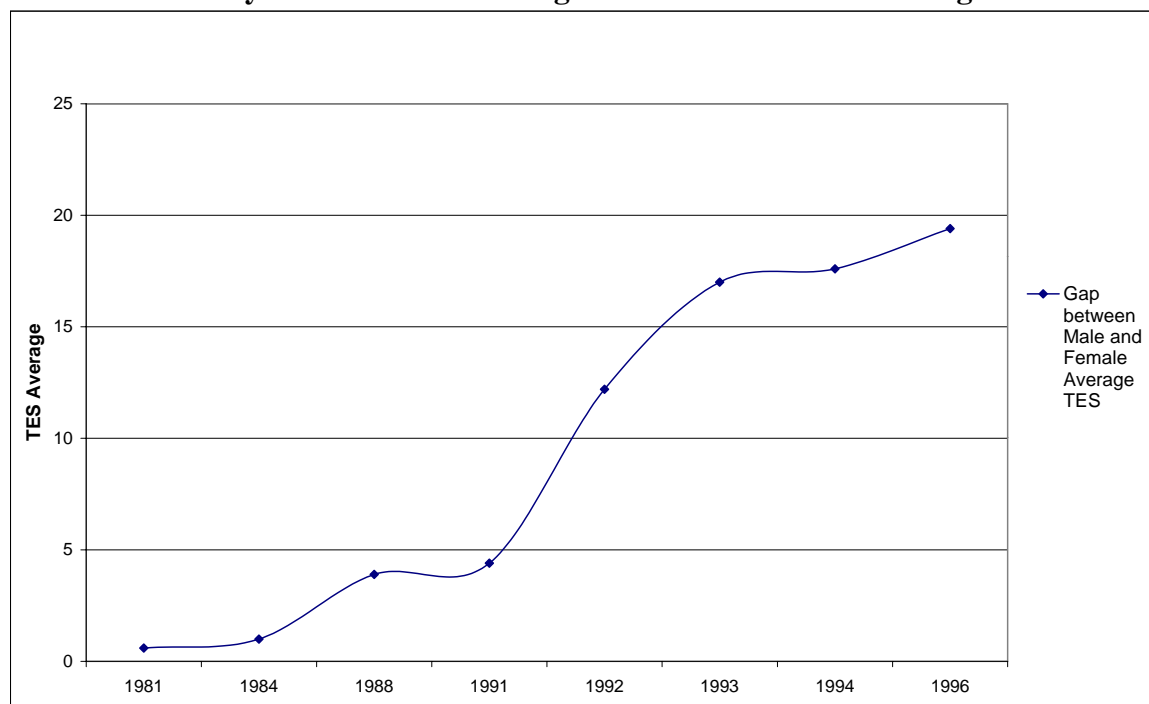
Source: MacCann, R., as featured in Buckingham (2000)

Post School Destinations

The ABS publication *Transition from Education to Work* presents some useful information about the post-school destinations of males and females. By May 1999 of those who left school at the end of 1998:

- 29 percent of males and 37 percent of females had gone on to Higher Education and 30 percent of males and 27 percent of females had gone on to Other Tertiary. Together, almost 59 percent of males and 64 percent of females go on to further education.

- A greater percentage of males than females went into full time employment (17 percent of males/ 12 percent of females on 1999 figures). More females than males go directly into part-time work (13 percent/8 percent).

- Males were more likely to be unemployed (10 percent) than females (6 percent).

- In this sample equal proportions of males and females were not in education and not in the labour force (5%). These equal proportions may be due to sampling error as other data shows that females are significantly more likely to be not in the labour force.

In addition, there are gender differences in enrolments in tertiary education. As Tables 14 to 18 (Attachment A) show, females dominate higher education enrolments, whereas males dominate in vocational education and training (VET) courses. In higher education, the gender gap has continued to grow since 1989 but currently appears to be easing off, with females accounting for 55.6 percent of commencements in 1999.

Multivariate analysis by Marks, Fleming, Long and McMillan (2000) shows that during the 1980s men and women attended higher education at approximately the same rate. By the mid 1990s, female university participation rates were 8 per cent greater than that of males. This gap is slightly higher (at 9 percentage points) for the youngest cohort that entered higher education in

1999. Their analysis also suggests that school achievement and SES background are still important factors affecting higher education participation but their effects are becoming weaker than in the 1980s.

1.5 OTHER GENDER-RELATED FACTORS AFFECTING BOYS' EDUCATION

School under-achievement, failure and drop out have been attributed to a range of factors including: the cognitive abilities, motivation and personality of an individual; peer acceptance and influence; family practices and relationships; community attitudes and support for learning, and community economic status; and the characteristics of the school setting, including structure, curriculum, student-teacher relationships and peer interactions (Lerner & Galambos, 1998). Consequently, explanations for the poorer performance of boys range from the purely physical to the purely social and the answer probably lies somewhere in between the extremes.

Genetic differences have been suggested from the pre-birth stage. For example, female babies in utero respond better to sound and intonation patterns than males (Arnold, 1997; Bray et al., 1997; Pickering, 1997). Commentators have suggested that boys on average develop more slowly physically and neuro-physiologically than girls and at the age of five or six more boys are unable to cope with the neuro-physiological demands of literacy.

The theory has been discounted by some because it fails to explain why there are more similarities than differences between boys and girls (Sukhnandan, 1999). Developmental theories also fail to explain changes in the performance levels of males and females.

Some commentators have linked boys' poorer performance to a 'feminisation' of schooling, as an increasing proportion of females have come to comprise the teaching profession, particularly in primary school (Buckingham, 2000). However, there is little data to substantiate any linkages between the gender of the teacher and the skill acquisition of students.

In terms of different learning styles, traditional schooling tends to favour passive learning which may not suit certain boys who prefer interactive, experiential learning styles. Boys tend to do better in providing short answers, at providing explanations for effects, and with practical tests. Girls tend to do better with extended writing, and at looking at an issue from a variety of perspectives (Head, 1999).

In terms of school type, there are indications that both boys and girls may benefit from single sex schooling, but that this is not the most important factor impacting on educational outcomes. Dr Ken Rowe, Principal Research Fellow, The Australian Council for Educational Research, has conducted research into this area. His preliminary findings are that both girls and boys in single-sex settings report more positive experiences of schooling. They also tend to perform better than their counterparts in co-education environments – especially during the middle and senior years of schooling. In brief, the findings indicated that after adjusting for measures of students' 'abilities' and school sector (government, Catholic and independent), the tertiary entrance ranks of boys and girls in single-sex environments were, on average, 15-22 percentage points higher than the achievements of their counterparts in co-educational settings. However, these groupings are less significant than the effects of quality teaching and learning experiences in the classroom, which account for up to 59% of the variation in students' intake-adjusted achievement outcomes. Rowe concludes that the quality of teaching and learning provision is by far the most salient factor, more so than whether a school is single sex or not.

Other factors which may impact on boys' education include mental health, family structures, boys' socialisation, and peer relationships. In terms of mental health, up to age 16 more boys than girls are affected by mental health problems and behavioural disorders such as Attention

Deficit/Hyperactivity Disorder (ADHD). By the upper years of schooling, however, girls rates of mental health morbidity have increased and are on a par with boys' rates.

A lack of male role models in sole parent families has been suggested as a reason for the poorer performance of boys. Some research shows that boys are more vulnerable during divorce and that boys' educational attainment is adversely affected by single mother families (Buckingham 2000:42-43). Against this, the latest research suggests that children in sole parent families do as well as in two parent families and boys may perform better academically with their mother, and girls with their father (Smart, 2000).

Supporting this point, Breen et al, (1994: 37) found that their research confirmed the significant role of the mother in home literacy practices. The study found that there were different roles taken by mothers and fathers in relation to their children's schoolwork and they concluded that "the interaction of gendered values and practices with the development of literacy in the home is worthy of much closer study in the future". Studies by Cairney et al, (1995) also suggest that the social construction of gender and families influence literacy practices. When exploring family and community literacy initiatives they noted that "many program coordinators reported 100% of the adults involved were mothers". (p 36)

Some commentators are also concerned that boys can no longer rely on traditional concepts of masculinity, particularly those who lack a father figure, and that negative male concepts have infiltrated the classroom. Boys may cope with the uncertainty by being 'tough' and mixing in certain peer groups. In addition, peer relationships are highly influential in and outside of school. Schools are in competition with other influences on a boy's concept of masculinity, including peer cultures including sporting affiliations.

Research commissioned by DETYA has also identified other key issues for young Indigenous people's sense of self. The Indigenous self-identity study (Purdie et al, 2000) showed the importance of promoting positive role models for young Indigenous people so as to counter negative cultural stereotypes. According to the study, most Indigenous students have strong and positive feelings about their abilities in a range of sports, and they actively promoted this aspect of themselves both among their Indigenous and non-Indigenous peers. Many of the boys aspired to careers in sports such as football, basketball, soccer, and boxing, and many identified as, and with sports people. This dimension of identity was strongly influenced by opportunities to develop sporting skills within the school, and the availability and promotion of sporting identities as role models. For many students, the most valued aspect of school was the opportunity to be involved in sporting teams. This suggests that sporting role models could be used further to effectively to promote self esteem, participation and engagement with schooling.

2. The Overseas Experience

In general, similar stories about boys' performance in education are emerging from other countries. Indeed, studies of literacy in OECD countries consistently show that boys, especially in primary school, are performing at lower levels than girls. The US, New Zealand, and the UK are undertaking research to identify boys' educational needs more closely and to address them more effectively.

2.1. INTERNATIONAL RESEARCH ON BOYS' PERFORMANCE

Boys' poor performance in literacy compared with girls' is not a phenomenon unique to Australia. Overseas studies of gender in education tend to support the Australian evidence. The International Association for Evaluation of Achievement, for example, found that average scores for nine year old girls were higher than average scores for nine year old boys for all thirty two countries participating in the study. The difference was significant in nineteen of the countries. The same study showed that the gender gap was also present for fourteen year olds. This difference was statistically significant in eleven of the twenty nine countries. Of the three countries in which boys scored higher than girls, the difference in favour of the boys was statistically significant in two of the countries (Elley, 1992 in Lemos et al, 1995).

Other comparable countries also have more females than males completing high school. Across the OECD, secondary graduation rates for general school programmes are significantly higher for females than for males, and the situation in Australia is broadly comparable to the rest of the OECD. Similarly, females currently have significantly higher entry rates to university (tertiary type A) than males both in Australia and across the OECD. However, vocational education and training has a major impact on total participation with more males than females aged 25 to 34 having at least completed school or equivalent for Australia and the OECD as a whole (OECD Database).

2.2. BOYS' EDUCATION IN THE UNITED STATES

A study of students at the beginning of kindergarten in the United States showed that persistence and progress vary by gender, race-ethnicity, and urban factors. For example, in 1998, girls beginning kindergarten were reported by their teachers to be more likely than boys to persist at tasks, show eagerness to learn, and pay attention 'often or very often' (see Chart 6 below). However, the extent to which stereotypes may enter teacher's reporting of student's behaviour in such studies is unclear.

Chart 6 First-Time Kindergarteners' Approaches to Learning

Percent
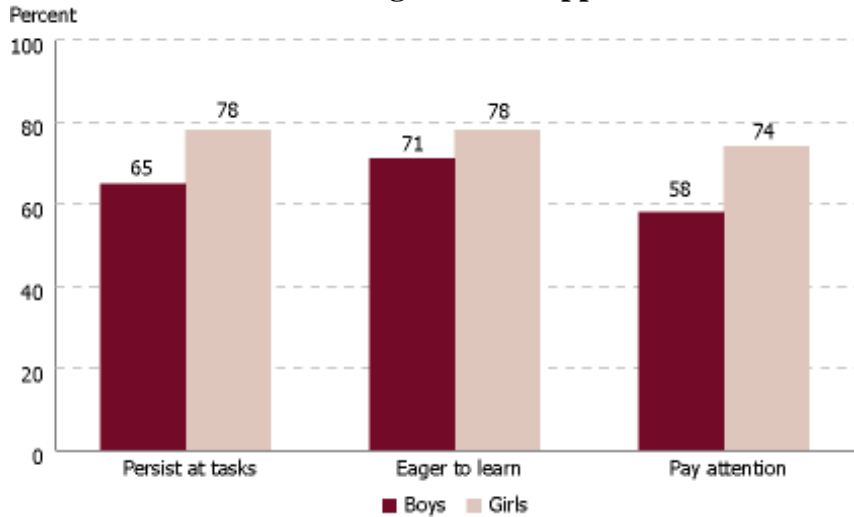
Source: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, "Kindergarten Class of 1998-99," Fall 1998.

A comparison of the reading performance of students in Grades 4, 8 and 12 in 1992, 1994 and 1998 shows that females continue to outscore males at all three levels for all three years. However, between 1994 and 1998 the average scores of 4th grade males increased while the average scores of females remained steady. This is shown below, in Chart 7.

Chart 7 Average reading performance, by grade and sex: 1992, 1994, and 1998
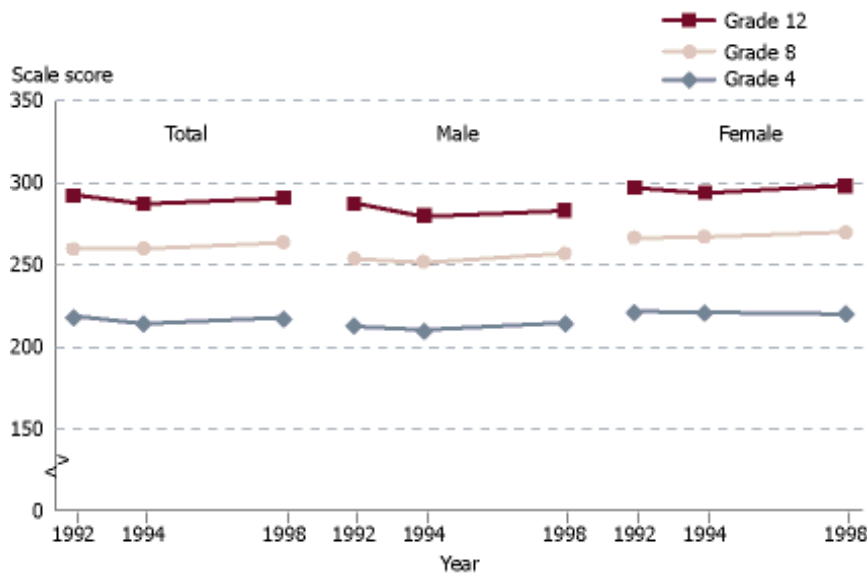
Source: U.S. Department of Education, NCES. NAEP 1998 Reading , A Report Card for the Nation and the States (NCES 1999-500), 1999.

A study of average mathematics performance by grade and sex for 1990, 1992, and 1996 showed changing differences in performance by gender, with males performing equally well or better than females. While both male and female 12th-graders improved between 1990 and 1996, males outperformed females in 1990 and 1992, but in 1996 males and females had similar average scores. For 4th-grade students, however, the opposite trend was true. In 1990 and 1992, male and female 4th-graders, on average, scored about the same, while in 1996, 4th-grade males

scored higher than their female counterparts. For 8th-graders, there was no difference in scores between the genders in 1990, 1992, and 1996. This is depicted in Chart 8 below.

Chart 8 Average mathematics performance, by grade and sex: 1990, 1992, and 1996
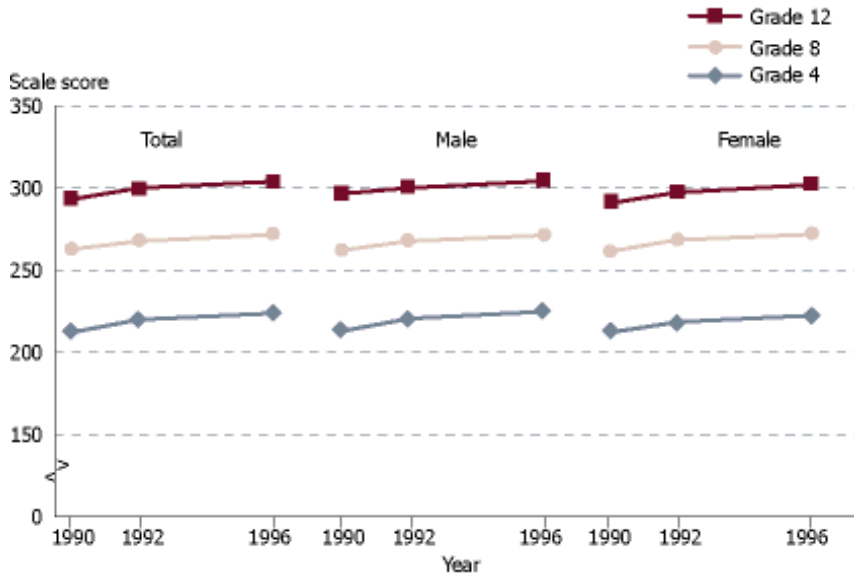
SOURCE: U.S. Department of Education, NCES. *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress* (NCES 97-488), 1997.

2.3.   BOYS' EDUCATION IN NEW ZEALAND

The underachievement of boys in New Zealand schools has become a focus of much attention recently, with the publication by the Education Review Office (ERO) of two national reports: *The Achievement of Boys* (ERO, 1999) and *Promoting Boys' Achievement* (ERO, 2000).

The Achievement of Boys (ERO, 1999) shows how New Zealand girls currently outperform boys at school against most measures of achievement. Boys have lower rates of participation and success in School Certificate and University Bursaries examinations than girls, have lower rates of school retention and are more likely to leave school with no qualifications.

In 1996, 16,881 girls (67 percent) left school with Sixth Form Certificate or better, compared with 15,413 boys (59 percent). In University Bursaries and Entrance Scholarship examinations, slightly more girls than boys gained a B grade or higher. Girls were also more likely than boys to gain an A or B grade in School Certificate.

The grade distribution for boys and girls in School Certificate in 1998 is shown below using information provided by the New Zealand Qualifications Authority. A similar analysis of 1997 School Certificate results yielded comparable results.

Table A. School Certificate grade distribution by gender, 1998

Grade	A	B	C	D	E
Girls	8.9%	24.6%	31.3%	26.1%	9.2%
Boys	7.1%	20.6%	31.5%	29.1%	11.7%

Source: ERO (2000)

It should be noted that these results are aggregated results for all subjects and therefore mask different result patterns in different subjects. The most significant difference between the achievement of boys and girls was in English. In many other subjects the size of the gender gap was less than the average of 5.84 percent.

The report also found that in the primary sector, boys are consistently reported as having greater difficulties and achieving poorer results than girls in the areas of written and oral language, handwriting, spelling and overall school progress. Two thirds of students who attended reading recovery programmes were boys.

The report also cites a longitudinal study of gender differences in a birth cohort of over 1,000 children born in Christchurch, in which Fergusson and Horwood (1997) found that, throughout their school career, boys performed less well than girls. The analysis indicates that single sex schools tend to produce higher examination results than co-educational schools for both boys and girls and that this effect is independent of students' socio-economic background. In addition, gender differences were evident in the results of standardised testing, teacher ratings of performance at school, and in the school learning outcomes of the cohort. Overall, Fergusson and Horwood (1997) concluded that:

> *the traditional educational disadvantage shown by females has largely disappeared and has been replaced by an emerging male disadvantage.*

Table B and Charts 9 and 10 below show an analysis which uses data about examination performance for each school in 1998 provided by the New Zealand Qualifications Authority, matched with information on school characteristics available from the Ministry of Education.

This analysis indicates that, within most SES deciles, a greater proportion of girls gained A or B grades in *School Certificate* in girls-only schools than in co-educational schools and proportionally more boys gain A and B grades in boys-only schools than those in co-educational schools. The gender gap is slightly greater in single sex than co-educational schools[1].

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[1] This is, however, contradicted by a UK study (see Section 4 below).

Table B. Percentage of School Certificate results at B or better in co-educational and single sex schools

	Co-educational	Single sex
Girls	29.3%	41.8%
Boys	24.2%	34.7%

Source: ERO (1999)

Chart 9. School Certificate performance at B or better of boys in mixed schools versus boys-only schools
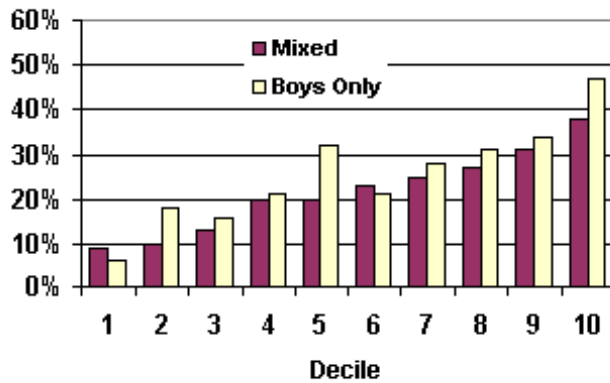
Source: ERO (1999)

Chart 10. School Certificate performance at B or better of girls in mixed schools versus girls-only schools
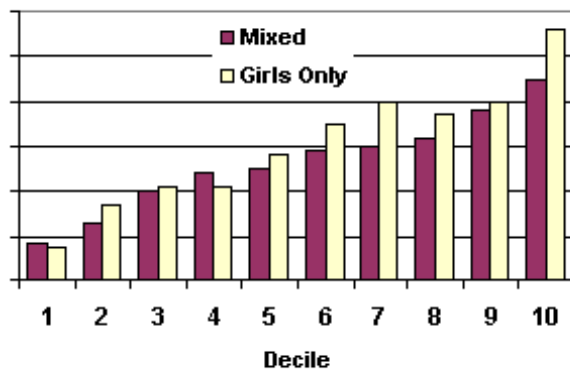
Source: ERO (1999)

It is often claimed that the higher examination results achieved in single sex schools are because success in examinations is closely correlated to socio-economic factors, and

single sex schools tend to draw from higher socio-economic communities than co-educational schools.

A subsequent report from the New Zealand Education Review Office *Promoting Boys Achievement* (2000) draws from the 1999 report in summarising common factors which have a positive impact on boys performance. These include:

- a high standard of behaviour management and discipline;

- a supportive environment with positive role models and where students are encouraged to take responsibility for their own actions; and

- a wide range of programmes, including subjects that are of particular interest to boys.

Differences in preferences in reading matter, styles of expression and modes of learning have been highlighted in this report and other studies as of particular relevance to primary school.

Schools that are effective in meeting the learning needs of boys:

- do not assume that all boys (or girls) have the same learning needs;

- set appropriate goals and expectations for boys and girls;

- assess, evaluate and report on students' achievement and attitudes;

- examine achievement information to assess which students are not achieving as well as they could;

- review curriculum plans to ensure that the strengths of boys (and girls) are being sufficiently channelled and developed;

- are knowledgeable about the research on boys' and girls' preferred learning styles and incorporate this into classroom practice;

- employ a range of teaching styles and strategies to tackle gender issues, which may include grouping boys and girls differently for different activities;

- do not lose sight of girls and their continuing needs; and

- celebrate the achievement of boys and girls.

Other findings include the following:

- Several of the schools with good relative performance of boys also provided high quality education for Mäori students. This suggests that schools that took steps to address barriers to achievement for some groups were also likely to focus on the needs of other groups.

- Boys performed better in schools that had a relatively stronger focus on problem solving aspects of the mathematical curriculum.

In addition, schools with less developed evaluation and monitoring systems appeared to display a greater gap in the relative performance of boys and girls in external examinations. The quality of internal evaluation, monitoring and self-review processes also affects the ability of schools to

redress barriers to full achievement by boys (and other identified groups) in several ways. Primarily, without proper assessment, schools may fail to recognise individual students that need special support. There may also be clusters of students with particular issues that could be identified through better monitoring processes, and effective monitoring and evaluation should enable the school to determine whether or not particular interventions are effective.

Promoting Boys Achievement reports on data collected in the ERO's regular reviews of schools. This evaluation covered awareness of the issues relating to underachievement, systems for identifying groups that are underachieving, barriers to achievement and programmes in place to remove these barriers or encourage underachieving students to achieve to their full potential.

Most (80 percent) of the 416 schools in this review showed some awareness of the growing literature on boys' underachievement. Nearly half of all schools reviewed had either put in place an evaluation programme to identify the extent of underachievement and barriers to full achievement, or measures to redress barriers or both. Many were at the stage of extracting information from their internal assessment systems to check impressions of differing performance. Others lacked the ability to extract such information easily but had become aware of achievement issues through imbalances in the numbers of boys and girls requiring reading recovery or special assistance. A small group of schools had developed innovative and multi-faceted approaches to raising boys' achievement levels.

However, there remained a significant minority of schools that showed no evidence of specific awareness of gender differences in learning. Eighty-four out of 416 schools studied (20 percent) failed to indicate awareness of the issue. A further 133 (32 percent) appeared not to have yet begun formal programmes to address gender performance issues. In some cases these were small schools with few underachieving students and individual planning for these students may have addressed the more generic issues raised in the ERO (1999) report on the achievement of boys. In other cases the schools may have been planning initiatives but had not yet implemented them at the time of the review.

Programmes in New Zealand schools

Promoting Boys Achievement (ERO, 2000) shows that some schools in New Zealand have established interesting and successful programmes to address perceived underachievement by boys and other groups. Schools ranging from small rural primary schools to large city high schools have identified programmes that they believe suit the circumstances of their students.

Many schools have been addressing issues of discipline, support and positive male role models. Some schools with predominantly female staff have made use of public figures and sports stars to fill these roles. Teachers are generally aware of the need to continue to motivate and engage boys in their learning, and include topics, role models and resources of particular interest to boys, for example contact with rugby teams. Other schools have put in place programmes focussing on behaviour management, self-esteem and values, or have implemented programmes that focus on fostering nurturing behaviour between different age groups within a school.

2.4. BOYS' EDUCATION IN THE UNITED KINGDOM

There has recently been increasing concern about boys' performance levels in education in the United Kingdom. A review of available data shows that there have been three significant shifts in girls' and boys' patterns of examination performance over the last 20 or 25 years (Sukhnandan, 1999) even though both boys' and girls' levels of attainment have consistently increased over time (Gallagher, 1997). From the mid 1970s to the mid 1980s, roughly the same proportion of boys and girls obtained five O-level passes[2]. Between 1988 and 1990, the proportion of girls achieving five A-C grades increased rapidly, and girls outperformed boys in virtually every subject. Since 1990, girls have maintained their distinct advantage in attainment levels, particularly in early literacy and later English skills, and GCSE exams.

However, Cohen (1998) points out that in general, boys' underachievement is not new. During the period when selection was used in Britain, it was common for local educational authorities to have quotas for the numbers of boys and girls who could proceed to education past the age of 11. As Sukhnandan (1999) describes, "the main justification for this policy was that, overall, boys performed less well than girls at age 11, because of their slower maturation rate. Therefore, to treat boys and girls as a single group would discriminate against boys , and since boys, in general, went on to outperform girls at O-level, A-level and in university admissions, this policy appeared justified" (p8)[3].

UK research also shows that, similar to the situation in Australia, subject choices continue to follow traditional gendered lines. Boys generally prefer to study science, mathematics, information and communication, technology and physical education whereas girls usually prefer to study English, humanities and music. In addition, although there is some evidence to show that girls are increasingly prepared to participate in male dominated subjects, many boys still are reluctant to participate in traditional girls' subjects (Arnot et al, 1998).

A different UK report (OFSTED and EOC, 1996) considered how single sex schools may impact on school achievement. It noted that, although comparisons between single-sex and mixed schools are complex, girls' schools tend to have the highest levels of performance, followed by mixed schools and then boys' schools. However, the report stated that levels of performance tended notably to relate to the socio-economic context of the school and the ability profiles of the pupils. This analysis indicates that, within each decile, a greater proportion of girls gained A or B grades in *School Certificate* in girls-only schools than in co-educational schools. In high deciles proportionally more boys gain A and B grades in boys-only schools than those in co-educational schools. In low deciles this effect is reversed; boys do better in co-educational than in boys-only schools.

A study into the level of take-up of different strategies by schools, how schools have implemented initiatives, and how effective they have been, was initiated by the National Foundation for Educational Research (NFER) in 1998 (see Sukhnandan, 1999). This research involved the surveying of all local education authorities (LEAs) about the strategies they were employing and their nomination of 'good practice' initiatives, as well as reviewing the local literature.

The report on the first phase of the study shows that 86% of LEAs were aware of strategies for addressing gender difference in achievement that were currently in place. A smaller proportion implemented these strategies with the most common being staff training, followed by policy

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[2] 'O levels' or GCSE's refer to the principal means of assessing pupil attainment at the end of compulsory secondary education.

[3] 'A levels' refer to two year study courses normally taken at the age of 18 after passing GCSEs. A levels are seen as one of the main routes into higher education and employment.

development, target setting and role modelling/mentoring. The results are shown below at Table C. Of those strategies specifically targeting pupils at the primary level, the most common strategies were new teaching methods and parental involvement. The most common strategies targeting secondary school pupils were role modelling/ mentoring, staff training and single sex groupings.

Table C: Types of Strategies Implemented by Schools and

Local Government Areas (LEAs)

	Number of LEAs and schools implementing the strategy (N=83)	
Types of Strategy	**Number**	**Percentage**
Staff training	52	63
Policy development	45	54
Target setting	41	49
Role modelling/ mentoring	40	48
New teaching methods	37	45
Single sex classes/ groupings	33	40
New forms of class organisation	29	35
Parental involvement	27	33
Mixed-gender pairing	17	21
Other strategies	17	21
Learning support	14	17

Source: Sukhanandan (1999) page 19

3. Government and school strategies addressing the education of boys in Australia

In Australia, the delivery of school education rests with State and Territory government and non-government authorities. The Commonwealth Government is a key partner in setting and achieving our national goals and priorities. The focus of current strategies for schooling is on ensuring that all school students meet the new *National Goals for Schooling in the Twenty-first Century*. Education Ministers have affirmed their commitment to national reporting on comparable educational outcomes and have agreed to a number of areas of schooling for outcomes reporting. These include literacy, numeracy, student participation, retention and completion, and vocational education and training in schools.

A major policy objective of this Government is to achieve real improvements in literacy and numeracy skills which will better fit all Australian children (including boys and Indigenous Australians) for their futures. Another strategy is to expand subjects available so as to effectively integrate the acquisition of practical and academic skills. One effective means of doing so has been by promoting vocational education and training in schooling. Strategies to smooth the transition of young people through the stages of education and from education to adult independence are also effective in providing assistance to those at risk of underachievement. There are also strategies in place to assist those young people whose early departure from school has combined with other forces to place them at serious risk of disconnecting from the community.

3.1. STRATEGIES TO IMPROVE BOYS' LITERACY AND NUMERACY

National Goals for Schooling

The *Adelaide Declaration on National Goals for Schooling in the Twenty First Century* agreed to at the April 1999 meeting of the Ministerial Council on Education, Employment, Training and Youth Affairs' (MCEETYA) contains the goal that students should have attained the skills of numeracy and English literacy: such that every student should be numerate, able to read, write, spell and communicate at an appropriate level.

Previously, Commonwealth, state and territory Ministers had agreed to the goal that every child leaving primary school should be numerate, and be able to read, write and spell at an appropriate level, and to the sub goal that every child commencing school from 1998 will achieve a minimum acceptable literacy and numeracy standard within four years (March 1997 MCEETYA meeting).

National Literacy and Numeracy Plan

An integrated National Literacy and Numeracy Plan was agreed to at the March 1997 MCEETYA meeting. Within the Plan, it is no longer accepted as inevitable that a significant proportion of students will not achieve the national literacy standards. The Plan is a systematic approach to address the needs of all students experiencing difficulties in their literacy and numeracy learning, including boys.

The National Plan focuses on the crucial early years of schooling and includes:

- comprehensive assessment of all students as early as possible, to identify those students at risk of not making adequate progress towards the national literacy and numeracy goals;

- intervening as early as possible to address the needs of students identified as at risk;

- development of national benchmarks in literacy and numeracy and assessing students against these; and

- progress towards national reporting by systems on student achievement.

Ministers also agreed that states and territories would have the responsibility for determining appropriate assessment, intervention and professional development strategies to support the National Plan.

Commonwealth school funding arrangements for literacy and numeracy

In 1999, the Government provided an additional $131 million under the Literacy and Numeracy Programme for disadvantaged school students, making a total of approximately $1,104 million for literacy and numeracy in the five years to 2003-04. The Literacy and Numeracy Programme provides grants to schools and for national strategies and projects.

The priorities for the new funding for literacy and numeracy in schools are to:

- continue to provide funding support in the crucial early years of schooling for the implementation of the National Literacy and Numeracy Plan;

- extend assistance to educationally disadvantaged students into the middle years of schooling. The additional funding will assist those students in the middle years of schooling (Years 5– 10) who have not developed basic literacy and numeracy skills and who therefore have difficulty coping with the demands of the school curriculum; and

- support for Indigenous students is also a particular priority.

Funds provided by the Commonwealth under the Literacy and Numeracy Programme are targeted at students who are educationally disadvantaged. Funding is distributed on the basis of relative need using ABS data on students' socioeconomic and English as a second language status. State and territory government and non-government education authorities are responsible for the detailed administration of the Literacy and Numeracy Programme funding in their systems and schools. Since 1998, education authorities have been required to target funding to students who are educationally disadvantaged in terms of their literacy and numeracy outcomes, taking account of relevant school and system level information on student outcomes where available.

To meet its accountability obligations to the public, the Commonwealth requires that funding recipients account for grants both financially and educationally. The *Commonwealth Programmes for Schools Quadrennial Administration Guidelines 1997 to 2000* set out these requirements for the Literacy and Numeracy Programme. Educational requirements are satisfactory participation in the Annual National Report on Schooling (ANR) and through the provision of a sector wide strategic literacy and numeracy plan.

Reporting requirements for the 1999 ANR include state and territory data for 1999 on the achievement of Year 3 and Year 5 students against the Year 3 and Year 5 literacy benchmarks (Reading, Writing and Spelling) and numeracy achievement data available from states' own assessment programmes across all years of schooling. Reporting requirements for the 2000 ANR include data for 2000 on the achievements of Year 3 and 5 students against the literacy and numeracy benchmarks at these year levels. Reporting is to be by state/territory and by gender, with reporting to be comparable across states and territories as far as possible and including,

where available, achievement of students of language backgrounds other than English and Indigenous students. States and territories also have the option of reporting on achievement of socioeconomically disadvantaged students and rural/remote students.

Literacy and numeracy research

The 1999/2000 Budget provided $20 million over four years under the National Strategies and Projects strand of the Literacy and Numeracy Programme to continue the existing programme of Commonwealth initiated research and innovative projects. These involve key stakeholders in the education community to support improved literacy and numeracy achievement of students. The programme's priority areas for 2000 are the early years of schooling (including prior to school), the middle years (Years 5–10) and Indigenous students.

At the 1998 Children's Literacy National Projects Researcher's Conference, the issue of gender and literacy learning was identified in several of the projects funded under the programme, and the Conference concluded that there was a need for investigation of the impact of gender issues on literacy learning at all levels of schooling.

Indigenous Literacy and Numeracy

In April 1999, MCEETYA endorsed the National Goals for Schooling in the 21st Century. The National Goals for Schooling include statements that:

- schooling should develop fully the talents and capacities of all students;

- schooling should be socially just, so that…Aboriginal and Torres Strait Islander students have equitable access to, and opportunities in, schooling so that their learning outcomes improve and, over time , match those of other students; and

- schooling should be socially just, so that…all students understand and acknowledge the value of Aboriginal and Torres Strait Islander cultures to Australian society and possess the knowledge, skills and understanding to contribute to, and benefit from, reconciliation between Indigenous and non – Indigenous Australians.

Commonwealth Indigenous educational strategies and programmes are inclusive of all students and do not differentiate students by gender. Notwithstanding this, there are social and cultural issues in relation to young Indigenous males, which should be recognised.

It has been reported by the study, *If They Learn us Right*, (Herbert et al, 1998) a study of the factors affecting the attendance, suspension and exclusion of Aboriginal students' in secondary schools, that gender can impact on the educational outcomes of Indigenous males and females. Initiation rites of passage and confusion due to two Laws, are seen as some of the contributing factors in some areas to the attitude of young men toward school. In the short term, attendance is affected and in the long term, young men are less likely to tolerate the constraints of school, and less likely to take instruction from young teachers, particularly if they are female. The report also indicates that success with young Indigenous men and youths could reduce social problems such as crime and domestic violence. The factors outlined above are also reflected in different educational achievements by Indigenous male and female students.

The Prime Minister launched the National Indigenous English Literacy and Numeracy Strategy (NIELNS), with Dr David Kemp on 29 March 2000. The National Strategy will focus on the literacy and numeracy skills of Indigenous students and on other factors, which influence their level of achievement, particularly school attendance. The principles of the NIELNS are directly

related to the National Goals for Schooling in the Twenty-First Century. Some $27 million over the period 2000-04 has been allocated by the Commonwealth to support the Strategy.

The National Indigenous Education Literacy and Numeracy Strategy has six key elements:

- lifting Indigenous school attendance rates to national levels;

- effectively addressing hearing and other health problems that undermine learning for many Indigenous students;

- increasing access to pre-school opportunities;

- getting and keeping good teachers in areas with the greatest need;

- using the most effective teaching methods to improve literacy and numeracy; and

- having clear measures of success.

The National Indigenous English Literacy and Numeracy Strategy is underpinned by the body of evidence provided by some 80 Strategic Results Projects (SRPs), conducted during 1998 and 1999. The purpose of these projects was to demonstrate that improving Indigenous student learning outcomes can occur in a relatively short space of time through concerted efforts. The findings of the projects have been summarised in a report entitled *What Works?*

Several of the SRPs included in the report involved the participation of males in Years 7 – 12. The results of the projects show improvement in attendance, literacy and numeracy and behaviour, with some projects reaching or exceeding targets. All projects involved Indigenous Aides and teachers and allowed for improved support for students.

In addition, Indigenous students can access Commonwealth assistance through ABSTUDY and the Indigenous Education Direct Assistance programme (IEDA).

Students with special educational needs

A recently published Commonwealth-funded study, *Mapping the Territory, Primary Students with Learning Difficulties: Literacy and Numeracy* , indicates that the prevalence of learning difficulties are in the range from 10 percent to 20 percent of the school population.

At a recent conference on Boys' Education (22-23 June 2000), Dr Carolyn Stevenson, Clinical Psychologist, Learning Difficulties Clinic, Sydney Childrens Hospital indicated that:

- the most common form of learning difficulty in Australia and New Zealand is a problem with reading;

- the ratio of males to females with learning difficulties is estimated at between 2:1 and 5:1; and

- poor literacy skills in boys are due to a range of problems including moderate to severe learning difficulties, unidentified intellectual impairments, Attention Deficit Hyperactivity Disorder (ADHD) and lack of remedial intervention.

There are no nationally applied definitions of learning disabilities or learning difficulties. This enables decisions to provide additional assistance to students to be based primarily on professional judgement at the school or system level rather than on legislation. In 1996, a National Health and Medical Research Council (NHMRC) report recommended a multi-modal approach for assisting students with ADHD. A multi-modal approach incorporates a range of

suitable therapies including medication. State and territory governments are responsible for making education policy decisions on this issue.

The national literacy and numeracy goal applies to all students, including boys with learning disabilities, and the National Literacy and Numeracy Plan provides for assessment and intervention strategies for all students, including those with a specific learning disability, such as ADHD. It could be expected that boys with learning disabilities which adversely affect their literacy and numeracy learning would be among those receiving support under the Grants to Schools to Foster Literacy and Numeracy strand of the Literacy and Numeracy Programme. Education authorities are responsible for the detailed administration of this programme in their schools and systems.

The Commonwealth has provided significant financial support for research in this area:

- $320,000 was provided in 1998 and 1999 for research which gathered information on successful literacy and numeracy teaching strategies for students with learning disabilities and difficulties. Edith Cowan University conducted the research. The report, *Mapping the Territory, Primary Students with Learning Difficulties: Literacy and Numeracy*, was released in June 2000.

- $148,000 was provided for the project which evaluates the efficacy of MULTILIT '*Making Up Lost Time In Literacy*' in redressing the literacy difficulties of low-progress readers in Years 2-7. Three quarters of the total sample size (142) for this study were boys (Wheldall & Beaman, 2000, p 22). The report was released in June 2000.

- $30,000 was provided during 1998-99 for a project conducted by the PARED Foundation titled '*A case study of children with specific learning difficulties*'. The main findings relate to the importance of teachers possessing diagnostic and pedagogical knowledge based in Spalding and cognitive language to support at risk children with specific learning difficulties.

Reform of targeted programmes for schools from 2001

A revised structure for some Commonwealth Programmes of targeted assistance for schools will be introduced for the 2001-2004 quadrennium. The revised structure combines the literacy and numeracy – grants to schools programme and the special education school support fixed grants and per capita grants into the *Strategic assistance for improving student outcomes programme.*

The *Strategic assistance for improving student outcomes programme* provides greater flexibility for authorities to equitably, effectively and efficiently allocate Commonwealth funding to schools to achieve improved learning outcomes, and for individual schools to strategically use local funding in innovative ways to address the needs of their students.

The changes to be introduced as part of this programme support the move towards an outcomes focus on improving the learning outcomes of educationally disadvantaged students. The changes are taking place in the context of strengthened accountability and reporting arrangements for all of the Commonwealth's programmes for schools. The accountability and outcomes framework will include specific accountability requirements for the reporting of student learning outcomes in literacy and numeracy, including by gender.

Strengthening accountability and reporting arrangements is in line with the Government's commitment to improving levels of student outcomes and school effectiveness through improved accountability and reporting, and to ensure that all Australian schools are held accountable to the community for delivering on outcomes.

Literacy and Numeracy Programme for young jobseekers

The Commonwealth Government has taken action to help ensure job seekers who left school with inadequate skills have a second chance to improve their literacy and numeracy skills by accessing training under the Literacy and Numeracy Programme.

It provides opportunities for job seekers, particularly those young people who left school early or with inadequate skills, to measurably increase their literary and numeracy competencies and so improve their job prospects and daily lives. Assistance with basic literacy and numeracy is delivered in small, friendly groups where possible, although a number of providers also deliver the assistance via distance education.

The assistance was initially only available to job seekers subject to mutual obligation arrangements. Eligibility has been widened to include the following range of young job seekers:

- 15-20 year olds registered with Centrelink

- all young clients of JPET programmes

- participants in Community Support Programmes

- participants in Community Development Employment Projects (CDEP)

- young recipients of Disability Support Pension

- those required to comply with an activity test (including job seekers on Youth Allowance or Newstart Allowance)

- sole parents participating in the Jobs Education and Training (JET) strategy.

Post-implementation review of the programme has found that 68% of participants are male.

3.2. VOCATIONAL EDUCATION AND TRAINING IN SCHOOLS

In March 2000, MCEETYA agreed to the development of a New Framework for vocational education in schools for implementation beginning in 2001. The Framework provides for young people to have the opportunity to experience vocational, enterprise and career learning throughout their schooling. Ministers noted key areas that are critical in the development and implementation of the Framework including: explicit and well articulated pathways, community partnerships, lifelong learning skills and attributes, enterprise and innovation, career information and guidance, access to student services, individual assistance for students at risk, institutional and funding arrangements, and monitoring and evaluation. The Framework will be of importance to improving the outcomes of all students, including boys.

Full Service Schools Programme: changing outcomes for 'at risk' boys

Historically, the 'at risk' boys who have had low literacy and numeracy skills as well as poor academic performance and experiences have generally left school early and gone into lower skilled jobs. An increasing number of these young people are now returning to or staying at school as a result of reduced lower-skilled job opportunities and higher levels of literacy required to undertake New Apprenticeships or participate in TAFE courses.

The Commonwealth is funding the Full Service Schools Programme for $22.6 million over the three years 1998 to 2000. The specific objectives of the Full Service Schools (FSS) programme are:

- to develop innovative on and/or off school campus programmes and services that address the specific needs of young people returning to school (who may or may not be Youth Allowance recipients) and for current students who are 'at risk' of not completing Year 12, or not making a successful transition from school to work; and

- to provide additional support to schools to develop innovative, regionally-focused programmes and support services for 'at risk' young people in collaboration or in partnership with existing youth and community agencies, government and business organisations, to improve their opportunities of gaining access and successfully participating in education, vocational courses or employment.

Reportedly boys have been the major participants and beneficiaries from the Full Service Schools (FSS) Programme, with a ratio of three boys participating for every one girl. The FSS programme provides additional support to 775 schools nationally and costs around $22.6 million. The FSS Website www.fullserviceschools.detya.gov.au and the Victorian Successful Learning website which is funded by the FSS Programme www.successfullearning.com.au also provides details on FSS initiatives and projects involving boys.

Although the Full Service Schools Programme will be completed at the end of 2000, the projects have developed and successfully demonstrated many innovative models of locally focussed and school/community-based activities for assisting boys. These projects have also addressed youth pathways/transition issues for upper and senior secondary/college students. It is important to build on the experiences gained through the FSS programme and if possible use the existing infrastructure, school/community/business linkages and contacts.

3.3. SMOOTHING BOYS' TRANSITIONS TO INDEPENDENCE

The Commonwealth Government recognises there are a number of young people whose early departure from school puts them at greater risk than others because of other factors also present in their lives. To help these young people reconnect with their communities, the government provides programmes offering intensive assistance and support. Clients of the services are overwhelmingly young males. Further initiatives are being considered.

Youth Pathways Action Plan Taskforce (YPAPT)

The Taskforce is a Commonwealth Government initiative set up in response to the Prime Minister's Taskforce on Youth Homelessness.   It is examining young people's transitions to independence. Its broad objectives are to improve outcomes for all young people by strengthening existing pathways, and improving early assistance for those at risk and most disadvantaged. Particular attention will be paid to supporting the capacity of families and communities to help young people.

The Taskforce has identified some key principles which underpin successful transitions and will make recommendations about ways to increase opportunities for all young people to achieve independence. It is due to report back around the end of August 2000.

Job Placement, Employment and Training Programme (JPET)

This programme targets 15-21 year olds who are homeless or at risk of homelessness, ex-offenders, refugees or wards of the state. It provides assistance to overcome a range of personal barriers to participation in education, or vocational training, or to gaining and staying in employment. Priority is given to 15-19 year olds.

JPET can help young people establish a stable lifestyle, develop life skills associated with independent living, participate in education and pre-vocational and vocational training, and prepare for and maintain participation in employment.

During 1999/2000, JPET worked with approximately 16,000 young people, of which 56% were male. 23% of the 16,000 had a juvenile offending background. Almost 80% of these juvenile offenders were male.

Jobs Pathway Programme

The Jobs Pathway Programme (JPP) aims to assist young people to make a smooth transition from school to work.

The Commonwealth contracts service providers to assist young people make the transition from school to work through the provision of assistance that focuses on the skills and knowledge required to reduce the risk of their falling through the cracks and becoming unemployed.

Young people between the ages of 15 and 19 are eligible, including those still at school and those who have left since 1 May 2000.

Young Offender Pilot Programme (YOPP)

DETYA, in consultation with various state and territory governments, funds a series of pilots targeted at young people who are in contact with the juvenile justice system. The target group for the Programme is offenders aged from 13 to 20 years who are at risk of re-offending, about to exit detention or on community orders, as well as indigenous young people in similar circumstances aged from 12 years.

YOPP was introduced in recognition of the fact that the lives of young people involved in offending are generally characterised by unemployment, lack of educational achievement, alcohol and substance abuse and family breakdown. Pilots funded under YOPP are designed to assist the integration of young offenders into mainstream community life, employment, education and training and include the trialing of models of co-ordinated intensive support for young offenders.

YOPP pilots are presently operating in Queensland, Victoria, Western Australia and the Northern Territory.

4. Where to from here? Increasing effectiveness in improving boys' educational outcomes.

From the issues and discussion outlined in this submission, literacy persists as the major issue in the education of boys for policy makers and practitioners. Of particular concern is the apparent deterioration over time in boys' literacy. This deterioration cannot be explained by genetic differences and different rates of physical and neuro-physiological development between boys and girls. Perhaps reflecting literacy difficulties but also for other reasons, more boys than girls have a turbulent adolescence, and hence boys follow more varied and bumpier pathways from school to work.

The increasing importance of gender as a factor affecting educational performance in the last decade suggests that there may have been developments which have impacted adversely on boys' learning and development. Explanations which have been put forward include changes in assessment methods which may favour students with high order literacy skills, passive teaching methods which may not suit certain boys who prefer interactive/experiential learning, lack of support in the transition from primary to secondary schooling, and lack of suitable role models in sole parent families, schools and in the socialisation of boys. Changes in attitudes and perceptions about acceptable behaviour in school and the value of education have also been mentioned.

It is important to remember however that many boys do not have difficulties, and that boys are as numerate as girls. Those who are most at risk of underachievement are disproportionately from low SES and Indigenous backgrounds, especially those in rural and remote areas.   There are also significant variations among the states and territories in boys' performance. In terms of literacy achievement, NSW stands out as the state with the highest proportion of Year 3 male students achieving the reading benchmark in 1999 and the smallest gender gap in this area. For Year 12 retention rate, the ACT had the highest male retention rate which exceeded the national average female rate in 1998, followed by QLD.

These variations suggest that there are valuable lessons to be learned from examining more closely differences in boys' performance across and within states and territories, both in the aggregate and where the variations are most marked, the reasons for those variations, the approaches and strategies underlying the more successful outcomes and how they can be applied elsewhere. Also of relevance is the experience of overseas countries, especially the work being undertaken in the US, the UK and New Zealand, in identifying and addressing issues in the education of boys.

Australian and overseas literature suggests that the key areas for consideration would include addressing literacy needs of boys including early intervention; support for transition of students from primary to secondary schooling and post-compulsory schooling; socialisation of boys and their connections with the school, the community, their families and peers; behaviour management and role modelling; and teacher training and development including in understanding and addressing different learning styles and needs of boys and girls.

For the Commonwealth, a research programme is already underway. A report into *Factors Influencing the Educational Performance of Males and Females in School and Their Initial Destinations After Leaving School* was recently released by the Department and a copy of the report has been provided to the Committee.

Two research projects are also being developed under the Literacy and Numeracy programme for approval by the Minister:

- *Boys and Literacy project:* the main aim is to identify key issues in terms of boys and their literacy development. It will involve a comprehensive literature review to: (a) establish what we know about literacy development of boys; (b) identify gaps in the research; (c) examine and document strategies which have proven to be effective in improving the literacy outcomes of boys; and (d) pilot the strategies in a small number of primary schools;

- *Middle Years project*: this project will focus on the needs of students in the middle years who are educationally disadvantaged in terms of their literacy and numeracy outcomes, including students with learning difficulties and students having difficulties in the transition from primary to secondary school. It can be expected that boys will be over-represented in the groups of students targeted by the project. The aim of the project will be to provide information on current strategies and reforms across Australia which are effective for improving literacy and numeracy learning outcomes of students in the middle years of schooling, and which can be implemented at a whole school or system level.

In terms of the transition from school through tertiary education to work, the emphasis should be on helping young people to choose pathways which suit their needs, and help them to realise their potential. While in general young people are well advised to complete Year 12, leaving before that age may not be as detrimental to their future pathways if the student has a clear plan to combine further study or training with work, and help to achieve it. More boys than girls currently take this option. That may not be a bad thing in itself, but some of the boys leaving early would probably have benefited if they had chosen to complete school and to enter tertiary education at a higher level. The forthcoming report of the Prime Minister's Youth Pathways Action Plan Taskforce will canvass ways in which more young people can be helped to make the transition from school to work through tertiary education successfully.

The Department is also sponsoring a symposium on the education of boys to be held in November 2000. The Symposium will provide an opportunity to bring together expert analysis on issues relating to the pedagogy of boys' education, their education attainment and labour market implications.

In addition to the above activities, the Commonwealth will be working closely with states and territories to identify and undertake further research to assist in improving boys' educational performance.

At the broad policy level, it is widely recognised that the best way to ensure optimum student achievement is through a soundly based system that is outcome-focused and provides quality education supported by appropriate accountability and reporting arrangements. Much has been achieved in this area, notably under the National Literacy and Numeracy Plan and the Indigenous Literacy and Numeracy initiative where funding recipients are required to provide strategic literacy and numeracy plans, and to report on student achievements against national literacy and numeracy benchmarks. Funding arrangements for these programmes also recognise the greater needs of students with a language disadvantage and from low socio-economic backgrounds. Further collaborative work between the Commonwealth and the states and territories is continuing.

In addressing the terms of reference of the Committee's inquiry, this Submission has focussed primarily on the issues pertinent to the education of boys. This does not mean, however, that improvement of boys' performance has to be, or ought to be, achieved at the expense of the girls. In general terms, teachers will rightly respond to educational difficulties, such as slowness in learning to read, on their own terms and use similar techniques in helping both boys and girls

who have the same difficulty. Indeed, successful strategies for boys are also likely to benefit girls and the emphasis should be on achieving improvement for all rather than just closing the gender gap. And as the analysis in this submission indicates, there are many girls who are disadvantaged by poor literacy and numeracy skills, with consequential adverse impact on their post-school lives.

The focus for policy therefore is to ensure successful schooling experience for all students through effective and flexible systems, and learning and teaching strategies that cater for their needs including gender differences.

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Table 1 Percentage of Year 3 and Year 5 students at or above the literacy benchmark by gender, Australia, 1997

	Females (Year 3)	Males (Year 3)	Females (Year 5)	Males (Year 5)
Reading	77	66	76	65
Writing	81	65	74	59

Source: ACER (1997) National Schools English Literacy Survey

Table 2 Victorian Learning Assessment Project, Years 3 and 5 English, 1998 (proportion of students achieving Curriculum Standards Framework level)

	Subgroup	CSF Level 1	CSF Level 2	CSF Level 3	CSF Level 4	CSF Level 5
Year 3 English: reading	Males	13.7	23.4	47.9	15.0	.
	Females	8.1	18.0	53.8	20.1	.
Year 3 English: writing	Males	9.1	34.1	41.9	14.8	.
	Females	4.9	23.3	46.7	25.1	.
Year 5 English: reading	Males	.	13.2	50.4	23.1	13.3
	Females	.	7.0	46.6	29.1	17.3
Year 5 English: writing	Males	.	10.8	57.8	17.9	13.5
	Females	.	4.8	45.7	23.3	26.2

Source: Report on Government Services 2000

Table 3   Percentage of Year 3 students achieving the reading benchmark

State/Territory *1 Average Age (a)* *2 Years of Schooling (b)*	*Percentage of male students achieving the bench mark*	*Percentage of female students achieving the bench mark*	*Difference between percentage of male and female students achieving the bench mark*
New South Wales 1 8yrs, 9mths 2. 3yrs, 7mths	89.6 ± 2.6	92.7 ± 1.8	3.1
Victoria 1 8yrs, 11mths 2. 3yrs, 7mths	82.6 ± 2.9	89.9 ± 3.0	7.3
Queensland (d) 1. 7yrs 9mths 2. 2yrs, 8mths	79.9 ± 2.3	86.3 ± 2.4	6.4
South Australia 1. 8yrs, 6mths 2. 3yrs, 3mths	81.5 ± 3.4	84.9 ± 2.7	3.4
Western Australia 1. 7yrs, 7mths 2. 3yrs, 7mths	85.5 ± 2.2	90.4 ± 1.6	4.9
Tasmania 1. 9yrs, 0mths 2. 3yrs, 7mths	82.0 ±2.8	89.9 ±2.0	7.9
Northern Territory 1. 8yrs, 8mths 2. 3yrs, 3mths	69.8 ± 1.7	74.9 ± 1.2	5.1
Australian Capital Territory 1 8yrs, 9mths 2. 3yrs, 6mths	87.6 ± 2.0	92.2 ± 1.1	4.6
Australia	84.9	89.7	4.8

Note: The achievement percentages reported in this table include 95% confidence intervals, for example, 80% ± 2.7%.
(a) The typical average age of students at the time of testing, expressed in years and months.
(b) The typical average time students had spent in schooling at the time of testing, expressed in years and months.
(c) Data from Queensland are based on a sample of approximately 10% of year 3 students from government and non-government schools.

Table 4. Metropolitan and non-metropolitan differences in mean achievement in literacy and numeracy for 14 year olds in 1975 to 1996

Year and Study(a)	Literacy			Numeracy		
	Metropolitan	Non-metropolitan	Difference	Metropolitan	Non-metropolitan	Difference
All Students	65.5	64.2	1.3	64.2	62.9	1.3
1975 ASSP	67.1	64.0	3.1	64.9	61.9	3.0
1980 ASSP	66.8	63.6	3.2	66.2	63.6	2.6
1989 YIT	66.5	65.9	0.6	63.4	62.3	1.1
1996 Y95	64.8	63.9	0.9	64.8	63.4	1.4
Boys						
1975 ASSP	67.0	64.2	2.8	65.5	62.0	3.5
1980 ASSP	66.9	62.8	4.1	67.0	62.7	4.3
1989 YIT	65.8	65.0	0.8	64.1	62.5	1.6
1996 Y95	64.4	63.2	1.2	65.4	63.3	2.1
Girls						
1975 ASSP	67.2	63.8	3.4	64.4	61.9	2.5
1980 ASSP	66.6	64.4	2.2	65.5	63.9	1.6
1989 YIT	67.2	66.9	0.3	62.8	62.1	0.7
1996 Y95	65.2	64.5	0.7	64.3	63.4	0.9
differences prepared by Marks, G based on analysis contained in						
rks and Ainley (1997)						

(a) The acronyms are: 1975 ASSP - Australian Studies in School Performance, 1980 ASSP - Australian Studies in Student Performance, 1989 YIT - Youth in Transition, 1996 Y95 - 1995 Year 9 cohort.

Table 5   Middle primary students' mean task scores by gender and year level (TIMSS)

Task	Female	Male	Probability of significant gender difference p<
Dice	5.80	5.23	ns
Calculator	5.66	5.30	ns
Folding and cutting	2.78	2.72	ns
Around the bend	4.30	4.32	ns
Packaging	1.63	1.49	ns

Source: Lokan, Ford and Greenwood (1997)

Table 6   Learning Assessment Project, Year 3 and Year 5 mathematics, 1998 (proportion of students achieving Curriculum and Standards Framework level)

	Subgroup	CSF Level 1	CSF Level 2	CSF Level 3	CSF Level 4	CSF Level 5
Year 3 mathematics: measurement	Males	6.3	44.1	40.2	9.4	.
	Females	6.1	46.2	40.4	7.4	.
Year 3 mathematics: number	Males	6.6	37.3	46.9	9.2	.
	Females	6.8	39.3	47.5	6.4	.
Year 5 mathematics: measurement	Males	.	7.7	42.1	40.9	9.2
	Females	.	6.7	43.1	42.3	8.0
Year 5 mathematics: Number	Males	.	9.8	41.9	37.8	10.5
	Females	.	8.1	43.5	39.8	8.6

Source: Report on Government Services 2000

Table 7. Time series of apparent retention rates to Year 12 by gender, Australia, 1967-1999

Year	Males	Females	Persons	Year	Males	Females	Persons
1967	26.5	18.7	22.7	1985	43.5	49.5	46.4
1970	33.0	25.5	29.3	1986	45.6	52.1	48.7
1971	34.1	26.9	30.6	1987	49.4	57.0	53.1
1972	35.7	28.9	34.2	1988	53.4	61.8	57.6
1973	35.2	30.8	33.1	1989	55.5	65.2	60.3
1974	34.1	31.6	32.9	1990	58.3	69.9	64.0
1975	34.6	33.6	34.1	1991	66.1	76.7	71.3
1976	34.6	35.3	34.9	1992	72.5	82.0	77.1
1977	34	36.6	35.3	1993	71.9	81.4	76.6
1978	33.1	37.3	35.1	1994	69.6	79.9	74.6
1979	32.4	37.2	34.7	1995	66.7	77.9	72.2
1980	31.9	37.3	34.5	1996	65.9	77.0	71.3
1981	32.0	37.8	34.8	1997	66.2	77.8	71.8
1982	32.9	39.9	36.3	1998	65.9	77.7	71.6
1983	37.5	43.9	40.6	1999	66.4	78.5	72.3
1984	42.1	48	45				

Sources: Australian Bureau of Statistics-Schools Australia
              Australian Department of Education

              Department of Employment Education & Training (1991) Retention & Participation in Australian Schools, 1967 to 1990 AGPS, Canberra

Table 8: Time series of apparent retention rates to Year 12 by state and gender, Australia 1969-1998 (irregular)

State	1969		1970		1971		1974		1976		1979		1981	
	F	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**
NSW	23.1	33.1	25.1	35.4	26.2	36.3	30.3	35.4	33.0	35.7	36.3	33.3	34.9	31.0
VIC	26.6	30.4	28.9	32.1	30.1	32.6	34.2	32.4	38.2	31.8	35.8	28.3	37.6	28.8
QLD	24.8	32.8	25.4	33.1	26.7	34.4	31.8	33.7	34.7	35.1	39.9	35.6	41.1	36.4
SA	19.3	29.2	21.6	30.9	24.3	34.9	30.1	34.7	36.7	37.4	39.3	34.6	42.3	35.8
WA	23.5	28.0	23.8	30.0	25.1	30.0	31.7	33.8	35.9	35.6	36.0	32.2	37.7	32.6
TAS	11.3	17.2	13.6	19.4	15.4	23.9	21.2	23.2	24.6	25.0	29.1	22.3	29.6	23.9
NT	6.6	14.6	14.7	21.1	18.6	20.5	25.4	25.3	25.4	21.7	25.3	19.4	20.9	15.4
ACT	50.7	70.4	50.2	71.5	50.3	63.0	60.1	63.5	61.1	61.3	72.4	67.1	72.8	63.2
AUST	23.7	31.1	25.5	33.3	26.9	34.1	31.7	34.1	35.3	34.6	37.2	32.4	37.8	32.0

State	1986		1989		1990		1991		1996		1997		1998*	
	F	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**
NSW	46.6	42.4	58.1	50.7	61.9	52	66.4	56.6	72.7	62.9	72.8	62	73.0	61.6
VIC	52.2	41.7	68.5	52.9	74.0	57.4	83.5	66.3	82.7	68.3	83.8	69.3	83.7	68.5
QLD	60.7	54.3	74.5	65.1	78.9	69.2	84.4	75.1	82.0	71.3	83.2	72.9	82.6	72.3
SA	58.3	51.4	70.9	62.7	77.7	66.8	88.9	78.7	74.6	62.6	72.9	61.3	72.4	61.2
WA	52.4	48.3	65.1	58.6	69.6	59	75.5	66.9	77.0	64.8	78.1	65.3	76.8	65.8
TAS	32.7	28.0	43.6	36.0	50.5	39.0	56.1	49.3	56.9	49.4	63.4	54.1	66.0	58.3
NT	38.3	29.9	45.5	40.0	51.4	44.1	57.9	57.1	41.7	40.4	47.8	36.7	48.0	38.2
ACT	79.5	76.0	86.0	85.2	88.5	85.3	95.4	95.8	90.8	91.7	90.7	92.5	90.7	91.2
AUST.	52.1	45.6	65.2	55.5	69.9	58.3	76.7	66.1	77.0	65.9	77.8	66.2	77.7	65.9

Note: *preliminary data-for Australia overall
Sources: ABS, Schools Australia; National Report(s) on Schooling in Australia
           Australian Department of Education

Table 9. Year 12 completions by urban, rural and remote location and gender 1984-1998

Year	Urban			Rural			Remote			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
1984	43	49	46	32	43	38	27	40	33	N/A	N/A	N/A
1985	45	51	47	35	46	40	31	40	36	41	49	45
1987	53	62	58	46	60	53	38	50	44	50	61	56
1988	56	66	61	50	64	57	41	55	48	53	65	59
1989	56	67	62	51	66	58	41	53	47	54	66	60
1990	57	68	63	52	68	60	41	54	47	55	68	61
1991	66	77	71	61	76	68	50	64	57	63	75	69
1992	65	74	70	61	74	67	52	65	58	64	74	69
1993	66	76	71	60	74	67	54	64	58	64	75	69
1994	66	76	71	57	71	64	51	65	58	63	74	68
1995	64	75	69	54	70	62	46	59	52	61	73	67
1996	62	72	67	55	72	63	46	65	55	59	71	65
1997 r	61	71	66	54	70	62	43	62	51	58	71	64
1998	62	73	67	55	71	63	48	61	54	60	72	66

Notes: (R) = revised

(a) These figures are estimates only. They express the number of Year 12 completions (Year 12 certificates issued by state and education authorities) as a proportion of the estimated population that could attend Year 12 in that calendar year.

(b) Definitions of urban, rural and remoted in this table are based on Rural, Remote and Metropolitan Areas Classification (1995) developed by the DPIE, Urban includes Darwin, Townsville/Thuringowa and Queanbeyan.

(c) Remote comprised approximately three per cent of the 15-19 year old population in 1998 and, as a reust, relatively small changes in the estimated resident population or in the number of completions annually can lead to apparently substantial changes i

Source: As in Statistical Annex (National Schooling Report), 1991 - revised figures from earlier reports and the ABS

Table 10   Year 12 completion rates by socioeconomic status, state and gender 1996

State	Low *Low socioeconomic status deciles*			High *High socioeconomic status deciles*			Total		
	Males	*Females*	*Total*	*Males*	*Females*	*Total*	*Males*	*Females*	*Total*
NSW	57	67	62	73	83	78	61	72	66
VIC	50	66	58	70	85	77	61	77	68
QLD	53	61	57	70	80	75	59	69	64
SA	45	60	52	72	85	78	57	70	63
WA	39	52	45	64	73	68	51	64	57
TAS	48	66	57	92	107	99	58	77	67
NT	13	14	13	(d)	(d)	(d)	27	31	29
ACT	(e)	(e)	(e)	90	93	91	86	87	86
AUST.	**50**	**62**	**56**	**72**	**83**	**77**	**59**	**72**	**65**

Notes: (p)   Preliminary–subject to finalisation of 1996 resident population.

(a)   These figures are estimates only. They express the number of year 12 completions (year 12 certificates issued by State education authorities) as a proportion of the estimated population that could attend year 12 in that calendar year.

(b)   The IRSED has been used to calculate SES on basis of postcode of students' home addresses. 'Low' SES is the average of the lowest three deciles and high' is the average of the top three SES deciles.

(c)   For the completion rates presented in this table, population deciles are calculated from the national 15-19 year old population. State SES completion rates are based on national population deciles. For example, first decile rates are calculated for those postcodes districts in a State which are part of the first national decile.

(d)   On the basis of this index, Northern Territory has no high SES deciles.

(e)   One the basis of this index, the Australian Capital Territory has no low SES decile.

(f)   Some States have higher TAFE participation rates, which affects their year 12 completion rates.

Source: Commonweealth DEETYA (derived from data provided by State accreditation authorities and the ABS)

Table 11   Occupations of early school leavers, 1997 (%)

Occupation type	All (N=767)	Male (N=419)	Female (N=268)
Managers and Administrators	2	2	1
Professionals	0	1	-
Para-professionals	1	1	1
Tradespersons	36	48	12
Clerks	5	1	13
Salespersons and Personal Service Workers	28	13	55
Plant and Machine Operators, and Drivers	2	3	1
Labourers and Related Workers	26	32	16
Unknown	1	0	1
	100	100	100

Table 12   Percentage distribution of main activity across the first seven post-school years, by highest level of school attainment

	Highest school attainment			
Pathway	Year 9	Year 10	Year 11	Year 12
Males				
Full-time work	21	19	14	18
Training/work	14	31	34	16
Further study/work	0	2	4	17
Brief interruption/work	25	20	26	24
Extended interruption/work	14	11	6	14
Mainly part-time work	4	4	3	3
Mainly unemployment	21	12	12	7
Mainly not-in-labour-force	0	2	2	1
Females				
Full-time work	5	20	24	25
Training/work	0	4	4	4
Further study/work	0	1	2	14
Brief interruption/work	11	25	29	24
Extended interruption/work	16	13	16	15
Mainly part-time work	5	7	7	6
Mainly unemployment	5	6	5	6
Mainly not-in-labour-force	58	25	14	7

Source: Lamb, S. and McKenzie, P. (1999)

Table 13 Participation by year 12 students in tertiary-accredited subjects, by key learning area, by gender, Australia 1997

Key learning area	Males Subject enrolments	No. (a)	% (b)	Females Subject enrolments	No. (a)	% (b)
English	76,388	76,074	93	91,885	90,918	100
Mathematics	79,596	69,793	85	77,307	71,683	79
Society and environment	85,666	69,739	85	110,628	85,620	94
Science	71,793	54,949	67	78,430	60,508	66
Physical sciences	42,077			27,655		
Biological and other sciences	29,716			50,775		
Arts	22,834	19,034	23	38,557	30,774	34
Languages other than English	8,257	8,169	10	16,524	16,224	18
Technology	43,004	40,395	49	28,625	32,867	36
Computer studies	21,960			13,387		
Home science	1,156			5,936		
Technical studies	17,031			7,628		
Agriculture	2,857			1,674		
Health and physical education	17,946	17,616	22	20,597	21,670	24
Total subject enrolments	405,484	na	na	462,553	na	na
Total year 12 students	na	81,723	na	na	91,049	na
Percentage M/F		47.3			52.7	

na   not applicable
(a)   number of year 12 students studying at least one subject in the key learning area
(b)   percentage of year 12 students studying at least one subject in the key learning area
(c)   numbers of students exceed subject enrolment numbers in some KLAs. Enrolments are classified to KLA by DEETYA, while student
            numbers are classified by State authorities
Source: National report on schooling in Australia, 1997

Table 14:   **Number of students**

	1989	1991	1993	1995	1996	1997	1998
Females	439600	444800	514500	600500	641100	701700	744500
Males	492700	541100	606900	672200	706300	756900	790700

Source: NCVER Statistics 1998

Table 15:   **Enrolments**

	1989	1991	1993	1995	1996	1997	1998
Female share %	47.1	45.1	45.9	47.2	47.6	48.1	48.4
Male share %	52.9	54.9	54.1	52.8	52.4	51.9	51.6

Source: NCVER Statistics 1998

Table 16:   **Employment based training commencements**

Apprenticeships/Trainees	1989	1991	1993	1995	1996	1997
Male Apprenticeships %	88.4	85.2	85.2	86.8	86.00	85.2
Female Apprenticeships %	11.6	14.8	14.8	13.2	14.0	14.8
Female Apprenticeships *excluding* hairdressing	N/A	5.6	6.0	6.0	6.3	6.6
Male Traineeship commencements %	N/A	N/A	N/A	38.4	51.4	51.2
Female Traineeship commencements %	N/A	N/A	N/A	61.6	48.6	48.8

New Apprenticeships	1998	% share	1999	% share
Male commencements	83,677	59%	109,544	60%
Female commencements	57,944	41%	73,302	40%
Male commencements *excluding* hairdressing	83,291	60%	109,239	61%
Female commencements *excluding* hairdressing	54,962	40%	70,548	39%

Source: DETYA Integrated Employment System (IES)

Table 17:   **Number of students**

	1989	1991	1993	1995	1996	1997	1998	1999
Female	221812	272678	291674	304711	319562	328907	333015	377287
Male	198150	232202	246790	253278	261344	266946	266655	308980

Source: Selected Higher Education Statistics – Students 1999 (February 2000)

Table 18:   **Commencements**

	1989	1991	1993	1995	1997	1998	1999
Female share %	55.0	55.9	55.8	56.5	56.7	56.9	55.6
Male share %	45.0	44.1	44.2	43.5	43.3	43.1	44.4

Source: Selected Higher Education Statistics – Students 1999 (February 2000)

List of Acronyms

ACER	Australian Council of Educational Research
ADHD	Attention Deficit Hyperactive Disorder
ANR	Australian National Report on Schooling
CDEP	Community Development Employment Projects
CESCEO	Commonwealth Education Systems Chief Executive Officers
DEETYA	Department of Employment, Education, Training and Youth Affairs
DETYA	Department of Education, Training and Youth Affairs
ERO	Education Review Office (New Zealand)
FSS	Full Service Schools
HSC	Higher School Certificate
IEDA	Indigenous Education Direct Assistance
JET	Jobs Education and Training
JPET	Job Placement, Employment and Training Programme
JPP	Jobs Pathways Programme
LEA	Local Educational Authorities (United Kingdom)
LSAY	Longitudinal Surveys of Australian Youth
MCEETYA	Ministerial Council on Employment, Education, Training and Youth Affairs
NFER	National Foundation for Educational Research (United Kingdom)
NIELNS	National Indigenous English Literacy and Numeracy Strategy
NLLIA	National Language and Literacy Institute of Australia
OECD	Organisation for Economic Co-operation and Development
SES	Socioeconomic status
SRP	Strategic Results Projects
TAFE	Technical and Further Education
TER	Tertiary Entrance Rank
TES	Tertiary Entrance Score
TIMSS	Third International Mathematics and Science Study
VET	Vocational Education and Training