Equity programs for government schools in New South Wales: a review

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Contents

Tables and Figures ....................................................................................................... iv
Executive Summary .................................................................................................... vii

1 Introduction ........................................................................................................ 1
   Background ......................................................................................................... 2

Dimensions of need
2 Distribution of need across government schools in New South Wales .......... 7
   Introduction ....................................................................................................... 7
   Equity categories ............................................................................................ 8
   Regional variations ....................................................................................... 24
   Multiple categories of need ....................................................................... 26

3 Equity and performance ....................................................................................... 29
   Introduction .................................................................................................... 29
   Comparisons of performance .................................................................... 30

Programs addressing Need
4 Priority Schools Funding Program ................................................................. 41
   Introduction .................................................................................................... 41
   Approaches employed in other systems ...................................................... 41
   Approach to funding need in New South Wales ......................................... 47
   The impact of PSFP ..................................................................................... 49
   Factors affecting the impact of PSFP ........................................................... 60
   The targeting of need ................................................................................... 63

5 Priority Action Schools Program ................................................................. 70
   Introduction .................................................................................................... 70
   The approach in New South Wales ............................................................. 71
   The impact of PASP ..................................................................................... 74
   Factors affecting the impact of PASP ........................................................... 86
   The targeting of need related to PASP .......................................................... 87

6 Multicultural Programs: ESL ....................................................................... 90
   Introduction .................................................................................................... 90
   Approaches to ESL in other systems ........................................................... 90
   Approach to ESL in New South Wales ....................................................... 98
   Targeting of ESL need ............................................................................... 100

7 Country Areas Program ................................................................................. 110
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introduction</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Approaches to isolation funding in other systems</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Approach to CAP in New South Wales</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>The targeting of need</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Impact of CAP</td>
<td>119</td>
</tr>
<tr>
<td>8</td>
<td><strong>Literacy and Numeracy Programs</strong></td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>Approaches to literacy and numeracy funding in other systems</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>Approach to literacy and numeracy in New South Wales</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>The targeting of need</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td>Impact of the literacy and numeracy programs</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Factors affecting the impact of literacy and numeracy programs</td>
<td>134</td>
</tr>
<tr>
<td>9</td>
<td><strong>Future Options and Directions</strong></td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>References</td>
<td>151</td>
</tr>
</tbody>
</table>

*Equity programs for government schools in New South Wales*
Table 2.1  Distribution of need, by SES quintile and other selected categories (%) .................................................................27
Table 3.1  Correlations between indicators of performance and indicators of disadvantage ........................................................33
Table 3.2  Variance in school outcomes explained by social characteristics of schools (%) .........................................................35
Table 4.1  Variance in achievement accounted for by social intake: secondary schools ..............................................................56
Table 4.2  Regression estimates of school differences in Year 5 literacy achievement .................................................................58
Table 4.3  Regression estimates of school differences in Year 10 mathematics achievement .....................................................58
Table 4.4  New teachers as a percentage of all teachers, by school type: PSFP schools, 2004 ................................................................61
Table 4.5  New teachers as a percentage of all teachers: PSFP secondary schools, 2004 ..............................................................62
Table 4.6  Correlations between indicators of need and indicators of school achievement in primary schools ..........................64
Table 4.7  Correlations between indicators of need and indicators of school achievement in secondary schools .........................64
Table 4.8  Correlations between indicators of need: secondary schools (top panel) and primary schools (bottom panel) separately .................................................................65
Table 4.9  Variance explained in models of achievement .................................................................................................................66
Table 5.1  Mean achievement levels in 2004: PAS schools compared to PSFP and other schools ..................................................77
Table 5.2  Regression estimates of change in primary school achievement: all survey primary schools, 2001/2 to 2003/4 ..................84
Table 5.3  Regression estimates of change in secondary school achievement: all survey primary schools, 2001/2 to 2003/4 ..............84
Table 5.4  Social disadvantage, by type of school: PASP, PSFP and other schools compared ........................................................................87
Table 6.1  Actual and weighted ESL enrolments, by broad stage of schooling ........................................................................100
Table 6.2  Standardised regression estimates of Year 3 and Year 8 literacy
achievement, 2004 ................................................................. 108

Table 7.1  Features of CAP schools, by level of schooling .................. 118

Table 7.2  Standardised regression estimates of Year 3 and Year 5 literacy
and numeracy achievement: models including non-
metropolitan and all schools. .................................................... 121

Table 8.1  Standardised regression estimates of Year 3 literacy
achievement: separate models to test the effects of participation
in the program and level of funding........................................ 133

Table 9.1  Threshold set at current level (21 per cent) with weighted option
using percentile ranking: 2004 fund levels and weighted option
compared ($) ................................................................. 142

Table 9.2  Threshold set at 15 per cent of students: 2004 fund levels,
unweighted and weighted options compared ($) ................... 143

Table 9.3  Threshold set at 10 per cent of students: 2004 fund levels,
unweighted and weighted options compared ($) ................... 144

Figure 2.1  Distributions of students, by decile of SES: full-time 15-16
year-olds in government schools (%) ....................................... 9

Figure 2.2  Concentrations of disadvantage based on the density of parents
not in the labour force, by type of school (%) ............................ 11

Figure 2.3  Concentrations of disadvantage based on the densities of
parents on welfare pensions, by type of school (%) ................. 11

Figure 2.3  Concentrations of disadvantage based on the densities of
parents in single or step-parent families, by type of school (%) 12

Figure 2.4  Mean densities of indigenous students, by type of school: New
South Wales (%) ............................................................... 14

Figure 2.5  Concentrations of indigenous students, by type of school: New
South Wales (%) ............................................................... 15

Figure 2.6  Concentrations of students, by decile of population density:
New South Wales and the rest of Australia compared (%) ....... 17

Figure 2.7  Concentrations of students, by remoteness: New South Wales
and the rest of Australia compared (%) ................................ 18

Figure 2.8  Concentrations of students, by rural and urban disadvantage:
New South Wales and the rest of Australia compared (%) ....... 19
Figure 2.9 Concentrations of ESL students, by type of school (%)..............................21
Figure 2.10 Concentrations of students with disabilities, by type of school (%) ................................................................................................................23
Figure 2.11 Mean school densities of disadvantage, by category of disadvantage and region (%)........................................................................24
Figure 2.12 Mean school densities of ESL students, by language background and region (%)..........................................................................26
Figure 3.1 Achievement in primary and secondary schools, by SES (%)..............31
Figure 3.2 Actual and adjusted Year 10 English achievement, by SES.................37
Figure 4.1 Mean achievement levels of PSFP and non-PSFP primary schools: equally sized groupings of survey schools based on level of disadvantage ........................................................................53
Figure 4.2 Box plots of Year 3 literacy achievement levels of PSFP and non-PSFP schools: equally sized groupings of survey schools based on level of disadvantage ........................................................................54
Figure 4.3 Mean achievement levels of PSFP and non-PSFP secondary schools: equally sized groupings of survey schools based on level of disadvantage...............................................................................55
Figure 4.4 Year 5 literacy achievement, by mean educational attainment of parents: PSFP and non-PSFP primary schools........................................68
Figure 5.1 Mean Year 10 English achievement, by type of school.........................78
Figure 5.2 Mean achievement levels in 2004: PAS schools compared to PSFP and other schools................................................................................79
Figure 5.3 Changes in mean achievement from 2001/2002 to 2003/2004: PAS primary schools compared to other PSFP primary schools in the three most disadvantaged deciles of schools .....................81
Figure 5.4 Changes in mean achievement from 2001/2002 to 2003/2004: PAS secondary schools compared to other PSFP secondary schools in the two most disadvantaged quartiles of schools..........................82
Figure 5.5 New teachers as a percentage of all teachers, by school type: PASP and PSFP (non-PASP) schools, 2004.........................................................86
Figure 5.6 Mean Year 3 literacy achievement, by type of school: PASP and PSFP primary schools compared .................................................................88
Figure 6.1 Number and percentage of ESL students, 1996 to 2004: primary school and secondary schools compared .............................................101
Figure 6.2 Distribution of ESL students, by ESL phases 1996 to 2004: primary schools and secondary schools separately. ........................................103
Figure 6.3  Percentage of all ESL students: high and low SES primary schools compared (%) ..........................................................103
Figure 6.4  ESL teaching position allocations: low SES and high SES schools compared.................................................................104
Figure 6.4  Language backgrounds of students in high SES and low SES schools: 1996 and 2004 compared..................................................106
Figure 7.1  Mean Year 3 literacy achievement: CAP and non-CAP (non-metropolitan) schools compared ....................................................118
Figure 8.1  Mean Year 3 literacy achievement levels, by SES quintile: Reading Recovery schools and schools not receiving Reading Recovery funds compared..........................................................132
Executive Summary

Social disparities in student performance and outcomes are a major concern to all communities. Large gaps contribute to social and geographical differences in prosperity and well-being for both individuals and the community as a whole. It is for this reason that governments need to invest in the development of programs that can ensure opportunities for success and advancement are extended to all.

This report presents the results of a review of such programs in New South Wales government schools. The review was undertaken to help inform the development of a carefully targeted, more streamlined, equity framework to provide support for schools with a high percentage of students from disadvantaged backgrounds. The equity programs examined in the review include: the Priority Schools Funding Program (PSFP), the Priority Action Schools Program (PASP), the Early Literacy and Numeracy Initiative (ELNI), English as a Second Language (ESL) and the Country Areas Program (CAP).

The approach to undertaking the review comprised four key tasks. The first was an examination of a large collection of materials provided by the NSW Department of Education and Training documenting the background, operation, management, and philosophy of each program as well as copies of previous evaluations. The second comprised a series of interviews and consultations with program managers and key advisory groups as well as a set of school visits to help identify critical issues associated with the funding, targeting, and operation of the funding schemes. The third task was an extensive literature review to identify models of equity funding adopted in other jurisdictions as well as in other countries. The fourth task was an analysis of student outcomes data provided by the NSW Department of Education. The data were provided at a school level and included information on funding, student intake, benchmark achievement at Years 3, 5, 7, and 8, and School Certificate and Higher School Certificate results, enrolments, and trends. The data were interrogated to identify relationships between equity groups, funding programs and student and school performance.

The results from the review include an examination of the distributions of disadvantage across government schools in New South Wales, documenting the dispersion of students from different equity categories across regions and schools. It is an important part of assessing the levels of need to be addressed in public schools. Also included is an analysis of the impact of the different levels of need on the effectiveness and performance of schools. Each of the key equity programs designed to target need is then examined in turn, giving consideration to how each program identifies target groups, the process of funding, program philosophy and impact on achievement and performance. Based on the findings, possible future directions for equity programs are proposed with alternative options for funding.

Key findings

There are large variations in the distributions of disadvantage across government schools in New South Wales that have a marked impact on achievement and other
student outcomes. Compared to other parts of Australia, New South Wales has a
high proportion of government school children living in disadvantaged areas, as
measured by scales of relative social disadvantage. Also significant are the numbers
of students with additional learning needs associated with having English as a second
language. Compared to other Australian states and territories, New South Wales has
the largest number and proportion of families in which English is not the main
language spoken at home. The concentrations vary substantially by region, school,
language background and skill levels.

The effects on student and school performance are substantial. Social gaps in
achievement and outcomes are large. As an example there is a very strong
relationship between the performance of primary schools on Year 3 literacy
achievement and SES intake. Mean achievement in high SES primary schools (those
in the highest quintile) is almost 6 points (two standard deviations) higher than in
schools with large numbers of low SES students (lowest quintile). Very few low
SES schools are able to achieve above the average for the state. In Year 3 literacy
and Year 10 English this is true for only 1 in 10 schools, compared with almost 9 in
10 schools from the highest quintile of SES.

Current programs designed to reduce the effects of background on student
achievement, participation and outcomes vary in their effectiveness.

Over time, PSFP has supported a range of initiatives designed to help schools in
disadvantaged areas more effectively serve their communities. However, results
from the analysis of the impact of PSFP underscore why a further program (PAS) has
recently been introduced. For they show that there remain significant and persistent
gaps in achievement and outcomes, particularly in the most disadvantaged schools,
which have not been successfully overcome by PSFP:

- Non-PSFP schools that narrowly miss out on funds and serve similar
  populations to the funded schools do at least as well as, and generally better, in
  terms of mean achievement at all year-levels compared with those schools in
  receipt of funds and close to the funding threshold.

- Performance falls away sharply as the densities of low SES students increase.
The most disadvantaged PSFP schools can be performing up to two standard
deviations below the achievement levels of PSFP schools closer to the funding
threshold.

- Correlation and regression analyses reveal that the impact of SES measures on
  achievement is larger in PSFP schools than in non-PSFP schools, suggesting
  that social disadvantage is continuing to exert a very strong effect on school
  performance, despite current funding arrangements.

PASP was introduced as a trial program to improve public school performance
through research-based projects in a selection of the most socially disadvantaged
schools. The approach in PASP is based on an action research paradigm in which
funding is tied to identified strategies and effectiveness programs, based on research
at a local school level to identify areas of most need.
Simple comparisons of mean achievement levels taken after the introduction of the program suggest that levels are marginally lower in PASP schools than in similar intake PSFP schools not participating in the PAS program. This suggests that gaps in performance between PASP and other disadvantaged schools remain. However, more sophisticated analyses comparing performance over time suggest that as an experiment PASP has produced some promising results with achievement gains in some schools:

- In Year 10 English, PASP schools have performed more strongly than non-PASP schools, recording gains in mean achievement between 2001/2 and 2003/4 of 0.5 points where similar schools not participating in PASP recorded average falls of 2.2 points in achievement. In Year 10 English achievement, PASP funded schools have made up ground.

- Between 2001/2 and 2003/4, following the introduction of PASP, funded schools made positive gains in Year 3 literacy and numeracy achievement, reducing gaps with other schools.

- Regression analyses show that some of the gains in achievement associated with PASP are statistically significant compared against all other schools, after controlling for intake factors.

These results provide qualified support for the view that the intensive assistance delivered through the PAS program has produced some positive gains in achievement. Many of the gains have been small, but gains nonetheless.

The current ESL component of school funding is directed at schools with large numbers of students from language backgrounds other than English requiring ESL support. There are several issues with current funding arrangements:

- the use of ESL scales to allocate ESL students to phases (degree of need) is not standardised across schools. Students identified as Phase 1 and 2 learners in some schools, may not be classified in the same way as in other schools.

- the numbers of ESL students have grown in recent years. At the broadest level, numbers have increased from 110,719 students in 1996, or 14.7 per cent of total government school enrolments, to 127,932 students in 2004, or 17.1 per cent of all students.

- there has been a ‘gentrification’ in the ESL population over time. ESL students in increasing numbers have been located in middle class areas.

- the growth in ESL student numbers in middle class schools has removed ESL resources from low SES schools. But it is the low SES schools that continue to have the largest enrolments of ESL students requiring the most intensive assistance.

- school-level achievement is influenced by the densities of ESL students. Regression analyses reveal that for low SES schools, the higher the density of ESL students, the lower the levels of achievement, after controlling for other intake factors. By contrast, in high SES schools, the higher the density of
Equity programs for government schools in New South Wales

ESL enrolments the higher the levels of achievement, all else equal. This is linked to differences in the language backgrounds and social needs of ESL students in disadvantaged areas and those in middle class schools.

**Future directions and options**

There is a need to develop a more targeted and consistent equity framework for the provision of programs in NSW public schools. What is required is a framework which is program driven or based and where there are sufficient funds provided to ensure that identified strategies can be implemented and can operate successfully. Several features should characterise such a framework:

- A focus on *effective programs* for it is essential to identify programs that are successful in promoting better outcomes for disadvantaged students.
- Ensuring *sufficiency of funds* so that once effective programs are identified they are properly costed and sufficient funds made available to allow the programs to be fully implemented and to operate successfully.
- Implementing a system of *continuous monitoring, review and accountability* so that information is available on how schools use resources, what changes are made to classroom and school conditions through the implementation of programs, and what impact they have.
- Promoting *efficiency or value for money* whereby programs are evaluated according to value for money as well as effectiveness, important in the allocation and use of public funds. This includes consideration of longer term (concealed and referred) outcomes, costs and benefits.
- Ensuring *sustainability* of funding so that schools have certainty that the funds they are allocated will remain in place long enough for the successful implementation and operation of programs. Generally, this means multi-year funding arrangements.

Approaches containing these elements have been proposed and adopted in other systems often involving a process in which schools, with the assistance of experts, identify programs that have been researched and evaluated as effective in delivering school and student improvements. The costs of delivering the programs are then calculated and the funds allocated to implement the strategies.

Of the current programs, PASP comes closest to this model. Schools participating in the PAS program are provided with a funding allocation to support the implementation of priority strategies identified by the school, in conjunction with consultants and system experts, to improve performance and outcomes. PASP, though, is targeted at a small number of schools (74) when there is a much larger number of schools that need assistance. What is required is a mechanism for broadening the benefits of PASP to a larger number of schools in a sustainable way.
This can be achieved by removing the two-tiered funding arrangements of PSFP and PASP and better concentrating the resources to ensure that the most disadvantaged schools, those that are currently performing well below other schools on measured achievement indicators, are provided with the intensive support needed to make meaningful improvements.

Two main options are canvassed with variations within each. The first option is based on maintaining the current PSFP threshold and applying a weight to the funding based on scaled levels of disadvantage. At present, schools that are above the PSFP threshold receive equivalent per capita funding. Therefore, schools that are the most disadvantaged in social terms do not receive any more funding proportionately than schools close to the threshold. Funding linked to relative need would mean applying a weighting factor associated with the levels of disadvantage across schools so that schools serving the most disadvantaged populations receive more funds. One way to do this would be to use percentile rankings based on scaled level of disadvantage as a weighting factor. The impact of this (presented in Table 9.1) would be to substantially increase funds to the most disadvantaged schools, though not to the levels received currently by PASP schools.

The second option is to change the threshold levels so that a smaller number of schools receive more intensive funding. This was an option discussed and proposed in several of the consultations undertaken for the review. It could be done with or without weighting according to relative need. The effects of changing the thresholds to target 15 per cent of disadvantaged students (impact presented in Table 9.2) or 10 per cent of students (Table 9.3) would be to substantially increase the level of support to the most disadvantaged schools and, with scaled weighting, provide those schools with the sorts of funds needed to operate a program driven or PASP-type scheme.

Both types of options are designed on the assumption of on-going funding to allow all eligible disadvantaged schools to develop multiple-year improvement plans. They are also designed to make funding available to a much larger number of schools than covered by the current PAS program and to ensure that schools receive funding as long as they qualify as a disadvantaged school (unlike PASP which is designed to fund schools for only a limited number of years).

In addition to changes in levels and concentrations of funds, it is proposed that the composite PSFP Index be replaced by a single measure of family occupational status to assess equity funding needs. Data on the occupations of parents, at least for entering cohorts, are being collected annually from 2005 as part of the annual school census for all schools. This could be used to develop an occupational index scale to replace the current PSFP index which is reliant on a quadrennial survey, a survey that is voluntary and one in which many schools do not participate.

Better targeting of ESL resources is needed. Accurate (standardised) assessment of individual learning needs in relation to ESL is required to help identify real levels of resource needs and provide the foundation to fairer and better targeted allocation across schools. This could be achieved through improvements in the current use of ESL scales. In the absence of such a process, or until improvements in the use of ESL scales can be achieved, one option to address the additional educational needs of...
students from refugee backgrounds (more often in low SES schools) as well as those from backgrounds where English language skill needs are combined with low educational achievement and poor learning skills (also more often located in low SES schools) is to apply additional weights in the funding allocations. Potential weights and their effects are presented in the final chapter.

There are systemic or structural factors that seriously limit the potential impact of all of the equity programs and need to be addressed in any future equity framework. The most pressing is the quality of teachers and stability in teaching staff. Staff turnover rates, averaging 35.3 per cent in PSFP schools in 2004, continue to work against the impact of all programs. High staff turnover means that the benefits of professional development and capacity building, particularly delivered through new and innovative programs designed for disadvantaged students, do not stay with the school.

It is this issue that continues to seriously undermine the whole equity effort in NSW. Fundamental to any framework of change will be the need to promote continuity in teaching staff in disadvantaged schools and the recruitment of quality teachers. Levels of casualisation and the usage of temporary and overseas-qualified staff need to be reduced. Addressing these issues alone may do more to reduce achievement gaps and raise levels of achievement in disadvantaged schools than any single equity program. Continuity and stability in staffing are essential ingredients to a robust equity funding framework.
1. Introduction

This report is a review of equity programs in New South Wales’s public schools. It was commissioned by the NSW Minister of Education and Training to help inform the development of a carefully targeted, more streamlined, equity framework to provide support for schools with a high percentage of students from disadvantaged backgrounds.

The Terms of Reference require that the review give consideration to the following elements:

- the identification of target groups
- funding mechanisms
- program philosophy
- evaluation and accountability mechanisms
- integration of various programs
- future directions.

The equity programs to be covered in the review include the following:

- Priority Schools Funding Program (PSFP)
- Priority Action Schools Program (PASP)
- Early Literacy and Numeracy Initiative (ELNI)
- English as a Second Language (ESL)
- Country Areas Program (CAP)

The review included an extensive literature search to identify models of equity funding adopted in other jurisdictions as well as internationally. This is used to compare the practices and coverage of equity programs in New South Wales against those adopted in other systems. As well as a literature search, there was an analysis of the documentation that is available on the policies, programs and procedures related to the equity programs. This component of the review is used to help identify inefficiencies, duplication and gaps.

A series of interviews, consultations and school visits were undertaken to help identify key issues associated with the various equity programs and equity funding. The groups consulted included equity program managers and key advisory groups: the Director Generals Advisory Group on the PSFP, Gender Equity Advisory Group, Early Literacy and Numeracy Initiative Advisory Committee, Country Areas Program Advisory Council, Advisory Group on Multicultural Education and Training. Information from this phase is used to identify critical issues associated with the funding, targeting, and operation of equity programs.
Equity programs for government schools in New South Wales

A key feature of the review is an analysis of student outcomes data provided by the NSW Department of Education. The data are at a school level and provide information on funding, student intake, benchmark achievement at Years 3, 5, 7, and 8, and School Certificate and Higher School Certificate results, enrolments, and trends. The data are used to evaluate the levels and concentrations of disadvantage across schools, and their impact on the performance of schools and the targeting of need.

This report provides a synthesis and analysis of findings as well as recommendations for future directions.

Background

Social disparities in student performance and outcomes are a major concern to all communities. Large gaps contribute to social and geographical differences in prosperity, advancement and the capacity to respond in times of economic growth and hardship, for both individuals and the community as a whole. It is for this reason that governments need to invest in the development of programs that can ensure opportunities for success and advancement are extended to all.

The task, though, is not a small one. About 1 in 7 Australian children (14.7 per cent) live in families with incomes more than 50 per cent below the median income level (often referred to as the poverty line). While the rate is lower than a decade ago, it is higher than for virtually all European nations (UNICEF, 2005). The rate is much higher among indigenous families, according to estimates from the 1990s, with nearly half of all indigenous children in families with incomes below the poverty line (Ross & Mikalauskus, 1996). It is also much higher among the families using government schools, because the users of non-government, particularly non-Catholic private schools, are far more often from wealthier backgrounds (see Lamb et al. 2004a). Student social background is a strong predictor of scholastic achievement and participation. Even the recent school effectiveness literature, which tends to highlight the importance of school practice, recognizes that the influence of family background has a major impact both on how well students do and on how well schools perform (see Willms, 2001).

To help alleviate the impact of poverty on performance, and neutralise the effects of family background, the New South Wales government has in place a variety of key equity programs in government schools. This would not be necessary if all students had the same levels of need at every point in their schooling. However, the New South Wales government recognises that students from different backgrounds and those living in different regions do not all have the same levels of need. For this reason, the government has adopted a variety of programs that emphasise relative over formal equality: that some students have higher levels of need and require additional support to achieve the same outcomes attained by other groups of students. This means
that schools with larger numbers of disadvantaged or high need students must spend or do more and therefore be given more than other schools to achieve the same sorts of outcomes.

The programs that are in place to help reduce social gaps in student learning include the following:

1. The Priority Schools Funding Program (PSFP) which provides additional resources to support students in schools with the highest concentrations of socio-economically disadvantaged families. The resources include additional funding, staffing supplementation and consultancy support.

2. The Priority Action Schools Program (PAS) which gives additional resources to a number of government schools in the most disadvantaged areas of New South Wales. The funding is provided mainly in the form of additional revenue and is designed to help the schools improve the quality of teaching and learning and reduce gaps in literacy and numeracy achievement as well as student retention. It is a program designed to address the effects of socioeconomic disadvantage.

3. The Country Areas Program (CAP) which is designed to contribute to the improvement of learning outcomes for students in geographically isolated areas. Resources are provided through direct grants, grants for innovative practices, consultancy support and staff participation in CAP-specific initiatives.

4. Multicultural programs including English as a Second Language (ESL) which provides additional resources to schools aimed at improving the English language skills of students from non-English speaking backgrounds. The resources for ESL are provided in the form of staffing supplementation provided to schools with specific identified ESL need.

5. The Early Literacy and Numeracy Initiatives (ELNI) which aim at improving the literacy and numeracy skills of students in schools serving low SES populations. The Early Literacy Initiative (ELI) provides the schools with consultancy and professional development support for teachers in the early years (K-3). The numeracy initiative (Count Me In Too) is a professional development program for Kindergarten to Year 3 teachers designed to raise the quality of teaching skills in the area of numeracy. Reading Recovery is an early intervention program designed to improve the reading skills of students experiencing reading difficulties.
6. Gender Equity which is designed to promote greater fairness in schooling for boys and girls. Rather than being a program or separate programs for boys and girls it provides a broad gender equity perspective or framework as the basis for policy development.

Many of these programs have been in place for a long period of time. For example, PSFP has existed in one form or another for over 30 years. The Country Areas Program (begun as the Disadvantaged Country Areas Program) was initiated over 25 years ago. Social conditions change over time. Levels of disadvantage and school use can shift. Population changes can also occur, such as the growth in the size of the indigenous population that has occurred in New South Wales reflected in increasing numbers of indigenous student enrolments in schools. Therefore, it is important to continue to monitor and review the impact of programs and the way they work in order to ensure that they are still able to meet existing levels of need.

It is with this in mind that this report provides a review of the equity programs in NSW public schools. A review of programs designed to ensure all schools can achieve adequate levels of performance requires a consideration of a range of issues including the incidence and distribution of disadvantage, the impact that disadvantage has on school outcomes, the level of funding that would be needed to compensate schools with high-need students to achieve adequate levels of performance, and the suitability of the criteria and formulas for targeting high-need students in order for schools to be successful in meeting given or accepted standards of performance. This review will examine the existing programs to assess to what extent they are helping schools whose performance is affected by the populations they serve overcome intake limitations to help achieve adequate levels of student achievement and outcomes.

The review is undertaken in a climate in which there is renewed concern to ensure that the funding of equity programs works to promote greater school effectiveness and student outcomes. The provision of funds to schools just as a form of compensation without efforts to ensure that the funds are used to appropriately target need and deliver improvements in outcomes, such as reductions in achievement and participation gaps, is not adequate. The provision of additional resources to schools for disadvantage (compensatory in only a formal sense) is designed to deliver improvements in student outcomes and in school effectiveness. There is now a need to examine the role and impact of equity programs in the context of delivering more equitable and improved student outcomes. While there is a school of thinking among some researchers (such as Hanushek, 1989, for example) that leads to a view that the provision of additional school resources has little effect on student achievement and participation, this position has been hotly disputed and by researchers even using the same sources of data who have found strong support for positive effects of resource inputs (see, as an example, Hedges et al., 1994). The debate about the impact of resources, even if
unresolved, does highlight one critical point, that there are sets of powerful influences that shape student progress and which make it more difficult for some schools to perform as effectively as others. It reinforces the need to re-evaluate the current framework of equity programs provided to government schools.

The report begins with an examination of the distributions of disadvantage across government schools in New South Wales. It aims to document the dispersion of students from different equity categories across regions and schools. It is an important first stage in assessing the levels of need to be addressed in public schools. Chapter three offers an analysis of the impact of the levels of need on the effectiveness and performance of schools. From here the report will examine each of the key programs in turn, giving consideration to how each program identifies target groups, the process of funding, program philosophy and the mechanisms for evaluation and accountability. The conclusion sets out recommendations and future directions based on the review.
Dimensions of need
2. Distribution of need across government schools in New South Wales

Introduction

The performance of students in school is affected by a variety of factors. A substantial body of research, both local and international, demonstrates that differences in social and demographic contexts linked to socioeconomic status, isolation, indigenous status and language background have a marked impact on student outcomes (in Australia, see, for example, Lamb et al. 2004a, Lamb et al. 2004b, and for a recent overseas study see Woessman, 2004). The strong link between social disadvantage and student progress is not only produced because of a direct impact of background on individual student performance, but also through the effects on performance of schools in which there are high concentrations of students from disadvantaged backgrounds. There is a long line of studies, continued by recent research in the school effectiveness tradition, which shows that the composition of schools influences student outcomes (see, for example, Willms, 2001; Coleman et al. 1966). Once schools reach a certain density of disadvantaged students it has an impact on how they perform and how well they can address the additional learning needs of students that are associated with disadvantage.

Consequently, equity programs and equity funding put in place to alleviate the effects of disadvantage are faced with confronting two fundamental issues:

1. the level of additional learning needs of students associated with socioeconomic disadvantage, poor English language skills, disabilities, and isolation.
2. the impact on schools, and ultimately student performance, when the concentrations of students with additional learning needs become high in individual settings and areas.

This chapter examines the distributions of disadvantage across government schools in New South Wales. It aims to document the dispersion of students from different equity categories across regions and schools. This is an important preliminary step in a review of equity programs. In terms of such programs, how much need is there to address, in what dimensions and across what locations?

What follows in this chapter maps out the size of the task confronting New South Wales in promoting greater social and educational justice through its school equity programs. Disadvantage is measured in terms of differences in student learning needs associated with geographical, social, cultural, and economic differences in the community. This section will present information on some of the institutional patterns associated with socioeconomic status,
isolation and language skills that influence school performance. It will not be limited to the equity categories that are targeted through the equity programs under review, but rather provide information on a variety of demographic and social factors that influence student progress and outcomes. The next chapter will present an assessment of the size of the impact that these patterns have on the effectiveness and performance of schools.

**Equity categories**

**Socioeconomic status**

Family circumstances have a profound effect on educational achievement and outcomes. A recent study comparing the relationship between family background and student performance in 18 countries reported marked effects in all nations. Woessman (2004) used junior secondary school achievement results from the Third International Mathematics and Science Survey (TIMSS) to compare educational opportunities for children from different social backgrounds in European nations and in the United States. He found that in all countries, the impact of family background on students’ cognitive skills was strong. The differences between children from the top and those from the bottom SES categories amounted to more than a whole year-level’s learning. This was the case in most countries. Furthermore, the differences in achievement related to SES accounted for a minimum of at least 9 per cent of the total test-score variation in the country with the weakest effects, up to 26.4 per cent in the country with the strongest effects. Woessman (2004, p. 18) went on to state that “both the size of the individual effects and the explained proportion of the test-score variation dwarf[ed] the effects…found for school inputs such as class sizes, teacher characteristics, resource endowments, and institutional features for the same countries and performance data”.

Many other studies from the US, the UK, Canada and Australia have consistently found that family background is one of the single most important contributors to success in school. Although early work in the US by Coleman, Jencks, and others suggested that family background alone could explain most of the variation in educational outcomes (Coleman et al., 1966; Jencks et al., 1972), subsequent research has found that much of the influence of family background is mediated through schools. Yet in virtually all research on school achievement family background still exerts a powerful, independent influence. For example, socioeconomic status, most commonly measured by parental education and income, is a powerful predictor of school achievement and school completion (Bryk & Thum, 1989; Ekstrom et al., 1986; McNeal, 1999; Rumberger, 1983; Rumberger, 1995; Rumberger & Larson, 1998; Pong & Ju, 2000; Lamb et al., 2004b). Children from lower socioeconomic status (SES) backgrounds tend to achieve less well at school, are less likely to stay on at school or enter further or higher education and are more likely in the future to be unemployed or in low paid jobs. The SES composition of schools has also been recognized as an important influence on student success (see...
Willms, 2001; Gamoran, 1992; Bryk & Thum, 1989; Rumberger & Thomas, 2000).

Given the consistency in relationships between SES and student outcomes, what are the patterns of social distribution of government school students in New South Wales?

Figure 2.1 presents a breakdown of the enrolments of 15 and 16 year-olds into deciles of SES according to the composition of local areas. SES was measured using the Socio-Economic Index For Areas (SEIFA) developed by the Australian Bureau of Statistics. It consists of four indexes that summarise different aspects of the socio-economic conditions of the Australian population using a combination of variables from the Census of Population and Housing. The Index of Relative Socio-Economic Disadvantage (ABS, 2001) was used for the analysis presented in Figure 2.1. It includes variables that reflect or measure relative disadvantage. The variables include low-income, low educational attainment, high unemployment and people with low skilled occupations — factors that are likely to influence student and school performance. The index provides a population weighted value for each statistical local area (SLA) across Australia derived from ABS Collection District (CD) level data. The index values enable areas to be ranked and compared against one another. A low index value reflects relative disadvantage and occurs where there are large proportions of low-income families, large numbers of people with low skilled occupations and high proportions of the population without training. A high value reflects relative lack of disadvantage in an area. The areas were grouped into deciles of SES from low to high representing the areas that are most disadvantaged and high representing areas that are least disadvantaged according to the range of economic and social indicators. New South Wales is compared with aggregate figures for the rest of Australia.

One feature to note from Figure 2.1 is that New South Wales, compared to other parts of Australia, has a high proportion of government school children living in some of the most advantaged areas of Australia. About 11 per cent of children in New South Wales are in the top SES decile, a rate almost double that for the rest of Australia (5.6 per cent).

Equally as striking, however, are the high proportions of government school children in New South Wales living in areas that are relatively disadvantaged. While the rate for the decile containing the most disadvantaged areas is slightly below that of the rest of Australia (9.5 per cent compared with 11.1 per cent), the rates are much higher for other low SES areas. Approximately 69 per cent of government school children in New South Wales reside in relatively disadvantaged areas (the bottom five SES deciles) as against 57 per cent of students in other parts of Australia.
Equity programs for government schools in New South Wales

Figure 2.1 Distributions of students, by decile of SES: full-time 15-16 year-olds in government schools (%)

![Figure 2.1](image)

**NOTE:** Deciles of SES are based on groupings of Statistical Local Areas using the 2001 SEIFA index of relative socio-economic disadvantage (ABS, 2001). Data on the number of full-time 15 and 16 year-olds enrolled in government schools were derived from the Census of Population and Housing (ABS, 2001b).

Accordingly, the gaps between New South Wales and the rest of Australia are large in deciles 6 to 9, the deciles reflecting areas that have comparatively low levels of unemployment and families with higher levels of income and parents in more highly skilled occupations. The rates for New South Wales are all much lower.

The figures suggest that socioeconomic disadvantage is a big issue for New South Wales government schools. The relative rates suggest that as a system, the public sector in New South Wales has much to deal with. However, it is also the case that within the sector there is substantial variation in the distribution of disadvantage linked to SES. The effects of this are likely to be profound for certain groups of schools. Some schools are likely to carry a heavy burden in relation to confronting and addressing the challenges associated with the development of programs designed to overcome the effects of family background on school success. This can be displayed by examining some of the different measures of student composition available for government schools.

Figure 2.2 presents the school-level densities of children whose parents are not in the labour force. What is important to note in relation to the figure is that not all schools are represented. The data are from the quadrennial survey of parents used to assess social intake to schools. The survey is voluntary and only about 60 per cent of schools participate (973 primary schools, 210 secondary schools and 57 central schools). The schools that do not take part
are mainly those serving higher SES areas. The effect is to reduce the full range of backgrounds and accentuate levels of disadvantage. However, the results displayed on schools shown in Figure 2.2 are accurate and real. They portray the intakes to participating government schools, even if schools in wealthier areas are not included.

**Figure 2.2 Concentrations of disadvantage based on the density of parents not in the labour force, by type of school (%)**

<table>
<thead>
<tr>
<th></th>
<th>0-10</th>
<th>11-20</th>
<th>21-30</th>
<th>31-40</th>
<th>41-50</th>
<th>51+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>9.8</td>
<td>25.0</td>
<td>28.0</td>
<td>19.9</td>
<td>10.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.3</td>
<td>29.5</td>
<td>37.1</td>
<td>17.6</td>
<td>8.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Central</td>
<td>5.3</td>
<td>22.8</td>
<td>38.6</td>
<td>15.8</td>
<td>5.3</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Note: Results are only for those schools that participate in the quadrennial survey of parents. N=973 primary schools, 210 secondary schools, 57 central schools.

The results show that while most schools have some students from families where parents are unemployed or not in the labour force, some schools have high concentrations of such students. Some schools enrol children where at least two out of every five is from a family in which parents are out of work or not in the labour force. This is true of 17.4 per cent of the surveyed primary schools (169 schools in actual number), 12.4 per cent of secondary schools (26 schools in total) and 17.6 per cent of central schools (10 schools). There are some schools in which this applies to every second child they enrol (6.9 per cent of primary schools, 3.8 per cent of secondary schools and 12.3 per cent of central schools). These schools have populations in which family income is likely to be very low.

The uneven distribution of students based on social background is also evident in looking at family status based on the numbers of parents reliant on government welfare support (such as pensions) for their income. A small number of schools enrol students whose parents are mostly not dependent on welfare income support. This applies to about 14.6 per cent of schools where fewer than 10 per cent of students enrol whose parents receive government pensions. Conversely, 21.8 per cent of primary schools are comprised of students where at least every third student is from a family in which parents are reliant on government income support as their main source of income (a
density level of 31 per cent or more). This applied to 18.2 per cent of secondary schools and 29.8 per cent of central schools. Disadvantage based on levels of income support tends to be concentrated in certain schools and these schools carry an uneven burden in meeting the educational needs of this population.

**Figure 2.3 Concentrations of disadvantage based on the densities of parents on welfare pensions, by type of school (%)**

<table>
<thead>
<tr>
<th>Density Level</th>
<th>Primary</th>
<th>Secondary</th>
<th>Central</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>14.6</td>
<td>7.6</td>
<td>14.0</td>
</tr>
<tr>
<td>11-20</td>
<td>34.4</td>
<td>43.3</td>
<td>28.1</td>
</tr>
<tr>
<td>21-30</td>
<td>29.2</td>
<td>31.0</td>
<td>28.1</td>
</tr>
<tr>
<td>31-40</td>
<td>14.5</td>
<td>14.8</td>
<td>22.8</td>
</tr>
<tr>
<td>41-50</td>
<td>5.9</td>
<td>2.9</td>
<td>3.5</td>
</tr>
<tr>
<td>51+</td>
<td>1.4</td>
<td>0.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Note: Results are only for those schools that participate in the quadrennial survey of parents. N=973 primary schools, 210 secondary schools, 57 central schools.

There are other measures of family background differences involving students in government schools. Some research suggests that *family structure* has an impact on student progress and performance. According to this work, students from single-parent and step families are more likely to do less well in school and more likely to leave school before the post-compulsory years, all else equal, than students in two-parent families (for example, see Rumberger & Larson, 1998; Swanson & Sneider, 1999; Teachman et al., 1996).

There are uneven distributions across schools of students living in single-parent families or who live away from their parents (family structure). Some schools deal with disproportionate numbers of students in these circumstances. In 23.3 per cent of primary schools, more than 4 in every 10 students live in single-parent or step families or are living away from their parents (see Figure 2.3, again noting that the results are from a truncated sample of 1289 New South Wales schools). This applied to 6.7 per cent of secondary schools and 14 per cent of central schools. Conversely, over one-quarter of primary schools and 15 per cent of secondary schools have far fewer students in these family circumstances (less than 20 per cent of their student intake).
Indigenous status

One of the strongest relationships between success at school and student background is that linked to indigenous status. Take, for example, the recent national benchmark results on reading, writing and numeracy. The percentage of students achieving the national benchmark in reading in 2001 was 90.3 at a national level (MCEETYA, 2002). The percentage for indigenous students was 72 per cent. The gaps among Year 5 students were even greater: 89.9 per cent for all students compared with 66.9 per cent for indigenous students. The greater gap between Year 3 and Year 5 may suggest that achievement differences between indigenous students and non-indigenous students actually increase as young people ascend school. Similar patterns were recorded for writing and numeracy. While the results varied across states and territories, and were generally better for indigenous students in New South Wales, large gaps were evident in all jurisdictions.

The national benchmarks were introduced to provide systems with estimates of the numbers of students who were not performing at the most basic levels for their age groups. This was not only to identify levels of functional under-achievement, but also to help systems quantify the numbers of students who could not perform at even the most basic skill levels in literacy and numeracy and, based on this, would be likely to experience extreme difficulty with schooling.

It is evident from the results that indigenous students form an educationally disadvantaged group within the Australian community. This is also apparent in looking at participation rates. Nationally, the apparent retention rate to Year 12 for non-Indigenous Australians was 76.8 per cent in 2004, but for
Indigenous students the apparent retention rate was 39.5 per cent, less than half the rate achieved by other Australians. In his paper produced for the Koori Research Centre, Gardiner (1996) reports that among Indigenous youth, males have much poorer retention rates and participation rates than females. In Victoria, one in five Indigenous males complete high school, compared with two in five for Indigenous females, and four in five (on average) for all students. In Gardener’s view a decrease in educational participation correlates with an increase in juvenile crime, particularly among 14- to 16-year-old Indigenous males. The House of Representatives Standing committee on Education and Training’s report on truancy and exclusion from school also notes a strong correlation between dropping out before the required legal age and criminal activity (1996:41). The report notes high rates of truancy and absenteeism for Indigenous students, a finding also confirmed in Rothman’s (2002) report on student absence in South Australian schools. He found that on average, in 1997 and 1999, Indigenous students were absent 17 per cent of the time; more than twice the average level for non-Indigenous students. Poor attendance depresses academic achievement but also has negative social effects, in that absentees and truants tend to become social outsiders who feel that they do not ‘belong’ at school.

In thinking about the extent of disadvantage in relation to indigenous students for government schools, the first point to note is that New South Wales has the largest absolute numbers of indigenous student enrolments in Australia. While it is certainly the case that the Northern Territory has by far the highest concentrations, in proportionate terms, New South Wales has the largest absolute number (39,004 full-time students in 2004 in New South Wales compared with 36,304 in Queensland, 20,467 in Western Australia and 13,777 in the Northern Territory, ABS, 2004).

**Figure 2.4 Mean densities of indigenous students, by type of school: New South Wales (%)**

Source: Data for Australia are from Schools Australia: Cat No. 42101 (ABS, 2004). Data for New South Wales are from the NSW Department of Education.
Figure 2.4 shows the mean levels of indigenous student enrolments in government schools in New South Wales in 2004. It reveals that the mean density of indigenous students in secondary schools was 5 per cent, a rate more than double the average rate for the rest of Australia. Primary schools had a 6.8 per cent average enrolment rate, about two percentage points above the national rate. The rates are much higher in the rurally based central schools and the special needs schools. On average, every fifth student in a central school is indigenous.

Figure 2.5 Concentrations of indigenous students, by type of school: New South Wales (%)

While the overall numbers and average rates are high in New South Wales, not all schools are equally affected. Indeed, indigenous students are very unevenly distributed across New South Wales schools (see Figure 2.5). Almost 70 per cent of primary schools in 2004 and 75 per cent of secondary schools did not have any indigenous students or had fewer than 6 per cent. Conversely, 16.8 per cent of primary schools and 9.3 per cent of secondary schools had more than 10 per cent of their students from indigenous backgrounds. In about 6.5 per cent of primary schools, the student intake was made up of more than 20 per cent of indigenous students.

Central schools have large numbers of indigenous students. They carry a much larger responsibility in addressing the additional learning needs of indigenous students. In about 27 per cent of central schools indigenous students make up more than a fifth of all enrolments.

Figure 2.5 also shows that the highest concentrations of indigenous students are in rural areas. The upper line represents the proportions of schools in each category that are located in rural areas. Schools with the lowest numbers of
indigenous students are more often in urban areas. About half of the schools with 5 per cent or fewer indigenous students are in metropolitan locations. At the same time, 83.9 per cent of the schools with 11 to 20 per cent of their enrolments from students of indigenous backgrounds were in non-metropolitan areas, and 95.5 per cent of those with very high indigenous enrolments (over 40 per cent of all students) were in rural and remote regions.

Rurality and isolation

Living in rural and isolated areas is often associated with educational disadvantage. Challenges posed by size, declining enrollment and geographic location put rural schools at an economic and educational disadvantage, making it difficult to generate funding, recruit and retain teachers, offer an extensive range of programs in the post-compulsory years and maintain school facilities.

Effects on student participation and achievement have been highlighted in research both in Australia and overseas. For example, in a study based on the England and Wales Youth Cohort survey, Payne (2001) found large discrepancies in full-time education participation rates for 16 and 17 year olds (YCS Cohort 10, nearly 14,000 respondents) based on metropolitan or non-metropolitan location. About 85 percent of the cohort living in London were in full-time education and training compared to 65 percent of the young people of this age living in the North-East. Payne found even greater differences between low achieving students by region. While regional differences were found amongst 16 and 17 year old students in the top third of GCSE results, they were more prominent amongst the middle and bottom third of achievers.

Similar patterns can be observed in Australia. Teese (2002) undertook a geographical analysis of early leaving in Victoria, in order to find evidence of regional differences in school retention within the one state. Using the transition rate from Years 10 to 12, as reported in the Annual School Census data for the years 1988, 1992 and 1998, a patterns of early leaving was established that not only differed between labour force regions (as defined by the ABS) but remained persistent over time. Using deviations from the state mean to illustrate the point, high levels of school retention in upper status (high SES) urban regions contrasted with and low retention rates in lower status (low SES) urban regions, and – amongst males – in most country areas, recurring for each of these periods. The economic downturn of 1991 saw less variance in retention rates across labour force regions, but by 1998 these differences were again established. Longitudinal studies conducted by Williams (1987) and Marks and Fleming (1999) also found that young people living in rural areas were more likely to experience early leaving.

Achievement differences are also apparent in comparing rural and urban areas. In a recent study using PISA 2000 data, Williams (2005) examined cross-national variation in rural mathematics achievement among 15-year-olds in 24 industrialized nations including Australia. He found that rural mathematics
scores were significantly lower than scores in urban and medium-size communities in Australia. This was also the case in 13 of the 24 countries. One explanation for lower rural achievement is that such communities are also characterised by being lower SES. Williams (2005) found that once SES was controlled, living in a rural area was not significantly associated with maths achievement in Australia, nor in most other nations. Therefore, part of the impact of rurality and isolation on student achievement is related to differences in social and economic contexts.

To what extent is isolation and rurality an issue for government schools in New South Wales?

Figure 2.6 presents the distributions of 15 and 16 year-old Australians enrolled in government schools into deciles based on the population densities of local areas (statistical local areas). The areas are grouped into deciles from low to high with low representing the areas that have fewer than one person per square kilometre and can be considered very isolated. High captures urban centres with a population density of at least 2,000 per square kilometre. New South Wales is compared with aggregated figures for the rest of Australia.

**Figure 2.6  Concentrations of students, by decile of population density: New South Wales and the rest of Australia compared (%)**

<table>
<thead>
<tr>
<th>Decile</th>
<th>NSW</th>
<th>Rest of Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>2</td>
<td>3.2</td>
<td>3.3</td>
</tr>
<tr>
<td>3</td>
<td>5.0</td>
<td>5.6</td>
</tr>
<tr>
<td>4</td>
<td>9.1</td>
<td>8.2</td>
</tr>
<tr>
<td>5</td>
<td>9.5</td>
<td>13.5</td>
</tr>
<tr>
<td>6</td>
<td>31.7</td>
<td>17.2</td>
</tr>
<tr>
<td>7</td>
<td>32.4</td>
<td>11.6</td>
</tr>
<tr>
<td>8</td>
<td>4.1</td>
<td>9.1</td>
</tr>
<tr>
<td>9</td>
<td>5.4</td>
<td>6.5</td>
</tr>
<tr>
<td>High</td>
<td>9.5</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Source: Deciles of population density are based on groupings of Statistical Local Areas using the 2001 figures on populations from the Census of Population and Housing (ABS, 2001b). Data on the number of full-time 15 and 16 year-olds enrolled in government schools were derived from the same source.

The strong concentration of the New South Wales population in city areas, particularly Sydney, is evident from the high level of enrolments in the most densely populated areas (decile 10). About 17 per cent of enrolments of 15 and 16 year-olds in NSW public schools are in the most densely populated...
locations. This group accounts for 50 per cent of all students in the highest decile, that is, half of all young Australians attending government schools in the most densely populated centres are in New South Wales.

If many students in New South Wales live in major urban centres, there are also many who live in more remote and isolated locations. While the proportion of young people living in the most isolated and remote locations (represented by decile 1) is about half that for the rest of Australia, there are roughly equal proportions in the bottom 5 population density deciles: 29.4 per cent for New South Wales and 31.6 per cent for the rest of Australia. This means that New South Wales has about one-third of all the Australian 15 and 16–year old public school students who live in sparsely populated regions.

Using population density as a measure of isolation, it would seem that remoteness as a source of disadvantage is a major issue for New South Wales. This is supported in part by another measure: proximity of the population to a centre with a population of at least 10,000. This measure is known as the Accessibility/Remoteness Index of Australia (ARIA) which was developed by the Commonwealth Department of Heath and Aged Care (DHAC) and the National Key Centre For Social Applications of GIS (GISCA). ARIA measures the remoteness of a point based on the physical road distance to the nearest Urban Centre in each of five size classes. The five classifications according to the index are: major city, inner regional, outer regional, remote, and very remote. The distributions of 15 and 16 year-old government school students across Australia are presented in Figure 2.7.

**Figure 2.7** Concentrations of students, by remoteness: New South Wales and the rest of Australia compared (%)

<table>
<thead>
<tr>
<th>Remoteness</th>
<th>New South Wales</th>
<th>Rest of Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major city</td>
<td>58.3</td>
<td>66.1</td>
</tr>
<tr>
<td>Inner regional</td>
<td>24.0</td>
<td>22.7</td>
</tr>
<tr>
<td>Outer regional</td>
<td>16.5</td>
<td>10.6</td>
</tr>
<tr>
<td>Remote</td>
<td>2.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Very remote</td>
<td>1.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Remoteness is based on groupings of Statistical Local Areas according to the ARIA Index classification for Statistical Local Areas. Data on the number of full-time 15 and 16 year-olds enrolled in government schools were derived from the Census of Population and Housing (ABS, 2001b).
There are few students in New South Wales in very remote locations (0.1 per cent of all students). However, there are sizeable numbers in areas depicted as outer regional. Students in New South Wales make up a quarter of all those living in such areas across Australia.

A key issue in research on the role of remoteness as a source of disadvantage is about the relationship between regional context and socioeconomic disadvantage. Lower levels of participation in post-compulsory schooling and lower achievement levels in rural and remote areas are to some extent at least due to the lower SES profiles of more isolated areas. It is possible to look at the effects of this on New South Wales, by examining the distributions of public school students across rural and urban areas of disadvantage. These are presented in Figure 2.8 where students are grouped into quintiles of disadvantage based on the area that they live in. Public school enrolments are compared for New South Wales and the rest of Australia.

**Figure 2.8 Concentrations of students, by rural and urban disadvantage: New South Wales and the rest of Australia compared (%)**

Source: Rural and urban disadvantage is based on groupings of Statistical Local Areas according to the 1996 SEIFA indexes of rural and urban disadvantage. Data on the number of full-time 15 and 16 year-olds enrolled in government schools were derived from the Census of Population and Housing (ABS, 2001b).

Students living in rural and remote areas of New South Wales (comprising about 40 per cent of all students living in rural areas across Australia using the SEIFA measure) are more often located in the least disadvantaged areas in SES terms. This applied to 47.4 per cent of rural students in NSW, as against 43.3 per cent of rural students in other parts of Australia. About 10 per cent of rural and remote students in NSW reside in the most socially and economically
disadvantaged regions of Australia (bottom two quintiles of rurally disadvantaged areas). This compares with 14.4 per cent for students in all other states and territories.

These figures would suggest that while proportionately lower than for other parts of Australia, there are still substantial numbers of students in New South Wales who live in rural and remote locations and areas which are disadvantaged in social and economic terms.

ESL

English as a Second Language (ESL) is a term used when describing groups within the population who speak a language other than English as their first or primary language. There are many children who live in families where the main language spoken at home is not English. According to the 2001 Census, this applied to 15 per cent of the population in Australia. The rate in New South Wales was higher at 20 per cent. However, while English may not be the main language spoken at home for this large part of the population (1 in 5 in NSW), family members may still possess proficiency in English language skills. For Australia, about four-fifths of the population identified as having a language other than English as the main language spoken at home actually reported that they could speak English well or very well. Only about 1 in 5 reported not being able to speak English well or not at all (ABS, 2001b). This equates to about 3 per cent of the population. In New South Wales, the figure was higher, representing 4.5 per cent of the total population.

It is likely that poor English language skills have a marked effect on progress and are a major form of disadvantage at school. A study of the relationship between English language skills and mathematics learning in New Zealand reported that ESL students tended to achieve 10 – 15 per cent below that of other students due to language difficulties (Neville-Barton & Barton, 2005). The language features causing difficulties varied, depending on the mathematical level as well as the home language and English language proficiency levels. Similarly, in the United Kingdom, an analysis of literacy and numeracy achievement among 15 year-olds found that students from families in which English was not the main language spoken at home were more often represented among the lowest achievers (Gill, Dunn & Goddard, 2002). Almost 5 per cent of students reported that English was not the main language they spoke at home and low achieving students were more likely to do so than high achievers (8 per cent and 2 per cent respectively).

Research in Australia suggests similar results to international studies. For example, a national study of the factors influencing Year 9 literacy and numeracy reported that after controlling for the effects of SES, gender and a range of other background influences, students from language backgrounds other than English achieved less well than other students in literacy (Rothman & McMillan, 2003). Similarly, an analysis of mathematical, scientific and reading literacy among 15 year-old Australians using data from the
Programme for International Student Assessment (PISA) found that students who did not speak English at home did not achieve as well as other students (Thomson, Cresswell, & De Bortoli, 2004).

Achievement at school is likely to be directly related to the levels of English language skills. However, other factors are likely to play a role, particularly for recent arrivals and refugees. For these groups, important influences may be:

- students having a wide variety of school experiences or in some cases no schooling at all.
- many students arriving with ESL needs although their skills in other languages may be well developed.
- students who recently attended school in their own country are unlikely to have studied the same examination syllabus as their peers in Australia.
- some students might have gaps in their learning resulting from interrupted schooling.
- students who are refugees facing issues of poverty and disruption.

New South Wales has the largest numbers of families in which English is not the main language spoken at home. But how is need distributed across schools? Figure 2.9 displays the concentrations of ESL students by type of school.

**Figure 2.9  Concentrations of ESL students, by type of school (%)**

<table>
<thead>
<tr>
<th>Percentage of schools</th>
<th>0</th>
<th>1-20</th>
<th>21-40</th>
<th>41-80</th>
<th>61+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>60.0</td>
<td>17.9</td>
<td>9.1</td>
<td>5.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Secondary</td>
<td>47.1</td>
<td>27.3</td>
<td>14.7</td>
<td>5.3</td>
<td>5.6</td>
</tr>
<tr>
<td>Central</td>
<td>92.4</td>
<td>6.1</td>
<td>1.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Note: Figures are based on enrolments in 2004

Figure 2.9 shows that some NSW schools have high concentrations of ESL students, while other schools do not have any. It shows that 60 per cent of all government primary schools did not have any ESL students in 2004, according
to annual school census data. This was true of 47.1 per cent of secondary schools. Conversely, in 13 per cent of primary schools and 10.9 per cent of secondary schools over 40 per cent of all students were classified as ESL.

It is evident that some schools enrol very large numbers of ESL students and carry a greater responsibility for this category of need.

Integration

Programs developed to address needs associated with the integration of students with disabilities in government schools are not being covered in the current review. However, it is important to recognise both the needs of integration students as a source of disadvantage in relation to educational outcomes and the potential impact of the uneven concentrations of integration students on school performance.

International and national research identifies physical disabilities and associated health problems as a source of disadvantage in relation to student achievement and participation. Students with disabilities, according to recent US data, were much less likely to graduate from high school in the U.S. Only 57 percent of 14-21 year olds with disabilities who left the educational system in 2000 graduated with a diploma and another 11 percent graduated with a certificate (NCES, 2003). This was more than 25 percentage points lower than for the rest of the population. Similarly, an Australian analysis of Year 12 completion found that after controlling for other background factor, students with disabilities were less likely to complete Year 12 than other students (Lamb et al., 2004b).

Given associated learning difficulties, it is hardly surprising that achievement levels of students with disabilities tend to be much lower than for other students. A US study of the English and mathematics skills of students in Minnesota reported that the gap in percentages of students meeting basic skill levels in Reading was 36 points between students with disabilities and other students (Thurlow et al. 1998). The gap in maths was 45 points. Students with disabilities as a group did not achieve even at the level of the group of lowest achievers who did not have disabilities. Similar patterns are likely to be observed in Australia.

The concentrations of students with disabilities in schools may have an effect on overall school performance, over and above the effects of intake. This could occur in schools with higher densities of students with disabilities, but may well vary by types of disabilities and other intake factors.

It is important to remember that the program of integration may well be working effectively and succeeding in meeting program goals despite such patterns. It is possible for students with disabilities in inclusive settings to
have improvement in standardized test results, acquired social and communication skills previously undeveloped, show increased interaction with peers, and be better prepared for post-school experiences, despite not achieving as well academically as other students. It is also possible for integration as an inclusive program to have positive effects on classmates without disabilities, such as greater acceptance and the valuing of individual differences, enhanced self-esteem, and greater tolerance for others.

**Figure 2.10 Concentrations of students with disabilities, by type of school (%)**

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1-2</th>
<th>3-5</th>
<th>6-10</th>
<th>11+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>11.9</td>
<td>25.9</td>
<td>46.1</td>
<td>14.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.3</td>
<td>46.8</td>
<td>44.8</td>
<td>5.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Central</td>
<td>4.5</td>
<td>13.6</td>
<td>51.5</td>
<td>24.2</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Note: Figures are based on enrolments in 2003

In 2003, about 2.5 per cent of students had disabilities requiring integration assistance in NSW public primary, secondary and central schools. In 16.1 per cent of primary schools these students make up more than 5 per cent of all enrolled students (see Figure 2.10). In secondary schools this was the case for 5.1 per cent of schools.

For a small percentage of primary schools (2.1 per cent) the numbers of integration students as a percentage of all students exceeded 10 per cent. The rate for central schools was 6.1 per cent.

There are a small number of schools that do not enrol any students requiring integration assistance: 11.9 per cent of all primary schools, 3.3 per cent of secondary schools and 4.5 per cent of Central schools.

Integration numbers changed in 2004. They fell by nearly 40 per cent with the re-assignment of students with ‘language difficulties’ and ‘mild mental disabilities’ to the Learning Assistance Program (LAP).
Regional variations

Concentrations of disadvantage can vary substantially by region. This is evident when looking at patterns of disadvantage by Department of Education school administrative region. Geographic regions of New South Wales are divided economically, socially and demographically. Administrative regions, to the extent that they divide schools geographically, capture this diversity. Some regions have high concentrations of students from disadvantaged backgrounds, while in other regions it is far less so.

Figure 2.11 displays the patterns of distribution of disadvantaged students across the different Department of Education administrative regions. The categories of disadvantage include:

- single parent families,
- parents unemployed or not in the labour force,
- parents who are pensioners,
- indigenous student enrolments,
- ESL enrolments, and
- Integration students.

The figures represent the mean school densities of each category for each region. As an example, New England has a mean density of ESL students of 0.1 meaning that the average school enrolment of ESL students across the region is 0.1 per cent. Some schools in the region may have quite high numbers of ESL students, but the average across all schools is 0.1.

Figure 2.11 Mean school densities of disadvantage, by category of disadvantage and region (%)
On the basis of the mean densities, it would seem that North Coast schools have high concentrations of disadvantage. Schools in this region serve families where many parents are unemployed or not in the labour force (32.8 per cent) and many are single parents (31.2 per cent). On average, this region also has the highest density of parents reliant on pensions or other welfare income support (25.4 per cent). North Coast also has a comparatively large share of indigenous students. While not as high as Western NSW (18.8 per cent) or New England (20.2 per cent), the rate is higher than for all other regions (10.6 per cent). North Coast schools do not have to address problems associated with ESL (average enrolments of only 0.1 per cent), but they have the highest mean density of integration students (3.8 per cent).

The rates for Northern Sydney are in sharp contrast to the North Coast. In the suburbs of Northern Sydney, schools have the lowest concentrations of indigenous students (1.4 per cent) and students from families where the parents are unemployed or not in the labour force (9.7 per cent), single parents (16.4 per cent) or pensioners (8.3 per cent). While higher than for all of the regions outside of metropolitan Sydney, the mean ESL density in Northern Sydney was lower than in other Sydney areas. Schools in this region also had the lowest concentrations of integration students (1.6 per cent).

The magnitudes may not seem much in comparing the regional distributions of integration students, but for all schools in Northern Sydney the density of students with disabilities is less than half that for schools in the North Coast region (1.6 per cent as against 3.8 per cent). It is another example of how schools in Northern Sydney do not share the same burden as schools in other regions when it comes to disadvantage associated with student background.

The concentrations of students with disabilities may seem very low with the highest average at about 4 per cent in the Western Metropolitan region. However, the rates in that region and the Northern Metropolitan region are double the rates recorded for the Eastern Metropolitan suburbs.

Schools with high concentrations of ESL students are located in only four regions:

- South West Sydney (44.1 per cent),
- Sydney (30.3 per cent),
- Western Sydney (17.6 per cent), and
- Northern Sydney (17.0 per cent).

But within these regions there is considerable variation in the language backgrounds of students (see Figure 2.12).

Not only do schools in South West Sydney enrol the largest numbers of ESL students, they enrol the largest numbers of students from particular language backgrounds. They serve students from Middle Eastern Language backgrounds at a rate almost three-times the rate of any other region (18.8 per cent as against 7.4 per cent in Sydney). Almost every fifth student across
Schools in South West Sydney is an ESL student from a Middle Eastern Language background. South West Sydney also has the highest mean school density of students from Pacific Island language backgrounds (4.7 per cent compared to 2.9 per cent in West Sydney, 1.8 per cent in Sydney and 0.6 per cent in Northern Sydney). The disadvantage associated with meeting ESL needs is highly concentrated in South West Sydney, not only because of the numbers of ESL students but also because the language backgrounds of ESL students in that region are also those associated with low levels of school achievement and lower retention rates, as reported in Chapter 5.

Figure 2.12 Mean school densities of ESL students, by language background and region (%)

<table>
<thead>
<tr>
<th>Region</th>
<th>Eastern Europe</th>
<th>Northern Europe</th>
<th>Central Asian</th>
<th>Adriatic</th>
<th>Indian</th>
<th>Pacific Island</th>
<th>Mediterraean</th>
<th>Other</th>
<th>Chinese</th>
<th>South East Asian</th>
<th>Middle Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>1.2</td>
<td>1.2</td>
<td>2.0</td>
<td>2.7</td>
<td>2.0</td>
<td>18</td>
<td>7.0</td>
<td>5.5</td>
<td>14.1</td>
<td>6.0</td>
<td>7.4</td>
</tr>
<tr>
<td>Northern Sydney</td>
<td>10</td>
<td>2.4</td>
<td>4.8</td>
<td>12</td>
<td>2.8</td>
<td>0.6</td>
<td>3.2</td>
<td>3.9</td>
<td>12.7</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>South West Sydney</td>
<td>0.5</td>
<td>0.8</td>
<td>1.0</td>
<td>3.2</td>
<td>3.2</td>
<td>4.7</td>
<td>4.9</td>
<td>6.5</td>
<td>0.7</td>
<td>10.1</td>
<td>16.8</td>
</tr>
<tr>
<td>West Sydney</td>
<td>0.5</td>
<td>0.9</td>
<td>1.2</td>
<td>1.1</td>
<td>4.3</td>
<td>2.9</td>
<td>3.5</td>
<td>4.2</td>
<td>5.1</td>
<td>4.0</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Schools in Northern Sydney and Sydney have the highest concentrations of students from Chinese language backgrounds, students who traditionally have had high levels of academic success.

The patterns reported in this section are consistent with a well-known fact: levels of disadvantage are spread unevenly on a regional basis.

**Multiple categories of need**

In examining any single category of disadvantage, it is evident that some schools can have very high concentrations. For example, some central schools have 90 per cent or more of their students from indigenous backgrounds. It is also important to recognise, however, that some schools deal with multiple categories of need.

As an example, a metropolitan primary school located in the South West Sydney Region has a population of 274 students with 10 per cent identified as students with disabilities, 9 per cent are indigenous, 63 per cent are ESL students (largely from Middle Eastern and Pacific Island language
backgrounds) with almost one-quarter categorised as Phase 1 (highest need) ESL learners, 31 per cent of students are from single parent families, 42 per cent have parents who are unemployed or not in the labour force and 38 per cent have parents reliant on government welfare income support. There are many schools that have similar profiles.

Table 2.1 presents the concentrations of disadvantaged students across primary and secondary schools by SES intake and category of need. Results are presented separately for schools in the Sydney metropolitan area and for those in other regions of New South Wales.

<table>
<thead>
<tr>
<th>Category of need</th>
<th>SES quintile</th>
<th>Disabilities</th>
<th>Indigenous</th>
<th>ESL</th>
<th>Phase 1 ESL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sydney metropolitan area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>4.5</td>
<td>10.9</td>
<td>45.7</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Lower middle</td>
<td>3.2</td>
<td>3.4</td>
<td>57.7</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>2.8</td>
<td>2.8</td>
<td>37.6</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>Upper middle</td>
<td>2.8</td>
<td>2.2</td>
<td>32.1</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>2.1</td>
<td>1.0</td>
<td>18.5</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Other regions of NSW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>5.0</td>
<td>21.1</td>
<td>1.3</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Lower middle</td>
<td>3.4</td>
<td>9.1</td>
<td>1.7</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>3.1</td>
<td>5.2</td>
<td>0.7</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Upper middle</td>
<td>2.4</td>
<td>3.8</td>
<td>1.7</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>2.0</td>
<td>2.2</td>
<td>0.7</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Sydney metropolitan area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>3.6</td>
<td>3.4</td>
<td>50.9</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Lower middle</td>
<td>2.7</td>
<td>2.8</td>
<td>30.7</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>3.0</td>
<td>4.8</td>
<td>26.3</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Upper middle</td>
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<td>2.0</td>
<td>22.2</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1.3</td>
<td>1.6</td>
<td>14.4</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Other regions of NSW</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>2.4</td>
<td>22.9</td>
<td>0.6</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Lower middle</td>
<td>2.5</td>
<td>9.0</td>
<td>0.5</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>2.1</td>
<td>7.5</td>
<td>0.6</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Upper middle</td>
<td>1.9</td>
<td>4.0</td>
<td>1.9</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1.3</td>
<td>1.6</td>
<td>1.7</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>
The patterns show that schools serving populations with high proportions of low SES students (based on quintiles of SES derived from SEIFA derived scores on an index of disadvantage) also have the highest mean enrolments of indigenous students, of those with disabilities, of those with needs associated with English as a second language, and of those classified as Phase 1 (highest need) ESL students. On average, in low SES primary schools in Sydney, 4.5 percent of students have disabilities requiring integration assistance, 10.9 percent of students are from indigenous backgrounds, 45.7 percent are ESL students and 10 percent are Phase 1 (highest need) ESL students. Compare these to the rates for primary schools in high SES areas of Sydney where, on average, only 1 percent of students in each school are indigenous, 2.1 percent are students with integration needs, and 18.5 percent are ESL students with few identified as Phase 1 students (3.5 percent).

Similar patterns are evident in the other regions of New South Wales and among secondary schools. In general, the concentrations of need associated with disadvantage in schools located in high SES areas are much lower for all categories.

The multiple layers of disadvantage are likely to compound the difficulties some schools face in raising levels of achievement and promoting good student outcomes. The effects of multiple categories of disadvantage cannot be under-estimated in measuring effectiveness, as the next section will show.
3. Equity and performance

Introduction

According to recent international comparisons, New South Wales is near the top of the pack in terms of mean student achievement scores in numeracy and literacy. Analysis of Programme for International Student Assessment (PISA) data shows that the mean achievement of 15-year-olds from New South Wales places the state equal to the top performing countries (Thomson, Creswell & De Bortolli, 2004; Lokan, Creswell & Greenwood, 2001). However, the spread of performance in New South Wales is also large, suggesting that social disparities are a major issue.

Reducing social differences in student achievement and outcomes is one of the greatest challenges faced by school systems. The study by Woessman (2004) comparing student achievement in mathematics across 18 countries found that in every country social differences in student background had more effect on achievement than any school input measure such as class sizes, teacher characteristics, and other features of schools. In contexts where there is marked social segregation — the uneven distribution of children from different social groups across schools — differences in achievement and outcomes are likely to intensify, even if mean levels of achievement are high.

Social segregation is a concern not only because of the direct relationship between the educational, occupational, and economic characteristics of family background and school success, but also the indirect effect through social differences in school intake. Children’s progress in school in part depends on the characteristics of their peers (e.g. Vignoles et al 2000). Higher rates of social segregation lead to greater variation in children’s achievement. The structure of a school system – particularly the variation in school intakes and the process of student assignment to schools – can affect the relationship between family background and school success and serve as a source of inequality in educational achievement.

This section examines the effects on school achievement and outcomes of the patterns of disadvantage documented in the previous chapter. It begins with a descriptive analysis of the relationship between social intake and several performance indicators. The analysis is largely restricted to cognitive measures — Year 3 and Year 5 achievement data, for example — because data on such measures was more readily available. In the following section, correlations between various social indicators and several performance indicators are presented, to explore the relationships between intake and outcomes. The final section presents results from regression analysis used to estimate the extent of the impact of disadvantage on school performance.
Comparisons of performance

Descriptive analysis

Differences in concentrations of disadvantaged students in New South Wales have a marked impact on the ability of schools to promote successful student outcomes. The impact can be measured in different ways. One way is simply to compare average performance on a range of measures for different groups of students.

Figure 3.1 compares the performance of secondary and primary schools on key achievement measures: Year 3 literacy, Year 5 literacy, Year 10 English and Year 12 mean HSC results. The results for each measure are based on performance averaged for the period from 2001 to 2004. In the first part of each panel, mean achievement scores are presented separately for each quintile of SES. The quintiles of SES are based on the whole school sample and were derived using a combination of scores from the SEIFA scale of disadvantage at a post-code level and the school survey results from the quadrennial survey of parents. Graphically presented in the second part of each panel are the percentages of schools in each quintile of SES that were above the state-wide mean on each measure.

The first panel shows differences in Year 3 literacy achievement. School mean scores in literacy achievement at Year 3 ranged from 36.1 to 60.7 with a mean of 50.3. The figure shows that there is a strong relationship between the performance of primary schools on Year 3 literacy achievement and the SES composition of the schools. Students in high SES primary schools (highest quintile), for example, obtained an average achievement score of 53.0 compared to an average score of 47.5 in schools with large numbers of low SES students (lowest quintile).

Very few low SES schools (those in the lowest quintile) were able to achieve above the average for the state. This was true for only 1 in 10 schools, compared with almost 9 in 10 schools from the highest quintile of SES. The gaps between quintiles are large and consistent. Higher achieving schools are those with high SES intakes, whereas low achieving schools tend to be those with a low SES intake.

A similar pattern appears for Year 5 literacy achievement. The mean for the state is higher than at Year 3 — 57.1 — but the gaps are just as large. The gap between high and low SES schools is 5.1 points. The Year 5 results on average fall as we move from high SES schools to low SES schools. The differences in proportions of schools achieving above the state-wide average are substantial. Low SES schools far more frequently perform below the average whereas upper middle and high SES schools perform above the standard. For high SES schools almost all achieve above the average (90 per cent).
### Figure 3.1  Achievement in primary and secondary schools, by SES (%)

#### Year 3 Literacy achievement

<table>
<thead>
<tr>
<th>SES quintile</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>47.5</td>
<td>2.9</td>
</tr>
<tr>
<td>Lower middle</td>
<td>48.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Middle</td>
<td>50.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Upper middle</td>
<td>50.8</td>
<td>1.9</td>
</tr>
<tr>
<td>High</td>
<td>53.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>

#### Year 5 Literacy achievement

<table>
<thead>
<tr>
<th>SES quintile</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>54.4</td>
<td>2.0</td>
</tr>
<tr>
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</tr>
<tr>
<td>Middle</td>
<td>57.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Upper middle</td>
<td>57.7</td>
<td>1.7</td>
</tr>
<tr>
<td>High</td>
<td>59.8</td>
<td>2.0</td>
</tr>
</tbody>
</table>

#### Year 10 English achievement

<table>
<thead>
<tr>
<th>SES quintile</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>63.7</td>
<td>7.8</td>
</tr>
<tr>
<td>Lower middle</td>
<td>68.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Middle</td>
<td>70.7</td>
<td>4.8</td>
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<tr>
<td>Upper middle</td>
<td>70.9</td>
<td>4.3</td>
</tr>
<tr>
<td>High</td>
<td>73.6</td>
<td>3.9</td>
</tr>
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</table>

#### Year 12 HSC mean score

<table>
<thead>
<tr>
<th>SES quintile</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>16.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Lower middle</td>
<td>20.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Middle</td>
<td>21.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Upper middle</td>
<td>22.4</td>
<td>3.7</td>
</tr>
<tr>
<td>High</td>
<td>24.8</td>
<td>3.6</td>
</tr>
</tbody>
</table>

NOTE: Secondary school results exclude selective entry schools.
The differences associated with social intake continue into secondary schools. Figure 3.1 shows the average Year 10 (School Certificate) results in English. The link between Year 10 achievement and social intake is linear. As we move from low to high SES schools there is an increase in mean achievement levels. The gap varies, but between the bottom and top quintiles is almost 10 points. This means that, on average, students in high SES schools achieve at a level 10 points higher than students in low SES schools. In terms of schools performing above and below the state mean, most low SES schools have massive ground to make up as only 12 per cent reached or bettered the state mean in Year 10 English. The vast majority do not match the performance of even the worst performing high SES schools.

Also worth noting for the Year 10 results, are the differences in standard deviations in mean achievement. The certainty in obtaining high levels of achievement is delivered mainly in high SES schools. The standard deviation for high SES schools is exactly half that of low SES schools. What it shows is that not only do high SES schools do better on average in Year 10 English, they do so more uniformly. Based on these results, it would seem that these schools can guarantee their middle class clientele high levels of achievement delivered with a much higher degree of certainty. There is much wider variation in performance across low SES schools, even though the mean achievement level is very low (and only 12 per of schools in this group achieve the state-wide average or higher). Performance around the quintile average in low SES schools fluctuates widely.

The social patterns for the Year 12 (HSC) mean scores are slightly weaker than at other year-levels. One of the reasons is the effect of differential rates of retention which weaken social patterns in achievement since students from low SES schools more often leave before Year 12. Even so, there is almost an 8-point gap between the mean HSC results of low SES and high SES schools.

Correlation analysis

Table 3.1 shows the correlations between a range of performance measures — numeracy achievement in Years 3, 5, 7 and 8, Year 10 achievement in mathematics, mean HSC (Year 12) scores and apparent retention from Year 7 to Year 12 — and a range of social indicators. The indicators for the schools that participate in the quadrennial survey of parents include the densities of single parents, those on income support, parents who are unemployed or not in the labour force, and the density of working parents. The mean educational attainment and occupational status of parents are also included in the list of indicators from survey schools. The correlations for survey schools are based on approximately 60 per cent of all schools. Schools missing in these analyses tend to be more often those with a higher SES intake. The indicators that are used for all schools (in the second half of the table) include a composite measure of SES and the densities of indigenous students, ESL students and students with disabilities (integration students). The SES measure is based on the post-code level SEIFA index of disadvantage. It captures the SES profile
of the area in which the school is located. It is likely to under-represent the impact of SES because it is not based directly on the family characteristics of students enrolled in the schools.

### Table 3.1 Correlations between indicators of performance and indicators of disadvantage

<table>
<thead>
<tr>
<th></th>
<th>Numeracy</th>
<th></th>
<th>Year 8</th>
<th>Year 10</th>
<th>HSC mean</th>
<th>Apparent retention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 3</td>
<td>Year 5</td>
<td>Year 7</td>
<td>Year 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Survey schools</strong></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single parents</td>
<td>-0.51**</td>
<td>-0.50**</td>
<td>-0.52**</td>
<td>-0.54**</td>
<td>-0.44**</td>
<td>-0.37** -0.15*</td>
</tr>
<tr>
<td>On income support</td>
<td>-0.44**</td>
<td>-0.44**</td>
<td>-0.46**</td>
<td>-0.39**</td>
<td>-0.46**</td>
<td>-0.38** -0.05</td>
</tr>
<tr>
<td>Unemployed or NILF</td>
<td>-0.56**</td>
<td>-0.56**</td>
<td>-0.60**</td>
<td>-0.56**</td>
<td>-0.53**</td>
<td>-0.43** -0.03</td>
</tr>
<tr>
<td>Working parents</td>
<td>0.56**</td>
<td>0.52**</td>
<td>0.59**</td>
<td>0.57**</td>
<td>0.53**</td>
<td>0.46** 0.02</td>
</tr>
<tr>
<td><strong>Mean of:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational attainment</td>
<td>0.58**</td>
<td>0.64**</td>
<td>0.64**</td>
<td>0.60**</td>
<td>0.55**</td>
<td>0.44** 0.20**</td>
</tr>
<tr>
<td>Occupational status</td>
<td>0.57**</td>
<td>0.60**</td>
<td>0.63**</td>
<td>0.58**</td>
<td>0.56**</td>
<td>0.51** 0.08</td>
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<tr>
<td><strong>All schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td>0.68**</td>
<td>0.65**</td>
<td>0.53**</td>
<td>0.58**</td>
<td>0.60**</td>
<td>0.45** 0.39**</td>
</tr>
<tr>
<td><strong>Density of:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous students</td>
<td>-0.53**</td>
<td>-0.55**</td>
<td>-0.49**</td>
<td>-0.58**</td>
<td>-0.48**</td>
<td>-0.44** -0.43**</td>
</tr>
<tr>
<td>ESL students</td>
<td>-0.04</td>
<td>0.03</td>
<td>-0.09</td>
<td>-0.10</td>
<td>-0.10</td>
<td>-0.12* 0.30**</td>
</tr>
<tr>
<td>Integration students</td>
<td>-0.47**</td>
<td>-0.48**</td>
<td>-0.50**</td>
<td>-0.41**</td>
<td>-0.51**</td>
<td>-0.50** -0.29*</td>
</tr>
</tbody>
</table>

**NOTE:** results are based on average results for the period from 2001 to 2004 and include only those schools with an enrolment above 100 students. Year 8 numeracy results are based on the 2002 to 2004 period because of a small number of participating schools in 2001.

** p<.01 * p<.05

In general, in the analysis for all schools the results show very high correlations (mostly above 0.5, often 0.6) between socioeconomic status and school mean achievement at both primary (Year 3 and Year 5 achievement) and secondary levels (Year 10 and Year 12 results). As the social area catchment of the school rises, in SES terms, performance also rises. For example, the correlation between Year 3 numeracy and SES is 0.68 suggesting that performance at this level in primary school is strongly related to social intake.

The densities of indigenous students and integration students are also significantly correlated with school achievement. As the densities increase, levels of achievement fall. Schools that enrol proportionately larger numbers of integration students and indigenous students do less well at every level of achievement. The same is not true in the case of density of ESL students. In terms of numeracy achievement, the density of ESL students has little
relationship with school achievement levels, apart from HSC mean scores which reveal a weak but significant correlation suggesting that schools with proportionately larger numbers of ESL students tend to do less well. This does not apply to apparent retention. For that measure there is a positive correlation suggesting that schools with higher proportions of ESL students tend to have higher retention rates. This is consistent with research suggesting that young people from language backgrounds other than English are much more likely than those from English-speaking backgrounds to stay in full-time education after reaching the minimum age and complete Year 12 (e.g. Lamb et al. 2004b). The strong retention rates for students from language backgrounds other than English are found despite the fact that young people from these origins are not, on average, more successful academically in school (though achievement levels are certainly higher for some groups). The patterns have been linked with higher educational aspirations (Sturman, 1985).

The separate indicators available from the survey schools are more direct measures of social intake because they are based on the family characteristics of students attending the schools. Often the correlations are slightly weaker when compared with the results for the SES indicator used for all schools. This is because the survey school indicators are based on a truncated sample that excludes many of the high SES schools. Even so, the performance indicators results are strongly correlated with the social indicators. For example, as the mean educational attainment of parents increases, so does numeracy achievement at every measured year-level. The relationship is just as strong between achievement and mean occupational status.

The relationships between achievement and the other social indicators are also strong. For example, there is a negative relationship between the density of students from families in which the parents are on welfare assistance (income support) and achievement. This means that as the density of students from these backgrounds increase, there is a corresponding decline in achievement. Students from families in which parents are dependent on income support do less well in school compared to students from families in which parents are not reliant on welfare payments. Correspondingly, there is a positive relationship between achievement and the percentage of parents in full-time work. As the percentage of parents in full-time work increases (and, quite likely, family income and qualifications) so does the level of achievement. Achievement in school is partly a function of social intake, evident even in the truncated sample of survey schools.

For many of the social indicators, the relationships with apparent retention are not significant. The densities of parents in full-time work, those on income support and those who are unemployed have little or no relationship with apparent retention. The indicators that are correlated include the density of single parents, and the educational attainment levels of parents. In looking at the indicators for all schools, intake is correlated with retention for every measure. Survival rates to Year 12 are substantially weaker in low SES schools and schools which have higher densities of indigenous students and
students with disabilities. As mentioned above, retention rates rise in schools with higher densities of ESL students.

Regression analysis

Regression analysis, in which the indicators of social disadvantage are used to predict each of the effectiveness measures, shows consistently that increases in the numbers of students from socially disadvantaged backgrounds significantly reduces school performance as measured by achievement and retention.

The impact can be assessed by looking at the levels of variation in achievement and participation that can be explained by school social composition according to the different social indicators. Table 3.2 presents the levels of explained variance. Two sets of results are presented for each level of schooling. The first includes all schools and is based on a regression analysis that includes the SEIFA-based SES measure of disadvantage, density of indigenous students, density of integration students, and the percentage of ESL students. The second is based on the survey schools and includes density of indigenous students, density of integration students, percentage of ESL students as well as the densities of families in which parents are unemployed, where parents are on income support, parents are in full-time work, parents are in sole parent situations as well as mean educational levels of parents and the occupational status of parents.

Table 3.2 Variance in school outcomes explained by social characteristics of schools (%)

<table>
<thead>
<tr>
<th>Performance indicator</th>
<th>Primary Survey schools</th>
<th>Secondary Survey schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3 literacy achievement</td>
<td>63</td>
<td>56</td>
</tr>
<tr>
<td>Year 3 numeracy achievement</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>Year 5 literacy achievement</td>
<td>59</td>
<td>56</td>
</tr>
<tr>
<td>Year 5 numeracy achievement</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>Year 7 literacy achievement</td>
<td>47</td>
<td>60</td>
</tr>
<tr>
<td>Year 7 numeracy achievement</td>
<td>40</td>
<td>56</td>
</tr>
<tr>
<td>Year 8 literacy achievement</td>
<td>43</td>
<td>57</td>
</tr>
<tr>
<td>Year 8 numeracy achievement</td>
<td>38</td>
<td>50</td>
</tr>
<tr>
<td>Year 10 English achievement</td>
<td>45</td>
<td>56</td>
</tr>
<tr>
<td>Year 10 Mathematics achievement</td>
<td>37</td>
<td>45</td>
</tr>
<tr>
<td>Year 12 HSC mean achievement</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>Apparent retention from 7 to 12</td>
<td>38</td>
<td>32</td>
</tr>
</tbody>
</table>
The results highlight the impact of social composition on school performance. At secondary school level, for example, 60 per cent of the total variation in Year 7 literacy achievement across the survey schools can be explained by school differences in social composition. Similar amounts of variance are explained by the social measures in the analysis of Year 7 numeracy achievement, Year 8 literacy and numeracy achievement, and in Year 10 English and mathematics. School social intake characteristics account for less of the variation in HSC mean achievement scores. Social disadvantage is less likely to predict achievement at this year-level thanks to the effects of social differences in retention, producing a more socially and academically selected population in the final year of schooling.

At primary school level, over 50 per cent of the school variation in most achievement measures is explained by the social characteristics of the schools alone. For the analysis using all schools, the range was from 54 per cent for Year 5 numeracy achievement to 63 per cent in Year 3 literacy achievement.

The impact of disadvantage on performance can also be assessed by looking at adjusted rates of achievement, after controlling for social intake. Figure 3.2 presents observed and adjusted rates of Year 10 achievement in English. The actual or observed rates are reported in the first panel and the adjusted rates in the second panel. The adjusted rates were derived from a regression analysis undertaken with the survey sample schools. The various intake attributes were included to permit estimation of residuals (unexplained variance) after controlling for school population differences. Standardised residuals were generated and saved to identify schools performing above predicted performance levels given their intake. The analyses also identify schools that are underperforming according to the results. This part of the analysis is one of the approaches characteristic of school effectiveness research. While some studies use both student and school level analyses, there is a strand of research which uses school level results to assess school performance (see, for example, Jesson, 2001).

The results in Figure 3.2 present analyses using mean school results averaged over the 2001 to 2004 period. Distributions of Year 10 achievement in English are mapped against mean SES scores to identify patterns of school performance. Each dot represents a school. The SES scores measure disadvantage, ranging from −3 (high SES) to 3 (low SES). A trend line is added to the first panel to assist in identifying schools that are performing above or below the average, while a reference line has been added to panel 2 to identify schools that are performing above or below predicted achievement levels.

Of note in the first panel is the fairly linear relationship between SES scores and Year 10 achievement. As levels of disadvantage increase, achievement levels in Year 10 English fall. However, the distributions of achievement around the mean (represented by the trend line) suggest that at any given SES
level there is a spread of performance with some schools doing better than average, some about average and some below average.

Figure 3.2  Actual and adjusted Year 10 English achievement, by SES
This general pattern holds throughout much of the range of SES, though at the lower end, there is a group of schools — the most disadvantaged — that are performing well below average. Performance of schools at the bottom end of the range tends to fall away.

Much of the difference in performance across schools is due to social intake. Panel 2 shows school performance after controlling for social intake differences. The scores are residuals derived from regression analysis with the residuals representing the amount of variation in scores unaccounted for after controlling for social intake. Schools are represented in terms of their distance from the level of performance that would be expected, given their level of SES. Those above the horizontal axis are performing at higher than expected levels. Those below the axis are under-performing. The amount of distance is expressed in units of standard deviation. Each unit of standard deviation represents 5 points on the original scale of Year 10 English achievement. A school located at two standard deviations above zero (which represents the mean) achieves on average for its students a gain of 10 points in Year 10 English achievement scores. The scores are based on a scale of 100 with a mean across schools of 67.

One thing worth noting from the results is that the level of disadvantage in student intake is associated with differences in extent of prediction of achievement. Schools which serve less disadvantaged communities (high SES schools) tend to cluster around the middle point (0). This means that these schools are achieving at expected levels given their social intake. However, as the level of disadvantage increases there is a growing dispersion of schools. At the higher end of the disadvantage scale (low SES schools), there is a comparatively wide dispersion of schools. In some cases, SES greatly under-estimates Year 10 achievement, while in as many other cases the average Year 10 English score is well below what SES predicts. Some schools are as much as two or even three standard deviations above or below the achievement levels that would be expected given their social intake.

The chart is a rather classic representation of differences in school effectiveness. At any given point on the SES scale there is a spread of schools. Having controlled for SES this would suggest that other features of school — organisation, policy, practice, for example — are contributing to differences in achievement. Some schools are producing gains in achievement for their students well above what would be expected, given their social intake. In line with this school effectiveness approach it would suggest a need to identify what these schools are doing so that other schools may benefit from identifying what it is that is contributing to higher levels of achievement. The largest gains seem to occur in lower SES schools. What must be remembered, however, is that these schools are performing well relative to like schools (schools with a similar intake) and may have achievement levels well below the levels achieved in high SES schools (as is suggested by the results in Panel 1).
While some schools seem to produce gains compared to like schools (something worthy of further examination), it is important to look at both absolute and relative differences in achievement. The relative differences in panel 2 are achieved after holding social intake constant. What the results are attempting to portray are differences in effectiveness across schools with similar levels of SES. However, school effectiveness models need also to be viewed in the context of absolute differences between schools serving different populations. These absolute differences are substantial. Moreover, the perception in the community that large differences in standards do exist—even if not known precisely—stimulates enrolment drift (and also residential migration), which in turn contributes to absolute differences in attainment. It is the absolute achievement, not relative achievement, which determines opportunity and future life chances. Both relative and absolute differences in perspective are important.

The patterns highlight the size of the task that confronts New South Wales in addressing social disadvantage in government schools. Social gaps in achievement and outcomes are large. Targeted programs and supplementary funding are required to address the disparities that are associated with disadvantage.

The following sections examine each of the different funding programs in New South Wales designed to reduce the effects of inequality in schooling.
Programs addressing need
4. Priority Schools Funding Program

Introduction

In response to the impact of social disadvantage on achievement and outcomes, the New South Wales government has in place a variety of programs to assist government schools. The cornerstone of these is the Priority Schools Funding Program (PSFP). It provides additional assistance to school communities to reduce the achievement gap for students in schools with high concentrations of students from low socio-economic status backgrounds. It does this by providing schools with the means to initiate and implement activities and practices to encourage improvements, activities such as professional learning for teachers and community members, resource materials development, research and the sharing of effective practice in local networks of PSFP schools. Through the support of PSFP consultants and community development officers working to support community partnerships and interagency links, PSFP schools are encouraged to meet program and regional priorities such as improvements in students’ literacy, numeracy and participation outcomes.

This chapter presents an overview of PSFP and an assessment of its impact on schools in terms of meeting program objectives. Consideration is given to the effectiveness of PSFP in targeting need and addressing equity concerns for disadvantaged students. Reflection is also provided on the factors which work to limit the impact of PSFP. We begin by looking at how other systems have approached the funding of programs to address social disadvantage in government schools.

Approaches employed in other systems

The impact of social background on achievement and outcomes is experienced in all OECD countries. For this reason, most systems have introduced programs and supplementary funding to help reduce social differences in learning. However, while research in other countries indicates that need associated with social background has a strong relationship with how well students do in school, the processes by which it does so are not necessarily agreed on (see, for example, Teese, 2000; Teese & Polesel, 2003). Therefore, the types of programs and the amounts of funding vary substantially across systems. It is worth outlining, briefly, some of the main approaches to funding in Australia and in other nations.

Australian states and territories

All states and territories and the Commonwealth provide additional funding to be used to support the schooling of socioeconomically disadvantaged students. A common form of support is a student assistance scheme with funds provided
directly to poor families to help with the costs of school levies and associated schooling expenses. In addition to providing direct financial aid to families, jurisdictions also provide support to schools with high concentrations of socially disadvantaged students. Most of these initiatives are supported by funds from the Commonwealth for distribution to schools through the Strategic Assistance for Improving Student Outcomes Program (SAISOP). This program was formerly known as the Commonwealth Literacy Program and prior to that the Disadvantaged Schools Program. While all jurisdictions receive funding from this source, they differ substantially in the mechanisms used to assess need and target funds. Some states and territories provide additional resources to those derived through SAISOP.

In South Australia, funding is allocated to schools annually with the aim of improving the learning outcomes of students from low socio-economic backgrounds. In the past, funding was allocated to schools on the basis of need with the density of students receiving government financial assistance (students in receipt of the “School Card Grant” aimed at meeting the cost of school levies for low SES families) used as the indicator to assess and categorise level of need. From 2005, a new index is being used to allocate funding to schools, the Index of Educational Disadvantage (IED).

The IED uses four equally weighted dimensions to assess need: parental income, parental occupation and education, numbers of indigenous enrolments and student mobility. Australian Bureau of Statistics (ABS) Census data are used to determine income, occupation and education data for each school based on catchment area. Student mobility is calculated as the number of new enrolments and leavers during March to November as a percentage of total school enrolments. Annual school census data are used to calculate indigenous enrolments as a percentage of total enrolments. Both indigenous enrolments and student mobility are expressed as a 3-year weighted average. The IED is calculated by equally weighting each dimension and then using the aggregated derived scores to rank schools in 7 categories from most disadvantaged (1) to least disadvantaged (7). Funds are then allocated on a per capita basis according to a sliding scale for the first 4 categories (approximate rates: category 1, $190 per student, category 2, $130 per student, category 3 $100 per student, category 4 $75 per student). Schools with small enrolments are given a base payment.

Supplementary staffing is also provided by the state government as part of its equity program to address social disadvantage. The IED is used to allocate resources for Extra Junior Primary teachers, Primary School Counsellors and additional staffing support for students in socially disadvantaged schools. The allocation of extra early-primary teachers is used to ensure that no junior primary class need be greater in size than 18 students in the most disadvantaged schools (category 1 and 2) and 21 in category 3 schools according to February enrolments of the school year. This additional staffing is targeted only at high need schools. Funding for Primary School Counsellors is also allocated according to IED category and numbers of enrolments.
Additional staffing support for students in high need primary and secondary schools are allocated according to IED criteria or special project purposes.

In Victoria, prior to 2005, the funding for disadvantaged schools was calculated using a Special Learning Needs Index (SLN). Funding was targeted at those students who are disadvantaged because of family and background circumstances. Funding for SLN in 2003 was approximately 33 million dollars, representing about 1 per cent of the total school budget. The SLN Index comprised six elements: (1) proportion of students receiving Educational Maintenance Allowance (EMA) or Youth Allowance, (2) student mobility, the proportion of students who transfer into the school other than at the beginning of the year, (3) proportion of indigenous students, (4) proportion of students from language backgrounds other than English (LBOTE), (5) density of single parent families (6) measure of occupational status. The SLN Index was a composite measure in which greater weight was given to student mobility, EMA, and Indigenous enrolments (equally weighted) than to LBOTE, family status, and family occupation (each weighted by half). Funds were allocated according to a formula of enrolment by SLN derived score with a threshold set at 66 per cent of schools.

From 2005, the composite SLN Index was replaced by a single measure of family occupational status to assess equity funding needs. This move was based on evidence that a composite measure was unnecessary and in some instances impeded the targeting of real need. Family occupational status (a scaled measure incorporating unemployment and a status ranking of occupations) accounted for almost all of the variance in school performance measures, with no other measure from the SLN index adding any significant contribution to explaining differences in school effectiveness. In addition to the move to a new index, SES equity funding was increased to $50 million. The threshold was lowered to initially target 50 per cent of schools with a longer term aim of 27 per cent of schools. The formula for assessing need generates weighted proportional funding for schools based on family occupation index scores.

Queensland, Tasmania and Western Australia have similar programs for targeting needs associated with social disadvantage. The Literacy Enhancement Program in Queensland and the Commonwealth Literacy Program in Tasmania and Western Australia use index-derived weights to allocate funds to schools. In Queensland this is based on ABS Census data (using SEIFA indices) to identify schools that serve the most disadvantaged areas (10 per cent). In Tasmania, the same approach is taken but also taking into account the proportion of students in schools receiving funds from the states financial assistance program for poor families, the Student Assistance Scheme. Funds in Tasmania are targeted at 30 per cent of schools. A similar approach is taken in Western Australia with government schools ranked and grouped according to an index of disadvantage. The most disadvantaged group is allocated 60 per cent of available funds, the second most
disadvantaged 30 per cent and the third most disadvantaged 10 per cent. This applies to about 60 per cent of schools.

The Australian Capital Territory government provides additional support for socio-economically disadvantaged students through the Schools Equity Fund (SEF). For the purposes of this fund, disadvantage is determined using a SEIFA based scale of disadvantage. Support is provided for programs in selected Priority Schools. In a Priority School, 25 per cent or more of its student population live in districts defined as socio-economically disadvantaged. Territory funds are combined with Commonwealth funds to provide for a range of additional education support programs.

**Internationally**

A variety of approaches is taken in other countries to funding need associated with socioeconomic disadvantage, varying according to the organisation of schools and model of funding.

In the United Kingdom, funding operates at two levels, at the central level via the Department for Education and Skills (DfES) and at the local level via the Local Education Authorities (LEA). The education budget of approximately £25 billion is distributed amongst LEAs according to a funding formula that allocates a base amount per student plus a top up amount that is calculated according to the proportions of students in each LEA that meet the criteria for Additional Education Need (AEN). All but ten of the 154 LEAS receive top up money for AEN. This is calculated from a formula that uses a combination of the proportion of children in families in receipt of Income Support/Working Families Tax Credit (approx 15 per cent nationally) and an index of ethnicity/English as an Additional Language (about 4 per cent nationally).

The amount of top-up money provided to LEAs (beyond the basic allocation of £2005 per primary student and £2657 per secondary student) is £1300 per AEN student. LEAs then distribute funds to schools according to criteria set by individual LEAs. The most frequently used are eligibility for free school meals, scores on national achievement tests and information from direct pupil audits.

The proportion of the education budget used to fund AEN is 18.8 per cent.

Several other targeted initiatives operate to address the needs of disadvantaged students. An example is Excellence in Cities (EiC). This is a targeted programme of support serving schools in the most disadvantaged areas. The programme involves 57 LEAs, 1000 primary schools and more than 1000 secondary schools. Interventions focus on teaching and learning, behaviour and attendance, and leadership. Total funding for EiC for 2003-4 was over £350 million (Ofsted, 2003).
In the United States, the cost of educating students is divided between local, state and federal resources. In the school year 2002-3 the relative contributions from these levels of government were 43 per cent, 49 per cent and 9 per cent respectively. Thus education is primarily a State and local responsibility. States develop educational funding formulas to determine the total amount of funds needed for each student and to establish the state’s share of these costs. The formulas used to fund education at the state level in the US vary from state to state. The most common is a foundation/base formula, which provides for a base funding amount that is multiplied by a weight for each student which varies depending on the level of perceived need. For example, higher funding levels are provided to students enrolled in special education, English Language Learner or at-risk programs. Some states allocate a foundation amount that varies from district to district, whilst other states allocate funding based on total student enrolment.

A vast array of programs have been established to improve attainment and school retention of students “at risk” due to poverty and/or minority status. Some states and districts attempt to allocate funding on the basis of need. For example, Seattle School District (which is responsible for approximately 100 secondary schools) includes an indicator of poverty in its student allocation formula. The indicator used is eligibility for free or reduced cost school lunches, for which 42 per cent of students qualify. In this district the budget allocation for poverty is 4.5 per cent of the total school budget.

In New Zealand, education funding is controlled centrally by the Ministry of Education. Education expenditure in 2004 was $1,234 million (Ministry of Education Annual Report 2004). Equity funding to target socioeconomic disadvantage amounted to 8.5 per cent of the total education expenditure. Schools access targeted funds determined by a decile rating of the socioeconomic profiles of school communities. Decile 1 schools have the highest proportion of students from low socio-economic communities, whilst Decile 10 schools have the lowest proportion of these students. Census information is used to calculate the decile rankings, based on a random sample of student addresses. The addresses are assigned to small Census areas called mesh blocks (equivalent to ABS Census Collection Districts), which contain about 50 households. The socio-economic indicator consists of five factors: (1) household incomes, the percentage of households in lowest 20 per cent nationally, (2) occupation, the percentage of employed parents in lowest skilled occupational groups (e.g. labourers, machine operators), (3) household crowding, the number of people in household divided by number of bedrooms, (4) educational qualifications, the percentage of parents with no tertiary or school qualifications, (5) income support, the percentage of parents who directly receive unemployment, sickness or invalid benefits in the previous year.

The indicators are weighted by the number of students from each mesh block. Schools are ranked in relation to every other school for each of the five factors and receive a score according to the percentile they fall into. The five scores
for each school are added together (without any weightings) to give a total which is compared to all other schools in the country. Schools are then divided into ten even groups.

The main equity program is the Targeted Funding for Educational Achievement (TFEA). It is designed to overcome barriers to learning experienced by students in low socio-economic circumstances. The 8.5 per cent of funds designated for addressing the needs of low SES students are allocated on a sliding scale linked to decile rating.

In Canada, education is the responsibility of each province and territory. Commitments to equity funding vary depending on region and type of need. Most provinces distribute the largest amount of funding through base or foundation grants, which are usually based on enrolment, allocating equal amounts per student to each school district. Categorical grants address different needs, the most common being in areas of special education, transportation, scarcity, declining enrolment, operation services and social disadvantage. Several provinces provide examples of approaches to equity programs linked to social disadvantage.

Ontario, for example, established the Learning Opportunities Grant (LOG) which is aimed at students at risk of academic failure and dropout. In 2004-5 this grant was $455.5 million, or 5.5 per cent of total education expenditure (Ontario MOE, 2004). It consists of four components: (1) demographic component, to meet needs of socio-economically disadvantaged students, $317 million, (2) Early Literacy component, to support improving early literacy for students from Junior Kindergarten to Grade 3, $67 million, (3) Literacy and Math outside the School Day Component, additional support to enhance literacy and math skills of students at risk of not meeting the new curriculum standards and the requirements of the Grade 10 literacy test, $20.6 million, (4) Student Success, Grades 7 to 12 component, formerly known as Students at Risk component, to improve teaching of literacy and numeracy, to assist students prepare for Grade 10 literacy test and to increase success of school-to-work transition, ($51 million).

A program designed to target socioeconomic disadvantage is a feature of school funding in Alberta. Eligible students receive an extra $416 on top of the base instruction amount of $5087 for grades 1-9, or $5,232 for grades 9-12. Eligibility is determined through a relative weighting factor based on four indicators: (1) percent of families living below the poverty line, (2) the average number of years of education of mothers, (3) the percent of families headed by a lone parent, and (4) transience rate, based on student mobility.

Funding in Manitoba is designed to assist students at risk reach province-wide standards. The Students at Risk Formula Grant offers schools and school divisions/districts funding to enable students at risk to meet the standards of performance that other students in the province are expected to meet. The grant is intended to:
• encourage improved practices for students at risk in the areas of curriculum, instruction, assessment, classroom management, and school organization
• support professional development and collaborative planning among teachers, principals, specialists, support staff, parents, and the community
• increase the flexibility of schools and divisions/districts to implement changes based on best practices through an action research process.

Funding was based on two indicators: (1) the percentage of low income families with school-aged children in the school catchment area, and (2) the incidence of transience or student mobility.

The maximum per pupil rate in 2004/5 was $1,953 (based on the highest indicator score of disadvantage).

Approach to funding need in New South Wales

The NSW Priority Schools Funding Program (PSFP) assists schools with high concentrations of students from low socio-economic status (SES) backgrounds. The PSFP is jointly funded by the Commonwealth’s Strategic Assistance for Improving Student Outcomes Program (SAISOP) and the NSW Government. The PSFP is underpinned by principles of equity and social justice and focuses on literacy, numeracy and participation as the most critical requirements for student achievement across the full range of education and training outcomes.

PSFP provides additional resources to support students in schools with the highest concentrations of socio-economically disadvantaged families. Identified schools receive consultancy support, additional funding and staffing supplementation.

Funding is provided in recognition of the persistence in gaps in achievement levels, participation and outcomes between students in schools serving low SES communities and more advantaged communities. The PSFP has the aim of reducing, with a view to eliminating, the achievement gap in student learning outcomes for concentrations of students who may be adversely affected in schooling due to their socio-economic circumstances.

The PSFP:

1. reflects the belief that all children are entitled to fair, equitable, and significant opportunities to obtain a high quality education and reach academic achievement standards to enrich their life chances.
2. reflects the belief that students in schools serving low socio-economic status communities are as deserving and capable of high quality education outcomes as students from more advantaged communities.

3. acknowledges that schools can and do make a difference.

The program accepts that teachers in PSFP schools face additional challenges to achieve educational outcomes that are taken for granted in more advantaged communities. The program provides PSFP schools with support to meet those challenges, while working within the Department’s broad planning, curriculum and accountability frameworks.

The present approach to funding through PSFP in New South Wales combines both a relative-needs notion of equity, which distinguishes between schools, and a formal notion of equity, which makes no distinction between schools. The relative-needs approach is evident in the fact that not all schools receive PSFP funding. PSFP is designed to target 21 per cent of the most disadvantaged students. This means that only a certain number of schools are provided with funds to target the needs of disadvantaged students. Additional resources, beyond those given to other schools, are provided to directly address the additional learning needs of students from low SES families. This approach to differential funding linked to differences in need is the key principle of relative-needs funding.

The formal equity approach comes in to play in the distribution of funds to those schools that are identified as high need schools requiring additional funding. Within the group of eligible schools (currently about 576 schools), there is no distinction made in the allocation or distribution of funds. The most disadvantaged schools, according to the ranking of schools, receive only as much as the schools that are closer to the threshold. All schools are treated alike and as such are treated as formally equal in need.

The resources provided to schools come in the form of consultancy support, additional funding and staffing supplementation. In 2004, the additional direct funding to schools amounted to $20.1 million dollars derived from Commonwealth funding. The state government contributed 280 additional teaching positions for PSFP schools (supplementary staffing). Funds allocated to schools are done so on a per capita basis with no distinction between stages of schooling, such as between primary and secondary schools. A stage of schooling weight is applied to the allocation of supplementary teachers. PSFP secondary schools receive one additional teacher for every 450 students and primary schools one additional teacher for every 800 students.

Eligibility for PSFP funding is dependent on a voluntary quadrennial survey of parents. The survey collects information including occupational status of parents or caregivers, hours worked and educational qualifications. Information on a school by school basis on numbers of indigenous students, numbers of single parents, numbers of parents in employment, numbers unemployed or not in the labour force, numbers of parents on income support,
the educational attainment of parents and their occupational status is used to identify levels of disadvantage across schools. A factor analysis procedure is employed to provide school weights to help rank schools on the basis of their factor loadings. A threshold is then applied based on the cumulative enrolments of schools in rank order (to target 21 per cent of students).

From the previous section it is clear that this approach to identifying schools for funding is unique in Australia. Other jurisdictions use either census derived data on school catchments (such as SEIFA indexes of disadvantage) or scales based on occupational status using annual school census data with information collected on the occupations of parents provided directly by schools. Thresholds are set depending on the numbers of students and schools that are to be targeted.

What impact does the New South Wales approach to the funding of equity needs have?

The impact of PSFP

A key goal of the PSFP is in “reducing, with a view to eliminating, the achievement gap in student learning outcomes for concentrations of students who may be adversely affected in schooling due to their socio-economic circumstances” (NSW DET, 2004). An evaluation of the impact and success of the program needs to consider this stated aim. However, it should be kept in mind that this aim was not always considered to be easily achievable or the main objective. The PSFP has its roots in the Commonwealth funded Disadvantaged Schools Program, a scheme that stemmed from the Karmel Report’s Interim Committee (1973) recommendations that some schools require a greater share of funding for resources to be effective. This recommendation became legislation in the Stated Grants (Schools) Act, 1973. Several programs were designed to meet various needs, one of which was the Disadvantaged Schools Program. The original committee found that schools often had below-average educational outcomes if the parent body had a high number of low income earners, a high proportion of non-English speaking migrant parents, many students of aboriginal descent, high staff turn-overs or were in geographical or culturally isolated areas. In recommending the introduction of needs-based funding, Karmel (1973) was quite clear that he felt that the influence of family background on academic achievement was not going to be easily changed simply with additional resources. Rather, Karmel argued the importance of other benefits:

…consternation should not be too great if improved learning does not flow immediately from the special programs, for quantitative cognitive gains from many compensatory programs in the past have been slight and even ephemeral. However, if the ten years or more of life that a person spends in school can be lived in pleasant surroundings, in a satisfying community, and in a program of activities which is meaningful to its
participants besides being relevant preparation for a later interest in work and learning, then this must justify the expenditure of additional resources (Karmel, 1973, p. 94).

There are many programs and activities that PSFP funding has helped initiate in schools to help make the schools better places to be and more effectively serve their communities. Types of programs and examples include the following:

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring</td>
<td>Gateways</td>
</tr>
<tr>
<td>Action Research</td>
<td>Aboriginal literacy and Numeracy Project; Real Kids Project (RKP); Fair Go, Fair Share, Fair Content, Fair Say</td>
</tr>
<tr>
<td>Programs for Parents</td>
<td>Numeracy Now; Not Just Bricks and Mortar DVD; Not Just Teachers and Students CD_ROM</td>
</tr>
<tr>
<td>Teaching and Learning initiatives</td>
<td>Holiday Reading is RAD; TAFE Summer Schools</td>
</tr>
<tr>
<td>Staff development programs</td>
<td>Conferences; forums; Induction programs</td>
</tr>
<tr>
<td>Student teamwork/leadership</td>
<td>PSFP Student Equity Advisory Team</td>
</tr>
<tr>
<td>Homework/Tutorial programs</td>
<td>HSC Tutorial Support Scheme</td>
</tr>
<tr>
<td>Teaching Resources</td>
<td>PSFP on CD for Science, History and Geography</td>
</tr>
</tbody>
</table>

One illustration of the use of funds to achieve positive community benefits is provided by the ‘Real Kids, Real Classrooms, Real Learning Project (RKP)’. This project was initiated by a number of PSFP secondary schools in the South Western Sydney, Illawarra and South Coast and Riverina Regions. The schools worked cooperatively to design and implement classroom-based action research projects that explored ways of enhancing student engagement. The project promoted a whole school focus on student engagement within the framework of the Quality Teaching in NSW Public Schools initiative. It involved partnerships between teachers and students in secondary schools, regional, state consultancy teams, and parents and community members. These research partnerships investigated ways that teachers could identify, describe, implement and evaluate school and classroom practices that enhance engagement and participation in schooling for students. An outcome of the project was identification of a range of strategies for improving student engagement, such as student journals, self-assessment, and connecting learning across Key Learning Areas. A major benefit was the collaboration among schools in the research process and the establishment of a network of RKP schools.

Such projects and efforts are important elements of what Karmel had initially viewed as one of the main objectives of disadvantaged schools funding. Over
time, changes in the nature of the original DSP program brought with them greater demand for a direct impact on student achievement and outcomes. The transformation of the original DSP into the Literacy Enhancement Program in 1996 brought with it clear expectations that the additional funding associated with targeting socioeconomic disadvantage would bring improvements in learning outcomes and achievement levels, particularly in literacy and numeracy. The PSFP program which was introduced in this period expresses its main aim as reducing the gaps in achievement levels, participation and outcomes between students in schools serving low SES communities and students in schools serving more advantaged communities.

Therefore, increasingly, there is a requirement to assess the impact of the program on the basis of the extent to which it works to counteract or neutralise the effects of SES on school performance. To do this, though, is not a simple task. It really requires long-term data on achievement and other outcomes covering periods before and after the introduction of funds to assess impact. A range of performance indicators, both cognitive and affective, would be preferable such as achievement levels, retention, student engagement, participation, aspirations and attitudes. Ideally these would be collected in a similar way on repeated occasions. Such comprehensive data are not available, though, making it difficult to measure the impact of PSFP funding in scientifically precise ways across a broad range of indicators. However, several cognitive measures are available to assess the impact on schools of PSFP funds in recent years.

One way to get a measure of the impact of PSFP is to compare the performance of PSFP schools against the performance of schools which narrowly missed out on PSFP funding — those that were close to the threshold. Schools that participate in the quadrennial survey of parents are ranked according to their assessed level of disadvantage based on the multiple index of need. There are many schools that narrowly miss out on funding, coming close to the threshold level that covers the cumulative percentage of students that PSFP targets (21 per cent). If funding is meant to reduce the effects of disadvantage on achievement, then we might expect schools that are close to the threshold and receive funds to do at least as well, if not better, than schools that narrowly miss out on funds but are serving very similar groups of students. This should be even more the case given that funding within PSFP schools is allocated on a formal equity basis with schools close to the threshold receiving maximum funding, i.e. the same funds or resources on a per capita basis as those schools serving the most disadvantaged communities (at the top of the PSFP ranking). Figures 4.1, 4.2 and 4.3 shed light on this.

Figure 4.1 compares PSFP primary schools with primary schools that did not receive funds but were close to the funding threshold. The schools are compared on mean achievement for Year 3 numeracy and Year 5 literacy. Achievement is based on averages for the period 2001 to 2004 with schools included if they had a minimum of 40 students tested over that period. The PSFP primary schools are divided into deciles of disadvantage, with each
point representing the mean achievement for similarly sized groups of schools from the most disadvantaged (level 1) to the least disadvantaged (level 10) based on rankings on the PSFP SES scale. The non-PSFP schools are five groups of schools similar in size to each of the deciles of PSFP schools, grouped according to their ranking on the SES scale from low (11) to high (15). These were schools that just missed out on funding, being closest to the funding threshold. The non-PSFP schools serve very similar populations to the funded schools.

Evident in the results for both Year 3 and Year 5 achievement is a strong relationship between level of disadvantage and school performance. In general, moving from left to right, as the level of disadvantage declines, the level of performance increases. Apparent in this pattern is a lack of evidence to suggest that the funding for PSFP schools reduces or improves the performance of PSFP schools relative to non-PSFP schools. Non-PSFP schools that narrowly miss out on funds and serve similar populations to the funded schools do at least as well as and generally better in terms of mean achievement levels as those schools in receipt of funds and close to the threshold (deciles 8 to 10). These schools are performing at a comparatively higher level without receiving PSFP funds.

Also evident in the results is a marked deterioration in performance of schools serving the most disadvantaged communities (PSFP schools in deciles 1 to 4). On both measures of achievement — Year 3 numeracy and Year 5 literacy — achievement levels fall away sharply for the bottom 4 groups of schools. The average achievement in Year 3 numeracy for the first group of schools (decile 1) is 3 points — more than one standard deviation — below the achievement level of schools in decile 5. The deterioration in performance in Year 3 literacy achievement is also graphed in Figure 4.2 which shows the spread of achievement within each school group as well as the fall away in performance among the most disadvantaged groups of schools.
Figure 4.1 Mean achievement levels of PSFP and non-PSFP primary schools: similarly sized groupings of survey schools based on level of disadvantage

Year 3 Numeracy

Source: PSFP schools are those funded from 2001 to 2004, based on the 2000 quadrennial survey of schools. Schools classified as PSFP received Commonwealth and State funding for the four years from 2001 to 2004. Schools receiving funds for only some of the years were excluded. Achievement is based on results for 2001 to 2004. Only schools with results for more than 40 students for the four-year period were included.
Figure 4.2  Box plots of Year 3 literacy achievement levels of PSFP and non-PSFP schools: similarly sized groupings of survey schools based on level of disadvantage

School groupings of social disadvantage

Source: PSFP schools are those funded from 2001 to 2004, based on the 2000 quadrennial survey of schools. Schools classified as PSFP received Commonwealth and State funding for the four years from 2001 to 2004. Schools receiving funds for only some of the years were excluded. Achievement is based on results for 2001 to 2004. Only schools with results for more than 40 students for the four-year period were included.

The results indicate that systems face an uphill battle in attempting to reduce the structural effects of social disadvantage on achievement. They suggest that current funding arrangements are not working to reduce or neutralise the effects of SES on school achievement. Some schools, the most disadvantaged, continue to perform poorly due to their student intake. Of course, the schools may perform much more poorly again without funding assistance. The results highlight the strong impact of SES on performance.

There is some evidence to suggest that PSFP schools in deciles 5 to 10 are performing at a similar standard (the achievement levels are similar across the groups of schools) which might suggest that the funding is helping these schools hold their own and perform at a similar level. However, these schools do not appear to do quite as well as the non-PSFP schools that do not receive funds and yet serve similar populations.
Figure 4.3  Mean achievement levels of PSFP and non-PSFP secondary schools: similarly sized groupings of survey schools based on level of disadvantage

Year 8 Numeracy

<table>
<thead>
<tr>
<th></th>
<th>PSFP schools</th>
<th>Non-PSFP schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>80.7</td>
<td>83.9</td>
</tr>
<tr>
<td>2</td>
<td>83.9</td>
<td>83.9</td>
</tr>
<tr>
<td>3</td>
<td>83.9</td>
<td>85.1</td>
</tr>
<tr>
<td>4</td>
<td>86.7</td>
<td>86.2</td>
</tr>
<tr>
<td>5</td>
<td>86.5</td>
<td></td>
</tr>
</tbody>
</table>

Source: PSFP schools are those funded from 2001 to 2004, based on the 2000 quadrennial survey of schools. Schools classified as PSFP received Commonwealth and State funding for the four years from 2001 to 2004. Schools receiving funds for only some of the years were excluded. Year 8 Numeracy achievement is based on results for 2002 to 2004. Year 10 English achievement is based on results for 2001 to 2004. Selective entry schools are excluded.

Year 10 English

<table>
<thead>
<tr>
<th></th>
<th>PSFP schools</th>
<th>Non-PSFP schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61.3</td>
<td>65.9</td>
</tr>
<tr>
<td>2</td>
<td>66.1</td>
<td>65.1</td>
</tr>
<tr>
<td>3</td>
<td>67.5</td>
<td>67.5</td>
</tr>
<tr>
<td>4</td>
<td>70.3</td>
<td>69.2</td>
</tr>
<tr>
<td>5</td>
<td>70.2</td>
<td></td>
</tr>
</tbody>
</table>

Source: PSFP schools are those funded from 2001 to 2004, based on the 2000 quadrennial survey of schools. Schools classified as PSFP received Commonwealth and State funding for the four years from 2001 to 2004. Schools receiving funds for only some of the years were excluded. Year 8 Numeracy achievement is based on results for 2002 to 2004. Year 10 English achievement is based on results for 2001 to 2004. Selective entry schools are excluded.
The achievement patterns are also evident for secondary schools. Figure 4.3 reports results for Year 8 numeracy and Year 10 English. Year 8 numeracy achievement is based on results from the period 2002 to 2004, while the Year 10 English results are for the period 2001 to 2004. The results are mean achievement levels. For secondary schools, those receiving PSFP funds have been grouped into quartiles based on the ranking from the PSFP scale from most disadvantaged (quartile 1) to least (quartile 4). The non-PSFP schools form groups similar in size to the PSFP schools, and include those that narrowly missed out on funds.

Two points are clear from the figures. The first is that the non-PSFP schools record higher levels of achievement than PSFP schools. This is true even of those close to the threshold. For Year 8 Numeracy the fourth group of PSFP schools had a mean achievement level of 85.1 which was below the first two groups of non-PSFP schools (86.7 and 86.2 points, respectively). Similar results are apparent in Year 10 English achievement. It suggests that PSFP funding is not helping schools hold their own against similar schools which do not receive funding, even for the PSFP schools closest to the threshold.

The second point is that performance falls away sharply as the densities of low SES students increase. For Year 8 numeracy there is a 2.2 point gain between PSFP schools in quartile 1 and PSFP schools in quartile 2. This is equivalent to almost one standard deviation. There is a further one point gap between schools in quartile 2 and schools in quartile 4. School performance remains strongly influenced by social intake.

Another way of measuring the impact of PSFP is to estimate the extent of the relationship between social intake and achievement across a range of performance indicators. This can be done in a couple of ways. Firstly, by examining the proportions of variance in performance accounted for by the social indicators of school intake. By comparing the levels for PSFP schools against those for non-PSFP survey schools it is possible to determine whether the relationship between SES and performance is different. If funding works to reduce social differences then we should see little difference in variance levels between the sets of schools.

Table 4.1 presents the multiple $R^2$ values from a series of regression analyses predicting achievement using the social indicators that comprise the PSFP index. Achievement is measured by results from performance in Year 8 literacy, Year 8 numeracy, Year 10 English and Year 10 mathematics. Mean achievement for Year 8 numeracy and literacy was for the period 2002 to 2004. Results for Year 10 English and maths were based on results achieved from 2001 to 2004. Achievement was regressed on the social indicators (density of indigenous students, density of students from single parent families, percentage of students with parents in employment, percentage in unemployment, mean educational attainment of parents, and mean occupational status of parents) using an OLS procedure. Only survey schools were included in the analyses.
Table 4.1 Variance in achievement accounted for by social intake: secondary schools

<table>
<thead>
<tr>
<th></th>
<th>PSFP N=71</th>
<th>Non-PSFP N=115</th>
<th>All N=186</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 8 Literacy</td>
<td>45.0</td>
<td>37.1</td>
<td>55.5</td>
</tr>
<tr>
<td>Year 8 Numeracy</td>
<td>41.3</td>
<td>40.3</td>
<td>53.7</td>
</tr>
<tr>
<td>Year 10 English</td>
<td>44.7</td>
<td>34.4</td>
<td>55.2</td>
</tr>
<tr>
<td>Year 10 Mathematics</td>
<td>46.3</td>
<td>41.5</td>
<td>53.0</td>
</tr>
</tbody>
</table>

Source: Based on 2000 data collected from the quadrennial survey of schools. Year 10 English and Year 10 Maths are means for the years 2001 to 2004. Year 8 Numeracy and Year 8 Literacy achievement are means for the years from 2002 to 2004. Selective entry schools are excluded. Schools which received PSFP funding for some but not all of the years from 2001 to 2004 were excluded.

The results in table 4.1 show that the social indicators of SES provide a high level of prediction of secondary school achievement. Across all schools they account for between 53.0 and 55.5 per cent of the variance in achievement. The variance levels are higher for PSFP schools than for non-PSFP schools. In Year 8 literacy, for example, the SES indicators account for 45.0 per cent of the variation across PSFP schools in achievement. In non-PSFP schools, the rate is 37.1 per cent. This suggests that SES (as measured by the social indicators) has a stronger relationship with achievement in the schools that are currently receiving funds to address disadvantage than within schools not receiving funds. Similarly, with the Year 10 results in English and mathematics, SES predicts variation in achievement more strongly within PSFP schools than in non-PSFP schools.

The results show that social disadvantage is continuing to exert a very strong effect on the performance of PSFP schools. In the PSFP schools the influence of SES on achievement is stronger than it is in non-PSFP schools. Funding may well be reducing differences, but these results suggest that it still has some way to go. The relationship between markers of social disadvantage and achievement is strong. It points to the size of the task that is required from PSFP funding.

A second way of estimating the extent of the relationship between social intake and achievement and the impact of PSFP is to examine the results of regression analyses which include an independent variable for PSFP schools. The results for such an analysis for Year 5 literacy achievement are provided in Table 4.2 and for Year 10 mathematics in Table 4.3.
Table 4.2  Regression estimates of school differences in Year 5 literacy achievement

<table>
<thead>
<tr>
<th></th>
<th>Survey schools</th>
<th>All schools</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without social intake variables</td>
<td>With social intake variables</td>
<td>Without social intake variables</td>
<td>With social intake variables</td>
</tr>
<tr>
<td>Intercept</td>
<td>57.29**</td>
<td>48.94**</td>
<td>57.61**</td>
<td>35.03**</td>
</tr>
<tr>
<td><strong>SES measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>0.17*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>-0.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>0.05</td>
<td></td>
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</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.39**</td>
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<td></td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>0.24**</td>
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<td></td>
</tr>
<tr>
<td>SEIFA SES (all schools)</td>
<td></td>
<td>0.56**</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other measures</strong></td>
<td></td>
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</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.45**</td>
<td>-0.13**</td>
<td>-0.27**</td>
<td>-0.03</td>
</tr>
<tr>
<td>Density of ESL students</td>
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<td>0.07</td>
<td>0.13**</td>
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</tr>
<tr>
<td>Enrolments</td>
<td>0.06</td>
<td>-0.20*</td>
<td>0.18**</td>
<td>-0.12**</td>
</tr>
<tr>
<td>Rural or remote school</td>
<td>-0.08</td>
<td>-0.36**</td>
<td>-0.37**</td>
<td>-0.30**</td>
</tr>
<tr>
<td>PSFP school</td>
<td>-0.31**</td>
<td>0.04</td>
<td>-0.30**</td>
<td>-0.14**</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>1.96</td>
<td>1.96</td>
<td>2.53</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Source: Survey schools are those who participated in the 2000 quadrennial survey of schools. Year 5 literacy achievement is a mean for the years 2001 to 2004. Only schools with results for more than 40 students for the four-year period were included.

Table 4.3 Regression estimates of school differences in Year 10 mathematics achievement

<table>
<thead>
<tr>
<th></th>
<th>Survey schools</th>
<th>All schools</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without social intake variables</td>
<td>With social intake variables</td>
<td>Without social intake variables</td>
<td>With social intake variables</td>
</tr>
<tr>
<td>Intercept</td>
<td>68.39**</td>
<td>54.29**</td>
<td>69.02**</td>
<td>47.81**</td>
</tr>
<tr>
<td><strong>SES measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of single parent families</td>
<td></td>
<td>-0.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>-0.22*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>-0.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.23*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>0.49**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEIFA SES (all schools)</td>
<td></td>
<td>0.34**</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.39**</td>
<td>-0.31**</td>
<td>-0.34**</td>
<td>-0.27**</td>
</tr>
<tr>
<td>Density of ESL students</td>
<td>-0.30**</td>
<td>-0.22**</td>
<td>-0.14**</td>
<td>-0.13**</td>
</tr>
<tr>
<td>Enrolments</td>
<td>0.16*</td>
<td>0.15*</td>
<td>0.23**</td>
<td>0.20**</td>
</tr>
<tr>
<td>Rural or remote school</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>PSFP school</td>
<td>-0.36**</td>
<td>-0.02</td>
<td>-0.38**</td>
<td>-0.24**</td>
</tr>
<tr>
<td><strong>Standard deviation</strong></td>
<td>3.52</td>
<td>3.52</td>
<td>3.92</td>
<td>3.92</td>
</tr>
</tbody>
</table>

Source: Survey schools are those who participated in the 2000 quadrennial survey of schools. Year 10 mathematics achievement is a mean for the years 2001 to 2004. Selective-entry schools were excluded. **p<0.01 * p<0.05
For each table, four models are included. The first two models present results for an analysis for the quadrennial survey schools. The first model includes a dummy variable to measure the performance of PSFP schools. It also includes measures for the density of indigenous students, density of ESL students, size of school (Number of enrolments), and rural or remote location (whether the school receives CAP funding or not). The second model introduces the key social indicators for PSFP schools. Changes between the models allow us to assess whether PSFP schools, on average, perform better, worse or the same as non-PSFP schools after controlling for social intake. The survey schools form a truncated sample, excluding many schools serving high SES communities. Models three and four in each table are from analyses involving all schools. Because information on the various PSFP social indicators is not available for all schools, a SEIFA-derived measure (Index of Disadvantage) of school catchment based on school postcode is used. Even though the density of indigenous students is part of the PSFP index it is used in every model because data on indigenous enrolments were available for all schools.

In the results, standardized b-coefficients (beta weights) are presented because they can be used to judge the relative predictive power of the independent variables. Beta is the average amount the dependent increases when the independent increases one standard deviation and other independent variables are held constant.

Table 4.2 shows that the social characteristics of PSFP schools have a significant impact on school performance in Year 5 literacy when the main social indicators are not included (model 1). When the social intake or SES variables are included (model 2), being a PSFP school is no longer significantly related to achievement. That is, low achievement in PSFP schools is largely a function of intake and the effect is removed once intake differences are controlled for. However, this does not apply to the analysis for all schools. After controlling for the SES characteristics of the catchment area of schools, the Beta value for PSFP schools remains negative and significant. It suggests that, on average and all else equal, PSFP schools do not perform as well as non-PSFP schools in terms of Year 5 literacy achievement. This could be due to the SES measure being less sensitive than the PSFP survey-derived measures and not controlling well enough for social intake differences. However, the SES measure has a 0.67 correlation with Year 5 literacy achievement across all schools (N=1198) compared with a coefficient of 0.62 for the correlation between Year 5 achievement and the composite F score for SES among the survey schools (N=692). In relative terms it is a reasonably robust measure. Another explanation is that inclusion of all schools captures the full effects across schools of differences in SES intake because the survey schools form a sample that truncates the full SES range in intakes across NSW government primary schools and underestimates the impact on achievement differences. If this is so, then it could be argued that PSFP funding is not doing enough to compensate for achievement gaps associated with differences in social intake.
The results for Year 10 English show very similar effects. Among the survey schools, achievement differences are removed after including the social indicators in the regression model. Across all schools, however, the introduction of the SES measure does not remove the significant and negative effect for PSFP schools. According to this result, PSFP schools achieve at a lower level than non-PSFP schools even after controlling for differences associated with social intake. In summary, this suggests that PSFP funding does not remove or reduce the full effects of social background on achievement.

Factors affecting the impact of PSFP

It is important to recognise that the impact of PSFP is affected by several factors that work against the capacity of the funding to reduce social differences in performance across schools. One of the most pressing is the quality of teachers and stability in the teaching staff. The review materials highlight a vast number of examples of initiatives and innovations established by PSFP schools using their funds to build skill capacity among teachers and staff. It is the development of the teaching skill base that is fundamental to gaining improvements in effectiveness and outcomes through improvements in the quality of teaching and learning. During the range of consultations and school visits undertaken for this review the issue of teacher turnover was raised repeatedly as a major impediment to the effectiveness of PSFP schools. Most pointed to the way funds are used to help promote staff development. But much of the gain is lost through the continual exodus of teachers just at the point when they have become experienced with the schools, the students, the communities and the unique demands associated with teaching in high need schools. The continual loss of staff led, according to participants in the consultation phase of the work, to schools having to recruit high numbers of inexperienced, casual and overseas trained staff. PSFP funds then have to be used for professional development and skill capacity building in a continuous way — having to pay for it again and again without retaining the benefits it should bring.

Recent overseas research points to the role of teaching resources in contributing to the significant disparities in scholastic achievement between children from low- and high- SES homes. A study of 1,450 schools in the United States found that student poverty and geography were associated with differential access to highly qualified teachers, and that differential access to qualified teachers was independently and strongly associated with performance on a variety of achievement tests (Tuerk, 2005). Quality of teaching and stability in staff contribute to higher levels of performance.

There is indeed a very high rate of turnover in PSFP schools. The average percentage of teachers new to PSFP schools in 2004 was 35.3 per cent. This is an extraordinary figure. It means that over one-third of teachers are being changed annually. Table 4.4 presents the percentages of schools according to
rates of new teachers (new teachers as a percentage of all teachers) in 2004. The figures are presented separately by type of school. The rates in the first panel of the table are for all schools. The rates in the second panel are for schools with student enrolments in excess of 100. This is provided because the rates in small schools (in which percentages are derived from a low base) may distort the figures.

Table 4.4  New teachers as a percentage of all teachers, by school type: PSFP schools, 2004.

<table>
<thead>
<tr>
<th>New teacher rate (%)</th>
<th>Primary</th>
<th>Secondary</th>
<th>Central</th>
<th>Specialist</th>
<th>All schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or less</td>
<td>9.8</td>
<td>2.3</td>
<td>0.0</td>
<td>2.9</td>
<td>7.8</td>
</tr>
<tr>
<td>11-20</td>
<td>12.1</td>
<td>17.4</td>
<td>3.7</td>
<td>23.5</td>
<td>13.1</td>
</tr>
<tr>
<td>21-30</td>
<td>18.4</td>
<td>30.2</td>
<td>0.0</td>
<td>23.5</td>
<td>19.6</td>
</tr>
<tr>
<td>31-40</td>
<td>23.5</td>
<td>30.2</td>
<td>22.2</td>
<td>23.5</td>
<td>24.4</td>
</tr>
<tr>
<td>41-50</td>
<td>16.3</td>
<td>12.8</td>
<td>33.3</td>
<td>5.9</td>
<td>16.1</td>
</tr>
<tr>
<td>51-60</td>
<td>9.8</td>
<td>2.3</td>
<td>11.1</td>
<td>14.7</td>
<td>9.2</td>
</tr>
<tr>
<td>61+</td>
<td>10.0</td>
<td>4.7</td>
<td>29.6</td>
<td>5.9</td>
<td>9.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enrolments greater than 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or less</td>
</tr>
<tr>
<td>11-20</td>
</tr>
<tr>
<td>21-30</td>
</tr>
<tr>
<td>31-40</td>
</tr>
<tr>
<td>41-50</td>
</tr>
<tr>
<td>51-60</td>
</tr>
<tr>
<td>61+</td>
</tr>
</tbody>
</table>

Approximately one in ten PSFP primary schools had 61 per cent or more of their staff as new teachers in 2004. Even in larger schools, those with over 100 enrolments, 7.7 per cent of primary, 4.7 per cent of secondary and 22.7 per cent of central schools had almost two-thirds of their staff as new teachers. At the other end of the scale, only about one in ten primary and one in forty secondary schools (no central schools) had a turnover rate of 10 per cent or less.

Which of the PSFP schools have the highest turnover rates? Table 4.5 shows that secondary schools with the highest turnover rates (those which had rates of new teachers above 50 per cent) were those that had the highest densities of indigenous students (average of 43.2 per cent), the highest density of students from single parent families (mean of 38.7 per cent), the highest density of unemployed parents (40.7 per cent on average), and the highest densities of students from families with parents reliant on government income support (mean of 38.7 per cent). In other words, the schools with the highest concentrations of the most disadvantaged students had the highest rates of teacher turnover, as measured by new teachers as a percentage of all teachers.
Equity programs for government schools in New South Wales

Table 4.5  New teachers as a percentage of all teachers: PSFP secondary schools, 2004.

<table>
<thead>
<tr>
<th>Rate of staff turnover (%)</th>
<th>Indigenous students</th>
<th>Single parents</th>
<th>Parents in employment</th>
<th>Parents not in the labour force</th>
<th>Parents on income support</th>
<th>Enrolments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or less</td>
<td>19.0</td>
<td>23.1</td>
<td>39.2</td>
<td>17.5</td>
<td>14.5</td>
<td>429</td>
</tr>
<tr>
<td>11-20</td>
<td>11.9</td>
<td>32.3</td>
<td>25.2</td>
<td>32.9</td>
<td>23.9</td>
<td>684</td>
</tr>
<tr>
<td>21-30</td>
<td>8.6</td>
<td>32.5</td>
<td>22.7</td>
<td>36.3</td>
<td>28.6</td>
<td>687</td>
</tr>
<tr>
<td>31-40</td>
<td>8.2</td>
<td>31.4</td>
<td>18.5</td>
<td>38.5</td>
<td>28.6</td>
<td>662</td>
</tr>
<tr>
<td>41-50</td>
<td>12.6</td>
<td>37.4</td>
<td>18.7</td>
<td>38.9</td>
<td>35.5</td>
<td>662</td>
</tr>
<tr>
<td>50+</td>
<td>43.2</td>
<td>38.7</td>
<td>20.5</td>
<td>40.7</td>
<td>38.7</td>
<td>225</td>
</tr>
<tr>
<td>Total</td>
<td>12.2</td>
<td>33.0</td>
<td>21.6</td>
<td>36.6</td>
<td>29.0</td>
<td>216</td>
</tr>
</tbody>
</table>

Note: Staff turnover was calculated as the percentage of staff new to a school in 2004 as a percentage of all staff.

Again it is important to emphasise that high staff turnover in PSFP schools means that the benefits of professional development and the skill building, particularly in new and innovative programs designed for disadvantaged students, do not stay with the school. Instead the skills shift to other schools, often non-PSFP schools and those that obtain higher levels of student achievement and participation. It may be that through this process these schools are the unintended beneficiaries of PSFP funding.

Other factors may affect the ability of PSFP funding to directly target achievement gaps. One is the constraints imposed on schools by the demands of traditional centralised curriculum. A recent study on raising expectations in relation to student retention in NSW PSFP schools reported concerns expressed by teachers, parents and students about the accessibility of a standardised curriculum and associated assessment offered in high school when the needs of students reflect a diverse range of learning styles and pathways (Helme et al., 2005). These concerns range from the demand of the school certificate and the HSC to the roles played by VET in Schools subjects. In PSFP schools, where many students come from families in which school completion is a rarity and many students do not complete school, there was a strong perception that the curriculum is somewhat inflexible in its ability to deal with the diverse needs of a range of students. This is not just a matter of curriculum choice. It more relates to the structure of the curriculum and the teaching and learning implications of the assessment regime, perceived narrowness of pathways and limited access to alternatives.
The targeting of need

The PSFP index

The PSFP Index comprises seven elements that are largely derived from information obtained from the quadrennial survey of parents in participating schools. The seven elements are:

1. Density of indigenous students
2. Density of single parent families
3. Density of parents in employment
4. Density of parents unemployed or not in the labour force
5. Density of parents in receipt of income support
6. Mean educational attainment level of parents
7. Mean occupational status of parents

While it is true to state that all of the categories that comprise the PSFP index are correlated with indicators of achievement, not all of the categories have the same strength of relationship and not all are equal in importance as influential measures of SES. Tables 4.6 and 4.7 give the correlations between the indicators of social need and key outcome variables. Results for primary schools are presented in Table 4.6 and secondary schools in Table 4.7.

The results for primary schools show that mean educational attainment level of parents and the mean occupational status have the strongest correlations with each of the achievement measures (Year 3 literacy, Year 3 numeracy, Year 5 literacy and Year 5 numeracy). The correlations with Year 3 literacy are 0.64 for educational attainment and 0.61 for occupational status. Correlations with Year 3 achievement for other indicators range from 0.47 (density of indigenous students) to 0.57 (density of parents unemployed).

### Table 4.6 Correlations between indicators of need and indicators of school achievement in primary schools

<table>
<thead>
<tr>
<th>SES measures</th>
<th>Year 3 Literacy</th>
<th>Year 3 Numeracy</th>
<th>Year 5 Literacy</th>
<th>Year 5 Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density of indigenous students</td>
<td>-0.47</td>
<td>-0.40</td>
<td>-0.49</td>
<td>-0.46</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>-0.46</td>
<td>-0.43</td>
<td>-0.44</td>
<td>-0.45</td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>0.55</td>
<td>0.49</td>
<td>0.53</td>
<td>0.49</td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>-0.57</td>
<td>-0.48</td>
<td>-0.55</td>
<td>-0.52</td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>-0.53</td>
<td>-0.48</td>
<td>-0.50</td>
<td>-0.48</td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.64</td>
<td>0.58</td>
<td>0.62</td>
<td>0.61</td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>0.61</td>
<td>0.54</td>
<td>0.61</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Source: Based on 2000 data collected from the quadrennial survey of schools. All achievement measures are means for the years 2001 to 2004. Only schools with results for more than 40 students for the four-year period were included.
Table 4.7  Correlations between indicators of need and indicators of school achievement in secondary schools

<table>
<thead>
<tr>
<th></th>
<th>Year 7 Numeracy</th>
<th>Year 10 English</th>
<th>Year 10 Maths</th>
<th>HSC Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>SES measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.41</td>
<td>-0.43</td>
<td>-0.42</td>
<td>-0.31</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>-0.44</td>
<td>-0.41</td>
<td>-0.46</td>
<td>-0.38</td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>0.62</td>
<td>0.60</td>
<td>0.58</td>
<td>0.51</td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>-0.60</td>
<td>-0.55</td>
<td>-0.55</td>
<td>-0.44</td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>-0.58</td>
<td>-0.50</td>
<td>-0.50</td>
<td>-0.40</td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.69</td>
<td>0.63</td>
<td>0.66</td>
<td>0.55</td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>0.67</td>
<td>0.66</td>
<td>0.64</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Source: Based on 2000 data collected from the quadrennial survey of schools. Year 10 English and Year 10 Maths are means for the years 2001 to 2004. The HSC mean is for 2004. Year 7 Numeracy achievement is a mean for the years from 2002 to 2004 and restricted to those schools with results for more than 40 students. Selective entry schools are excluded.

The results for secondary schools are similar. Educational attainment and occupational status often have the strongest correlations with the achievement indicators. For Year 7 numeracy the correlations for both measures are much greater than the correlations for density of indigenous students and density of single parent families. This also applies to Year 10 English, Year 10 maths and HSC mean scores. Employment status of parents is also strongly correlated with achievement.

Many of the categories measure related or similar dimensions. Three of the measures assess a similar dimension. Density of parents in employment, density of parents unemployed or not in the labour force and occupational status are related in terms of the field of work. It is hardly surprising, therefore, that not only are these elements highly correlated (see Table 4.8), but that they do not have independent effects on school performance. The results presented in Tables 4.2 and 4.3, above, show that when all of the SES measures are included in a regression analysis predicting Year 5 literacy achievement and Year 10 English results, the percentages of parents unemployed and the percentages of parents employed do not have an independent effect on achievement. The estimates for both measures are small and not significant. The measures that predict Year 5 literacy achievement are mean educational attainment, mean occupational status, and density of indigenous students each with significant and strong effects. For Year 10 English results, mean occupational status, educational attainment, percentage of indigenous students and density of ESL students have significant independent influences on achievement.
Table 4.8  Correlations between indicators of need: secondary schools (top panel) and primary schools (bottom panel) separately

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Indigenous</th>
<th>Single parent</th>
<th>Employed</th>
<th>Unemployed</th>
<th>On income support</th>
<th>Education attainment</th>
<th>Occupation status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indigenous students</td>
<td>0.47</td>
<td>-0.17</td>
<td>0.18</td>
<td>0.15</td>
<td>-0.42</td>
<td>-0.17</td>
<td></td>
</tr>
<tr>
<td>Single parents</td>
<td>0.35</td>
<td>-0.59</td>
<td>0.56</td>
<td>0.47</td>
<td>-0.44</td>
<td>-0.56</td>
<td></td>
</tr>
<tr>
<td>Employed parents</td>
<td>-0.30</td>
<td>-0.64</td>
<td>-0.87</td>
<td>-0.83</td>
<td>0.67</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>Unemployed parents</td>
<td>0.29</td>
<td>0.73</td>
<td>-0.76</td>
<td>0.92</td>
<td>-0.67</td>
<td>-0.86</td>
<td></td>
</tr>
<tr>
<td>On income support</td>
<td>0.24</td>
<td>0.64</td>
<td>-0.71</td>
<td>0.85</td>
<td>-0.65</td>
<td>-0.81</td>
<td></td>
</tr>
<tr>
<td>Educational attainment</td>
<td>-0.37</td>
<td>-0.42</td>
<td>0.55</td>
<td>-0.52</td>
<td>-0.52</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>Occupational status</td>
<td>-0.27</td>
<td>-0.66</td>
<td>0.85</td>
<td>-0.79</td>
<td>-0.74</td>
<td>0.67</td>
<td></td>
</tr>
</tbody>
</table>

Source: Based on 2000 data collected from the quadrennial survey of schools

This raises serious questions about the value of combining all of the elements in a single index. It is even more apparent when recognising that it is the three measures related to work that have the strongest influence on the factor scores which determine the ranking of schools on which PSFP status is decided. The correlations between the different SES measures and the factor scores are as follows:

<table>
<thead>
<tr>
<th>SES indicator</th>
<th>Correlation with factor score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density of indigenous students</td>
<td>0.43</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>0.80</td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>-0.88</td>
</tr>
<tr>
<td>Density of parents unemployed or not in the labour force</td>
<td>0.91</td>
</tr>
<tr>
<td>Density of parents in receipt of income support</td>
<td>0.87</td>
</tr>
<tr>
<td>Mean educational attainment level of parents</td>
<td>-0.72</td>
</tr>
<tr>
<td>Mean occupational status of parents</td>
<td>-0.92</td>
</tr>
</tbody>
</table>

They suggest that densities of unemployed parents (0.91), mean occupational status (-0.92) and density of parents in employment (-0.88) exert the strongest influence on the factor score weightings.

Is it possible that one measure rather than several measures would be just as good in measuring need associated with SES? One way to assess this is to look at the effects of additional variables on achievement after taking into account the effects of one of the more influential factors. In terms of achievement, the variable contributing much to explaining differences in how schools perform is social intake as measured by family occupational status (see Table 4.9). This single variable accounts for 36.7 per cent of the total
variance ($R^2$) in Year 5 literacy and 41.9 per cent in Year 8 numeracy, identified from regression analyses predicting achievement using the SES measures. The amounts of variance accounted for by each measure entered separately are presented in column 2 for Year 5 literacy and column 4 for Year 8 numeracy. The results show that mean occupational status explains much of the variance in achievement, more than all others apart from educational attainment which is also an influential measure. The explanatory power of occupational status is almost double that for density of single parent families (19.8 per cent for Year 5 literacy and 20.3 per cent for Year 8 numeracy) and density of indigenous students (23.6 per cent for Year 5 literacy and 17.6 per cent for Year 8 numeracy).

The real issue is the amount of additional explanatory power provided by measures beyond that accounted for by occupational status alone. Columns 3 (Year 5 literacy achievement) and 5 (Year 8 numeracy) present the variance amounts after combining occupational status with each of the other equity category variables individually. The adjusted R-squared values reveal that for Year 5 literacy the inclusion of several of the additional equity variables does not add substantially more to the level of variance explained beyond that explained by occupational status alone. When density of single parent families is added, or density of parents in employment, or density of parents on income support, or density of parents unemployed there is virtually no gain in explanatory power. There is some gain with the addition of indigenous status and mean educational attainment.

This analysis would suggest that in terms of achievement in school the social intake variable, family occupational status, contributes significantly to explaining variations across schools and is a major determinant of school

### Table 4.9 Variance explained in models of achievement

<table>
<thead>
<tr>
<th>Indicators of social need</th>
<th>Year 5 Literacy</th>
<th>Year 8 Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As separate</td>
<td>With occupational status</td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>36.7</td>
<td>36.7</td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>40.3</td>
<td>42.4</td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>25.1</td>
<td>42.7</td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>30.1</td>
<td>42.8</td>
</tr>
<tr>
<td>Density in employment</td>
<td>28.6</td>
<td>42.8</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>19.8</td>
<td>42.8</td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>23.6</td>
<td>48.9</td>
</tr>
<tr>
<td>Current measure (F score)</td>
<td>38.2</td>
<td>46.6</td>
</tr>
</tbody>
</table>

Source: Based on 2000 data collected from the quadrennial survey of schools. Year 5 literacy is the mean for the years 2001 to 2004. Year 8 numeracy is for the years from 2002 to 2004.
performance. As a powerful independent predictor of achievement, it could assess need quite robustly and accurately by itself.

There is other evidence to suggest that the current index does not necessarily target disadvantaged students in the best possible way. This can be observed initially in the concentrations of categories of students across schools.

The concentrations of indigenous students provide one example. There are schools with high proportions of indigenous students not receiving PSFP funds. Some schools enrol over 15 per cent of indigenous students and they are in the bottom quartile of schools in terms of Year 5 achievement. This applied to 15 primary schools. In seven of these schools indigenous students made up more than a third of all students.

Another example is provided by school profiles on mean educational attainment levels of parents. Figure 4.4 presents the profiles by Year 5 literacy achievement. The first vertical line shows the mean educational attainment of PSFP schools. The third vertical line shows the mean for non-PSFP schools. The middle line is the mean for all schools. It is clear from the patterns that as the educational attainment level falls, so does achievement in Year 5 literacy. Family educational background influences achievement. In terms of identifying schools that should be funded to assist with overcoming disadvantage it needs to be noted that there are many non-PSFP schools that have lower mean educational attainment than PSFP funded schools and perform more poorly in terms of Year 5 literacy standards. The results indicate that:

- 30.5 per cent of non-PSFP schools are below the mean for all schools.
- 16.9 per cent of PSFP schools are above the mean for all schools.
- 5.1 per cent of non-PSFP schools are below the PSFP school mean.
- 6.7 per cent of PSFP schools are above the non-PSFP school mean.
These examples highlight issues associated with the identification of need across schools. They raise questions about how well the current composite index is targeting need and identifying the most disadvantaged schools. It is clear that the concentrations of certain categories of disadvantage impact more on school performance than others, and there are schools with high levels of need in relation to certain categories of students that currently do not qualify for funding.

**The PSFP funding threshold and levels of resources**

PSFP funding is designed to target 21 per cent of all government school students. Given differences in numbers of enrolments across schools this equates under current arrangements to 25 per cent of schools being eligible to receive funds. While this is not as restricted or concentrated as in Queensland (where the target is 10 per cent of the most disadvantaged of students),
compared to several other Australian jurisdictions, it represents potentially a fairly high level of concentration of resources. In Tasmania approximately 30 per cent of schools receive DSP funds, while in Victoria the threshold is set at 50 per cent of schools and in South Australia, at approximately 57 per cent. By rights this should mean that the funds are spread less thinly in New South Wales and therefore schools have more resources to target social disadvantage. However, all other jurisdictions, including Queensland, apply a weighting factor which means that schools serving the most disadvantaged students receive proportionately more of the funds. In New South Wales, funding is allocated on a formal equity basis to eligible schools. Those close to the threshold receive the same entitlement as those that serve the most disadvantaged students.

In the examination of the impact of PSFP, presented above, it was quite clear that performance on a variety of measures falls away in the most disadvantaged schools (the 40 per cent of both primary and secondary schools ranked highest on the PSFP index scale). It is a linear relationship: the higher the level of disadvantage the poorer the performance. The PSFP funds are not doing enough to compensate for the achievement gaps in these schools.

In the context of current resource levels, the disparities could be addressed through either a change in the threshold leading to fewer schools being eligible to receive funds and/or the introduction of funding weights to target proportionately more funds at schools in the most disadvantaged areas. In the consultations with principals, program managers and advisory groups, the ‘thinness’ or insufficiency of PSFP funds to compensate for disadvantage in schools serving the most disadvantaged populations was raised repeatedly. One mechanism to better target the resources would be to apply a weighting factor associated with the levels of disadvantage across schools so that schools serving the most disadvantaged populations receive more funds. This is fundamental to the principles of equity funding on a relative-needs basis, principles that are applied not only in all other Australian jurisdictions, but in virtually all other countries examined as part of the current review.
5. Priority Action Schools Program

Introduction

Efforts to promote uniformly high levels of educational achievement and outcomes continue to be hampered by out of school factors, such as socio-economic status, particularly in schools that serve the most disadvantaged communities. As shown in the previous chapter, in the most disadvantaged schools in New South Wales performance falls away sharply, and the mainstream equity programs such as PSFP, while working to help reduce overall differences, have not overcome the depressed achievement levels that exist in schools serving the poorest communities. It is in response to this situation that the New South Wales government initiated a trial program, the “Priority Action Schools Program” (PASP), to improve public school performance through research-based projects in the most disadvantaged schools. After identifying and selecting a group of schools with low-achieving students in low socio-economic communities, the government offered grants to assist schools develop and implement performance improvement strategies. There were 74 government schools selected, receiving grants of between $100,000 and $400,000 to undertake improvement projects in 2003. The program continued in 2004 and was extended in 2005 for a further year. The program is part of the NSW Government’s broader social justice and capacity building agenda.

PASP represents a second tier of equity funding to target social disadvantage. It involves the targeting of more highly concentrated funds to a smaller number of very disadvantaged schools. Almost all of these schools participate in PSFP and are some of the most disadvantaged in this group. The PAS program trial began operating in 2003 when an additional $16 million was provided to the 74 schools to assist them to build capacity and strengthen partnerships with other agencies. The PAS program has the specific aim, as with the broader PSFP program, of “reducing, with a view to eliminating, the achievement gap in student learning outcomes for concentrations of students who may be adversely affected in schooling due to their socio-economic circumstances” (NSW DET, 2005).

This section reviews the PAS program examining where possible information on the impact that it has had. It begins with an outline of the philosophy of the program and how it was set up. It then presents information on the impact of the program using available evidence to measure effects and in meeting program objectives. In this evaluation, consideration is also given to how well the program targets need.
The approach in New South Wales

Philosophy

PASP was introduced to trial intensive assistance to disadvantaged schools. The approach in PASP is based on an action research paradigm, with schools required to create and share professional knowledge in the manner advocated by Hargreaves (2003). Typically, action research in schools is a collaborative process involving activity among colleagues searching for solutions to problems experienced in particular school settings, a process designed to look for ways to improve instruction and increase student achievement. Rather than dealing with the theoretical, action research allows practitioners to address those concerns that are closest to them, ones over which they are more aware, can exert some influence and potentially make change.

‘Action research’ has been influential in a strand of work that is part of the domain of school effectiveness and school improvement literature and policy. Researchers and practitioners within this strand argue that school improvement initiatives, particularly those implemented across systems to target equity, tended in the past to be imposed in a top-down fashion from outside schools themselves. As such, it limited the success of large-scale government-initiated or centrally-controlled reforms because they were not sensitive to local conditions, contexts and resources and often foreign to the staff responsible for teaching in the schools and delivering improvements (see, for example, Fullan, 1991, Louis & Miles, 1990). Proponents of action research approaches to school improvement argue that action research provides a means of giving teachers greater control over their professional growth through research, reflection, and improvements to instructional practice.

Although there are many types of research that may be undertaken, action research specifically refers to disciplined inquiry done by groups of teachers with the intent that the research will inform and change their practices in the future. This research is carried out within the context of the teachers’ environment — that is, at the school or region in which the teachers work.

The process involved in action research is one where teachers begin a cycle of posing questions, gathering data, and reflecting on the situation that confronts them. For disadvantaged schools it means raising questions and using data to examine patterns of success and failure and identify the factors and conditions that limit teacher effectiveness and promote low achievement. From this phase of reflection, teachers in conjunction with research partners and consultants, can design and implement a course of action to bring about change and foster improvement. This process is a collaborative one involving communities of schools, teachers, consultants and academic partners. It is designed to be one of sharing in order for schools to help and learn from each other. An important element is for teachers to collaborate on the problems, as well as enlist support and guidance from administrators, university scholars, and others.
The PAS program is underpinned by the same cycle of research with schools expected to undertake action inquiry by first identifying the particular challenges they face and then designing an appropriate means of addressing them. Monitoring and evaluation are critical components. Participating schools, in partnership with an academic associate, are required to document developments and changes as they investigate, reflect, build and implement. In this way schools are expected to be able to explain what they are doing, why and how they are doing it and how effective their strategies are. This directly imposes a form of professional accountability. To assist schools develop a culture of collaborative enquiry, a range of professional learning opportunities have been provided by a State PASP Team. Activities include workshops and professional development in action enquiry procedures and collaboration.

PASP as with other ‘action research’ programs is based on a philosophy that for positive change to occur and be sustained teachers need to be involved as partners in the change process. They need to become informed, key collaborators in the research and policy process. This notion of attempting to embed the research process itself with those who are involved at an operational level in schools has much to commend it, if only on the grounds that it is focusing attention among the teaching staff on the issues they face in their daily practice and giving consideration to ways of addressing the learning needs of disadvantaged students. Such an approach acknowledges the importance of building “a culture of research in member schools as an integral part of their rethinking processes” (Harradine, 1996, p. 1).

Action research, however, is not without its difficulties. Apart from early criticisms of it being part of a ‘soft science’, the demands associated with undertaking the whole process can require levels of skills and commitment that are likely to vary across schools. Counting on teachers to initiate and undertake school-based reform is sometimes problematic because teachers do not often possess the research design and measurement skills essential to assess school-wide changes in learning. It is likely that some schools will possess far greater capacity for undertaking action research than others. This has been the experience in several evaluations of large-scale action research programs conducted overseas. For example, Raptis and Fleming (2005), in an evaluation of a School Improvement Grants Program in British Columbia, Canada, reported that while positive effects were recorded in the domains of teacher learning, staff collaboration, teacher professional development and parental involvement, preliminary findings did not yield significant consistent improvements in student outcomes. One reason was the variation in preparedness and capacity to undertake action research in different school settings. In some schools, teachers were able to set clear and measurable objectives and undertake activities to measure changes in teachers’ instructional strategies and in student achievement across time, but in others they were not. Few teachers had research expertise in undertaking school-wide research projects. The approach assumes that teachers are equally placed
to participate and equally committed to participation and the goals of the project.

The program

Much of the effort within PASP requires a considerable amount of time on the part of teachers, principals and others to engage in the action research practice of enquiry, reflection, program development and implementation. Release time for existing staff and appointment of new teachers as well as additional resources to implement programs of change have considerable resource implications. It is an expensive process. For this reason, funding was restricted to small number of very disadvantaged schools which would take part in a trial to see whether intensive assistance could produce positive improvements in schools.

A key element of PASP is flexibility to promote sensitivity to the variations in contexts, intakes and local school needs. Schools were required to consider their own performance in the context of the populations they serve, community context, and specific factors that they could identify had an impact on their effectiveness. Each school was required to conduct an evaluation of its own work, assisted by an academic partner experienced in school-based research. After building a profile of teaching and learning within the context of local setting, each school was required to agree on and implement a program of change to help lead to improvements. Strategies for change could relate to a variety of areas including pedagogy, staffing solutions, organization for learning, interagency cooperation, parent involvement, student welfare, and staff professional development.

The objectives of the PAS program, delivered through the development and design of localized strategies, were to support schools to build their capacity to:

- improve students’ educational outcomes
- improve student behaviour and attendance
- support teachers through mentoring and induction programs
- support whole school approaches to improved teaching practice
- reduce student turnover and increase retention to complete schooling
- reduce the impacts of socio-economic disadvantage
- maximise interagency and community support.

To achieve these goals, schools participating in the PAS program are provided with a funding allocation to support the implementation of the priority strategies identified by the school. The funding they receive for this purpose is dependent on student enrolment, SES composition and other features of the school community. Funding is delivered to schools after negotiations with the PASP state management team to identify how the additional resources to schools are to be used.
In 2003 and 2004, schools explored a variety of strategies to accord with the objectives of the program, with an emphasis on learning throughout the school community – students, teachers, executives and parents. According to project materials and documentation, the employment of additional teaching and non-teaching staff has been a key focus of the program. The flexibility in the employment of PAS funded staff within the program has enabled schools to trial the effectiveness of a range of new roles to improve learning outcomes.

Another feature of the program, consistent with action research approaches, is that schools are required to undertake continuous monitoring, measurement and documentation of the local developments and the strategies being tried. This evidence is then provided to the state team, outlining achievements and commenting on the success of chosen strategies as responses to local needs and circumstances. Schools were expected to be able to provide evidence of spending, change and outcomes including evidence of what had been learned by all who had participated in the program — students, teachers, principals, members of schools’ executives and community members — and specific achieved learning and performance outcomes. This self-evaluation is part of the critical processes of self-reflection, refinement of strategies and future development.

The total funds made available for PASP in 2003 was $16.1 million, $15.9 million in 2004 and $15.1 million in 2005. Among the 74 schools to receive funds, were 44 primary schools, 26 secondary and 4 central schools. Each school had a minimum enrolment of 160 students. Over half of the schools (42) were located in the suburbs of South West or Western Sydney.

What impact has the program had?

**The impact of PASP**

According to the original design, the trial aimed to build school and individual capacity to improve student engagement in learning and student learning outcomes, reduce disruptive behaviour and suspensions and improve attendance and retention in the context of fostering co-operation between schools, TAFE and other agencies and community organizations. As such, PASP fits very much within the original spirit of the Disadvantaged Schools Program. It aims to provide funds for innovation and development of alternative pedagogies which can help make teaching and learning in high need schools more engaging and therefore student experiences of school more enriching and rewarding.

A review of PASP was undertaken by Groundwater-Smith and Kemmis (2004), using the consolidated self-reported evaluations and documentation supplied by the individual schools. According to that evaluation, the program has delivered positive outcomes on many of the original objectives. The evaluators claim:
Improvements in students’ educational outcomes

- Most schools presenting test data on literacy and numeracy showed positive gains in learning outcomes for students. The size of gains appear related to the kind of strategies tried by the schools, with greater gains in cases where schools tried aspects of productive pedagogies, or explicit and systematic teaching, or interventions related directly to the content area tested. Improved learning gains were most evident where the measure of outcomes matched the precise changes made (for example, authentic assessment of tasks of increased intellectual quality, or in reading scores for components of guided reading).

- A variety of gains were shown, in a variety of subjects, mostly based on teacher-set tests. In primary schools, these were in various KLAs; in secondary schools through the work of faculties participating in PASP initiatives.

- Teachers and students reported improved satisfaction with teaching and learning, especially where the focus of a school’s PASP initiatives was on improved teaching and improved student engagement in learning (e.g., via productive pedagogies, authentic assessment), or on improved programming and consistency of teaching in nominated subject areas.

Improvements in student behaviour and attendance

- Many schools reported slight to moderate decreases in classroom behaviour problems – in some cases substantial improvements.

- Many schools (and teachers and students) reported improved outcomes in students’ social skills and behaviour, and decreased incidence of behaviour management issues. School evidence suggests that larger improvements in social skills and student behaviour occurred when the focus of a school’s PASP work was on pedagogy rather than on the management of student behaviour.

Increased retention to complete schooling

- Some schools operating home-school liaison (attendance) programs appeared to show very slight to moderate gains in school attendance and retention.

Improved Outcomes for parents, school communities and other agencies

- Some schools operating home-school liaison (attendance) programs appeared to show very slight to moderate gains in school attendance and retention.
The reviewers of PASP, quite rightly, urge caution in accepting the findings at face value (Groundwater-Smith and Kemmis, 2004). For one thing, the reviewers note that even if the trends are accurate they may reflect a Hawthorne effect sometimes evident when participants are aware of being assessed or observed and their activity and effort monitored, particularly when future funding is dependent on the outcomes. This sort of effect is evident in initial reactions when new programs are introduced, effects which may not last once the ‘novelty’ or initial euphoria passes. This suggests the need for longer term monitoring of outcomes to assess continuity and sustainability in performance.

Another major caution, also recognised by the reviewers, is that despite the reported positive gains by schools, there has been little hard comparative evidence to support them. Without comparisons with other schools, it is not possible to know whether or not any gains or changes are related specifically to the trial schools or whether they reflect broader trends. Is the program (and associated funds) responsible for any improvements in attendance, retention or achievement, or have the same patterns occurred in non-PASP schools? For the current review there were no data available across the system on affective measures such as student attitudes, engagement, and participation or on school community measures such as parental involvement, teacher dispositions and interagency partnerships. However, there are data available on cognitive measures, such as literacy and numeracy achievement, which according to the PASP review were areas of the most significant gains. It is possible to make some assessment of relative impact through comparison with other schools.

Table 5.1 presents mean scores across a variety of 2004 achievement indicators: Year 3 literacy, Year 3 numeracy, Year 5 literacy, Year 5 numeracy, Year 7 literacy, Year 7 numeracy, Year 10 English, Year 10 mathematics. Schools participating in the PAS program trial are compared against non-PAS schools that receive PSFP funding and other schools, those not participating in either program. Selective entry schools are excluded. Only schools with enrolments of 140 or more students are included because one of the features of the schools selected to participate in the PAS program was a minimum enrolment number (the minimum according to available materials was 160, though a few PAS-funded primary schools were below this number based on available Departmental data, therefore the threshold for the analysis in Table 5.1 was set at 140).

At this very broad level, PASP schools achieve at levels reflecting their levels of disadvantage. Among primary schools in 2004, during the second year of funding, PASP schools achieved between 1.6 and 2.9 points below other disadvantaged schools — the schools participating in the PSF program that did not receive PAS funding. The gap was much larger between PASP schools and the ‘other’ category of schools. The gap was 4.6 points in Year 3 literacy, 5.5 points in Year 3 numeracy, 5.2 points in Year 5 literacy and 5.9 points in Year 5 numeracy.
At secondary school level, the patterns are similar. Across all achievement indicators PASP schools achieve lower mean scores than both PSFP schools not participating in the PAS program and all other secondary schools. The gaps can be quite large. While there is roughly a 3 point gap between PSFP schools and the schools in the ‘other’ category, for all of the performance indicators, there is a further two gap between PSFP schools and those receiving PAS funds in Year 7 literacy and numeracy and roughly 4 points in Year 10 English and maths.

Table 5.1 Mean achievement levels in 2004: PAS schools compared to PSFP and other schools

<table>
<thead>
<tr>
<th></th>
<th>PASP</th>
<th>PSFP</th>
<th>Other</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3 literacy</td>
<td>46.4</td>
<td>48.0</td>
<td>51.2</td>
<td>50.4</td>
</tr>
<tr>
<td>Year 3 Numeracy</td>
<td>47.5</td>
<td>49.4</td>
<td>53.0</td>
<td>52.1</td>
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<tr>
<td>Year 5 Literacy</td>
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<td>58.1</td>
<td>57.3</td>
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<tr>
<td>Year 5 numeracy</td>
<td>54.7</td>
<td>57.6</td>
<td>61.4</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Secondary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 7 Literacy</td>
<td>83.3</td>
<td>85.8</td>
<td>88.5</td>
<td>87.7</td>
</tr>
<tr>
<td>Year 7 Numeracy</td>
<td>79.2</td>
<td>81.5</td>
<td>84.5</td>
<td>83.7</td>
</tr>
<tr>
<td>Year 10 English</td>
<td>63.2</td>
<td>67.1</td>
<td>71.5</td>
<td>70.2</td>
</tr>
<tr>
<td>Year 10 Mathematics</td>
<td>61.7</td>
<td>65.3</td>
<td>68.7</td>
<td>67.6</td>
</tr>
</tbody>
</table>

Note: excludes selective entry schools

Clearly, in 2004, PASP schools did not achieve in literacy and numeracy at the same levels as other disadvantaged schools as a group and were well below the levels of schools that did not receive any disadvantage funding.

One of the problems with this superficial comparison is that the comparison takes little account of differences in social intake. Figure 5.1 shows why it is misleading. Displayed are mean Year 10 English results of individual schools by level of socio-economic disadvantage. The schools in this figure comprise only those that took part in the last survey of parents, missing many of the schools in middle class or high SES areas. Individual secondary schools participating in the PAS program are displayed with red circles, the PSFP schools not taking in PAS are displayed as green triangles and other schools as blue squares. A regression line of best fit is displayed highlighting schools performing above and below expected levels. It shows that there is a linear relationship between mean achievement in English and social intake as measured by SES on a scale of disadvantage. PAS schools, it is clear, tend to
be the most disadvantaged secondary schools in terms of social intake. It is hardly surprising, therefore, that as a group they do not achieve as well as other schools. Both PSFP and schools not receiving any PAS or PSFP funds tend to serve less disadvantaged populations and they also tend to have higher levels of achievement, thanks to their social intake.

Figure 5.1  Mean Year 10 English achievement, by type of school

A much fairer and more appropriate comparison of schools for the purpose of examining the impact of PASP is to examine achievement of PASP schools against schools with very similar social intakes, against ‘like’ schools. One way of doing this is to group the broader category of PSFP schools into smaller clusters based on their rankings on the scale of SES disadvantage derived from the quadrennial survey of parents.

Figure 5.2 presents such an analysis. The first panel presents results for primary schools. The primary schools, consistent with the criteria for PAS funding, have a minimum enrolment of students (140 used for this exercise). All PSFP and PAS schools were grouped into deciles based on rankings on the scale of socio-economic disadvantage. Most of the PAS primary schools were in the highest three deciles for disadvantage (33 of the 44 PASP schools). There were 35 equivalent PSFP schools in these three deciles not participating in the PAS program.
Figure 5.2  Mean achievement levels in 2004: PAS schools compared to PSFP and other schools

Primary school achievement

<table>
<thead>
<tr>
<th>Year 3 literacy</th>
<th>Year 3 Numeracy</th>
<th>Year 5 Literacy</th>
<th>Year 5 Numeracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PASP</td>
<td>46.4</td>
<td>47.9</td>
<td>53.5</td>
</tr>
<tr>
<td>PASP</td>
<td>46.1</td>
<td>47.4</td>
<td>52.6</td>
</tr>
</tbody>
</table>

Secondary school achievement

<table>
<thead>
<tr>
<th>Year 7 Literacy</th>
<th>Year 7 Numeracy</th>
<th>Year 10 English</th>
<th>Year 10 Maths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-PASP</td>
<td>84.6</td>
<td>80.0</td>
<td>65.3</td>
</tr>
<tr>
<td>PASP</td>
<td>83.0</td>
<td>78.5</td>
<td>63.0</td>
</tr>
</tbody>
</table>
Figure 5.2 compares the results for the two groups of ‘like’ schools serving disadvantaged populations. In 2004, it is apparent that the mean achievement levels for all performance indicators were marginally lower for PAS schools than for similar intake PSFP schools that were not participating in the PAS program. Achievement gaps were negligible in Year 3 literacy (0.3 points), and even the largest gap, in Year 5 numeracy, was fairly small (1.4 points).

Panel two shows results for secondary schools. In the analysis, schools were grouped into quartiles rather than deciles, with the schools recorded from the two most disadvantaged quartiles of PSFP schools. There are 20 of the 26 PAS schools and a comparison group of 20 PSFP schools not participating in the PAS program (the ‘like’ school group). The results show that in terms of a comparison of simple mean achievement, the PAS schools gained slightly lower levels of achievement in the junior secondary years (Year 7 literacy and numeracy) as well as in the final compulsory years (Year 10 English and Maths). Gaps ranged from 1.5 points in Year 7 numeracy to 3.1 points from Year 10 maths.

The results presented in Figure 5.2 are still somewhat misleading as a comparison of the impact of the PAS program. This is because despite having lower levels of achievement in 2004 the PAS schools may have improved their performance over other schools through the assistance of PAS funding. To measure the impact of PAS really requires over-time comparisons of performance against like schools rather than a simple point of time comparison. An appropriate evaluation is one that would compare changes in performance levels from levels of achievement before the introduction of PAS funding to levels after the introduction of funding.

Figure 5.3 presents such a comparison for primary schools and Figure 5.4 for secondary schools. The bars represent changes in achievement levels between the two-year period immediately prior to the introduction of the PAS program — 2001 and 2002 — to the two-year period following the introduction of PASP — 2003 and 2004. In the analyses, achievement was averaged for the two-years in both the pre- and post- PAS periods. The results are presented across key achievement indicators with the results presented by decile for primary schools and quartiles for secondary schools. Only those schools in the three highest deciles of disadvantaged primary schools are included and the two highest quartiles of disadvantaged secondary schools.

The results in Figure 5.3 suggest positive gains in PAS schools relative to like schools not participating in the PAS program. Among schools not participating in PASP there were falls recorded for Year 3 literacy and numeracy from 2001/2002 to 2003/2004. These ranged form –1.06 points on Year 3 literacy for non-PASP school in decile one to –0.27 points on Year 3 numeracy for schools in decile 2. This does not necessarily mean that there was a ‘real’ decline in performance in these schools over that period. Further analysis using individual and school level data in which achievement was
Figure 5.3  Changes in mean achievement from 2001/2002 to 2003/2004: PASP primary schools compared to other PSFP primary schools in the three most disadvantaged deciles of schools

**Year 3 achievement**

**Year 5 achievement**
Figure 5.4 Changes in mean achievement from 2001/2002 to 2003/2004: PAS secondary schools compared to other PSFP secondary schools in the two most disadvantaged quartiles of schools

Year 7 achievement

Year 10 achievement
equated to a standardized scale would be necessary to make such a claim. However, over the same period PASP schools made achievement gains on both indicators and in all three deciles. The gains were as much as 1.29 points for Year 5 numeracy in decile 2 schools, 0.88 points in decile 1 schools and a 0.75 point gain in decile 3 schools, on average.

The results for Year 5 achievement are less consistent. Large falls were recorded by non-PASP decile 2 schools for both Year 5 literacy and numeracy, falls of 1.20 and 1.26 points respectively. Among PASP schools in the same decile, there was a very small fall in Year 5 literacy (0.05 points) and a gain in numeracy — 0.52 points. Changes were roughly similar for PAS and non-PASP schools in the other deciles.

In the junior secondary school years, there were mainly falls in achievement levels from the period before to the period after the introduction of the PAS program. The falls, though, were larger among non-PASP schools than among PASP schools. For example, non-PASP schools in quartile 1 recorded a 1.27 point fall in Year 7 literacy achievement. The fall for PASP schools, on average, was 0.42 points.

At Year 10 level, PASP schools appear to have performed more strongly than non-PASP schools. This is particularly noticeable in Year 10 English. Among non-PASP schools in quartile 1 there was a 2.22 point fall in achievement. At the same time, PASP schools made a gain of 0.45 points. The gain for quartile 2 schools was even greater — 1.03 points. For English achievement, at least, PASP schools have made up ground on the other schools.

These results provide qualified support for the view that the intensive assistance delivered through the PAS program has produced some positive gains in achievement. While not consistent across all of the achievement indicators, in the like school analysis gains were recorded in Year 3 literacy and numeracy achievement at primary school level and in Year 10 English at secondary school level. These gains were recorded against falls among the comparison schools — those serving similar communities of disadvantaged populations.

On the measures of Year 3 and Year 10 achievement, gaps have been reduced, and it appears to be linked to the introduction of PASP. However, is this true against all schools or only schools in the ‘like’ school group? One way to examine this question is to use a regression procedure to predict change in achievement, taking account of other factors. By controlling for social intake differences, and extending the analysis to include all survey schools, it is possible to estimate more precisely the impact of the PAS program on achievement. This is a harder test for PASP schools because the comparison is not only with like schools, but with all quadrennial survey schools, those that receive equity funding and those that do not. The results of the analysis for primary schools are presented in Table 5.2 and for secondary schools in Table 5.3.
### Table 5.2 Regression estimates of change in primary school achievement: all survey primary schools, 2001/2 to 2003/4

<table>
<thead>
<tr>
<th></th>
<th>Year 3</th>
<th></th>
<th>Year 5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in literacy</td>
<td>Change in numeracy</td>
<td>Change in literacy</td>
<td>Change in numeracy</td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.57</td>
<td>-1.20</td>
<td>-0.13</td>
<td>-0.92</td>
</tr>
<tr>
<td>SES measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.03**</td>
<td>-0.02*</td>
<td>-0.36**</td>
<td>0.00</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>-0.01</td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>0.03</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>0.00</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.03**</td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.03**</td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.23</td>
<td>0.10</td>
<td>-0.02</td>
<td>0.18</td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>-0.03**</td>
<td>0.00</td>
<td>0.25</td>
<td>0.00</td>
</tr>
<tr>
<td>Other measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of ESL students</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01*</td>
</tr>
<tr>
<td>Rural or remote school</td>
<td>-0.03</td>
<td>0.05</td>
<td>0.00</td>
<td>0.28**</td>
</tr>
<tr>
<td>PASP school</td>
<td>0.36</td>
<td>1.10***</td>
<td>-0.03</td>
<td>0.19</td>
</tr>
</tbody>
</table>

### Table 5.3 Regression estimates of change in secondary school achievement: all survey primary schools, 2001/2 to 2003/4

<table>
<thead>
<tr>
<th></th>
<th>Year 7</th>
<th></th>
<th>Year 10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in literacy</td>
<td>Change in numeracy</td>
<td>English</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.70</td>
<td>0.98</td>
<td>-2.43</td>
<td>-1.11</td>
</tr>
<tr>
<td>SES measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.04**</td>
<td>-0.02</td>
</tr>
<tr>
<td>Density of single parent families</td>
<td>0.01</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Density of parents in employment</td>
<td>0.02</td>
<td>0.00</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>Density of parents unemployed</td>
<td>0.00</td>
<td>0.00</td>
<td>0.04</td>
<td>-0.01</td>
</tr>
<tr>
<td>Density of parents on income support</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean educational attainment</td>
<td>0.07</td>
<td>-0.91**</td>
<td>0.21</td>
<td>0.45</td>
</tr>
<tr>
<td>Mean occupational status</td>
<td>0.01</td>
<td>0.02</td>
<td>-0.01</td>
<td>-0.06*</td>
</tr>
<tr>
<td>Other measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density of ESL students</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Rural or remote school</td>
<td>-0.11</td>
<td>-0.06</td>
<td>-0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>PASP school</td>
<td>0.15</td>
<td>0.32</td>
<td>1.10**</td>
<td>0.35</td>
</tr>
</tbody>
</table>
The results in Table 5.2 suggest some positive results for PASP schools on some of the achievement indicators. The regression models predict change in Year 3 literacy, Year 3 numeracy, Year 5 literacy and Year 5 numeracy. The models include controls for the different SES indicators that comprise the PSFP scale and two other measures: density of ESL students and rural or remote location. The intercept value at the top of each column represents the average change in achievement for non-PAS urban schools. For Year 3 literacy achievement, it suggests that across non-PASP schools there was an average fall between 2001/2002 and 2003/2004 of 0.57 points, all else equal. The estimate for PASP schools, 0.36, is positive suggesting achievement gain over the period. However, the differences between PASP and non-PASP schools are not statistically significant.

This is not the case for Year 3 numeracy achievement. On this achievement indicator, PASP schools made significant and positive gains after controlling for other factors, gains which were made in the face of average decline across other schools. The estimated average gain in PASP schools was 1.10 points compared with an average estimated fall for all other schools of 1.2 points (intercept value of −1.20), all else equal. On this measure, PASP schools have outperformed other schools in terms of achievement gains and will have reduced overall gaps in achievement.

The gains did not apply to Year 5 achievement. While there was small overall gain for PASP schools in Year 5 numeracy achievement, against an average fall for other schools, the difference was not significant. The model for change in Year 5 literacy achievement suggests little change over the measurement period and little difference between PASP and other schools.

The secondary school results presented in Table 5.3 suggest that schools participating in the PAS program made positive gains on all achievement measures. One of the gains was a statistically significant improvement. The estimate for Year 10 English suggests that, after controlling for other factors, PASP schools made an average gain of 1.1 points over other schools. This occurred in the context of an average fall for other schools of 2.43 points, all else equal. PASP schools also improved on the other achievement indicators relative to all other survey schools, though the gains were not statistically significant.

The results provide some evidence to suggest that the PAS program has helped schools reduce gaps in achievement. While the non-PASP schools have tended to experience falls in mean levels of achievement on several indicators, PASP schools have tended to experience gains, in some instances statistically significant gains. This does not occur on all indicators and the improvements fluctuate, but in general there is support for the view that the assistance provided by PASP has contributed to improvements on some of the cognitive

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1 As mentioned previously, the falls in achievement in non-PASP schools do not imply a deterioration in achievement, merely change in mean scores that may reflect variations in the distributions of scales. What is important are the relative changes between PASP and non-PASP schools.
measures of literacy and numeracy and certification results. It is important to note that the changes are being measured in early stages of the introduction of PASP and would need to be measured over a longer time-frame to assess whether or not the improvements can be sustained and do not merely reflect a ‘Hawthorne’ effect. But within these limitations the results do suggest positive impact of the PAS program and this is an important finding because evaluations of the impact of funding assistance for disadvantaged schools often show little if any impact on cognitive outcomes.

Factors affecting the impact of the PAS program

As discussed in the previous chapter, one of the most critical factors affecting the performance of disadvantaged schools is instability and lack of continuity in staffing. This is a particularly significant factor for PAS schools. Figure 5.5 shows that almost every second teacher in a PASP primary school was new to the school in 2004. This was compared to a rate of 1 in every 3 teachers in PSFP schools not participating in the PAS program. The high rate of turnover in PAS schools reflects the high concentrations of disadvantaged students that these schools serve, because turnover levels tend to increase as the density of disadvantaged students increases.

Figure 5.5 New teachers as a percentage of all teachers, by school type: PASP and PSFP (non-PASP) schools, 2004.

With such a high rate of turnover, it is difficult for schools to retain skills and build skill capacity in ways that support improvements in the quality of teaching and learning. For one thing, schools have little certainty that investment in professional development will remain available to the school as a foundation for continued growth and improvement. This makes the achievement gains noted in the previous section even more striking. They have been obtained in a context in which schools have lost many teachers that may have helped deliver improvements. This must make it difficult for the PAS program to produce positive gains because the program is based on an
action research paradigm which requires that teachers are actively involved in the research, reflection, design and implementation phases. Many of the teachers involved in the initial process will have left, at least according to the results in Figure 5.5.

The targeting of need related to PASP

The initial selection of PASP schools was based on a number of criteria to reflect the concentration of disadvantage and performance related to a range of achievement, affective and community indicators. They included:

- density of students from low socio-economic status backgrounds
- levels of truancy and numbers of suspensions
- achievement levels and other student learning outcomes
- student turnover and retention rates to post-compulsory schooling
- the number and percentage of beginning teachers (less than three years experience)
- location of schools within low SES public housing estates
- crime call out data from the Bureau of Crime Statistics and Research
- enrolment threshold of 160 students was used to ensure that the funds targeted significant numbers of students in each location.

An emphasis was given to metropolitan schools in south-west and western Sydney. About 56 per cent of schools were located in this area.

PASP was designed to assist schools in communities with deep needs. The majority of the schools involved are indeed in communities with very deep needs. Table 5.4 shows the profiles of schools according to the social indicators of disadvantage derived from the quadrennial survey of parents.

Table 5.4 Social disadvantage, by type of school: PASP, PSFP and other schools compared

<table>
<thead>
<tr>
<th>Social indicator</th>
<th>Indigenous students</th>
<th>Single parents</th>
<th>Employed parents</th>
<th>Unemployed parents</th>
<th>Parents on income support</th>
<th>Mean educational attainment</th>
<th>Mean occupation status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAS</td>
<td>16.0</td>
<td>40.7</td>
<td>15.3</td>
<td>45.3</td>
<td>35.2</td>
<td>2.7</td>
<td>18.5</td>
</tr>
<tr>
<td>PSFP (non-PASP)</td>
<td>14.5</td>
<td>34.5</td>
<td>18.9</td>
<td>38.4</td>
<td>30.1</td>
<td>2.8</td>
<td>23.0</td>
</tr>
<tr>
<td>Other</td>
<td>5.5</td>
<td>19.6</td>
<td>37.9</td>
<td>17.4</td>
<td>14.8</td>
<td>3.3</td>
<td>40.1</td>
</tr>
<tr>
<td><strong>Secondary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAS</td>
<td>15.6</td>
<td>35.1</td>
<td>19.4</td>
<td>39.9</td>
<td>32.3</td>
<td>2.6</td>
<td>23.4</td>
</tr>
<tr>
<td>PSFP (non-PASP)</td>
<td>10.7</td>
<td>32.0</td>
<td>22.5</td>
<td>35.1</td>
<td>27.6</td>
<td>2.8</td>
<td>26.8</td>
</tr>
<tr>
<td>Other</td>
<td>7.1</td>
<td>24.2</td>
<td>41.1</td>
<td>19.3</td>
<td>16.0</td>
<td>3.1</td>
<td>41.5</td>
</tr>
</tbody>
</table>

Note: For primary schools, N= 44 PASP, 191 PSFP (non-PASP) and 310 other. For secondary schools, N= 26 PASP, 60 PSFP and 124 other.
Compared to PSFP schools as a group, schools participating in the PAS program have the highest concentrations of indigenous students, students from families in which parents are unemployed, from single parent families and from families where parents have low levels of educational qualifications and tend to work more often in low status occupations. This is true of both primary and secondary schools. On average, the profiles suggest that these schools are indeed among the most disadvantaged in New South Wales.

However, this is not true uniformly of all schools participating in the PAS program. Figure 5.6 shows Year 3 literacy levels among PSFP and PASP schools in 2002 (before the introduction of PASP), by level of disadvantage (as measured by a composite measure of SES). PASP schools are represented by triangles and PSFP schools by circles. Generally, PASP schools tend to be towards the lower end of the achievement spectrum and the higher end of the scale of disadvantage. However, there are quite a number of PSFP schools not participating in the PAS program that have low levels of achievement and are more disadvantaged according to their SES scores than many of the PASP schools. Similarly, there are some PASP primary schools that are towards the middle of the achievement and disadvantage scales.

Secondary schools participating in PASP tend to be the most disadvantaged as measured by the PSFP survey results. However, two schools on the program did not qualify for PSFP funding with SES rankings outside of the threshold.
There are schools not participating on the PAS program that are as disadvantaged in terms of the communities they serve as participating schools. This is not a deficiency in the targeting of need itself. The program was originally devised as a trial with plans for schools to receive funding for 2 to 3 years and then for other schools to have their turn to receive funds. This feature of the original design is problematic because it assumes that the intensive assistance schools receive is not needed in an on-going way to maintain achievement gains. Furthermore, the gains recorded for PASP schools in the previous section, as important and impressive as they are, still leave the schools as a group below PSFP averages in achievement, let alone state averages, and therefore with further work still required to reduce gaps. Rotating the funds to other schools may undermine the gains made when further effort is now needed.
6. Multicultural Programs: ESL

Introduction

Many new arrivals from overseas have needs associated with speaking English as a Second Language (ESL). They may speak, understand or be literate in more than one language and may have some experience of English but require support to acquire fluency in English and to access the curriculum. Factors such as age, previous experience of schooling and curriculum content, knowledge of other languages and levels of literacy in their first or other languages will all impact on the development of pupils’ language skills and their ability to apply these skills to learning across the curriculum. Some pupils may be new to spoken and written English. Others may have learned English as a foreign language, or not be fluent in English even if they come from education systems where English is the medium of instruction. Some new arrivals may have had extensive experience of education while others may have had none.

ESL programs are provided to assist students acquire the language skills needed to participate fully in mainstream classrooms and to enhance their learning outcomes. Learning English is an essential requirement for success both at school and for further education, training and employment for students who speak a language other than English as their first language. This chapter presents an overview of the ESL program in New South Wales and looks at how well it is targeting need and meeting its main objectives. We begin by looking at how other systems have approached the funding of programs to address ESL needs in government schools.

Approaches to ESL in other systems

School systems in Australia as well as in other nations recognise that all pupils, including newly arrived pupils from overseas, have an entitlement to access schooling and the curriculum. Most offer assistance to new arrivals giving intensive ESL support to enable children to access the curriculum as quickly as possible. In Australia, the New Arrivals Program was established to meet these initial needs. The program, funded by the Australian Government, assists with the cost of delivering intensive English language tuition to eligible newly arrived migrant primary and secondary school students. In line with the program design, newly arrived students from language backgrounds other than English who meet eligibility criteria are able to access free intensive ESL tuition for between six to twelve months. The program aims to improve the educational opportunities and outcomes of newly arrived students of non-English speaking backgrounds by developing their English language competence and facilitating their participation in mainstream educational activities. The United Kingdom, Canada and the United States fund similar programs.
In addition to programs for recent arrivals, many systems offer funding to schools for on-going post-arrival ESL programs and support. These vary and are organised and delivered differently across Australian states and territories as well as other countries.

Australian states and territories

All states and territories provide additional funding to be used to support the schooling of students who have ESL needs. The most common approach is to provide additional funding to schools for the employment of specialist ESL teachers and teacher aides. The amounts of funding provided to schools are usually assessed using an index of need related to the numbers of ESL students, length of residency in Australia or number of years in an Australian school and, in some cases, weighted by proficiency in English language skills as assessed by schools using ESL scales which can assess levels of language skills. The formulas for funding and the allocations vary substantially.

In Victoria, funding is allocated to schools to provide ESL programs for students who speak a language other than English at home as their main language and have been enrolled in an Australian school for less than a specified number of years (previously, 7 years). A student from a language background other than English is defined as one who was either born in a non-English speaking country or has one or both parents born in a non-English speaking country. The numbers of students identified as eligible for funding are derived from data collected from schools in an annual Language Background Other Than English census.

The criteria and formulas used to calculate funds for ESL have recently changed. In the past, an ESL index was used to identify funding allocations. The index was weighted to reflect two elements: (1) the length of time students had been enrolled in Victorian schools, and (2) the stage of schooling. Students received ESL funding if they had been enrolled in an Australian school for less than 7 years with number of years used to weight the level of funds. Students who recently arrived (less than 1 year) received the highest weight. Stage of schooling weights were also applied with students in secondary schools receiving substantially higher levels of assistance. Secondary school ESL students in an Australian school for up to three years received more than 7-times the funding of the equivalent primary school student. The weights and funding amounts per capita in 2003 were as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Level Description</th>
<th>Weighting 2003</th>
<th>Rate 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All ESL students not included in levels 2 to 4 Years P–6</td>
<td>1</td>
<td>$284</td>
</tr>
<tr>
<td>2</td>
<td>&lt;3 years in Australian school Years 2–6</td>
<td>1.29</td>
<td>$366</td>
</tr>
<tr>
<td>3</td>
<td>&lt;1 year in Australian school Years P–4</td>
<td>1.61</td>
<td>$457</td>
</tr>
<tr>
<td>4</td>
<td>&lt;1 year in Australian school Years 5–6</td>
<td>2.03</td>
<td>$577</td>
</tr>
<tr>
<td>5</td>
<td>3&lt;7 years in Australian school Years 7–12</td>
<td>2.89</td>
<td>$821</td>
</tr>
<tr>
<td>6</td>
<td>1&lt;3 years in Australian school Years 7–12</td>
<td>7.18</td>
<td>$2,039</td>
</tr>
<tr>
<td>7</td>
<td>&lt;1 year in Australian school Years 7–12</td>
<td>14.34</td>
<td>$4,073</td>
</tr>
</tbody>
</table>
Schools were required to reach a threshold before funding was made available. In 2003, these were set at $9740 for primary schools and $20,000 for secondary schools.

The index for determining ESL funding needs did not directly target students on the basis of their language skill levels. In general, funding was applied to all students who met the formal census classification (of being in a home environment where English is not the main language) without regard to the level of English fluency or skills associated with prior learning. While funding was time dependent — limited to those who had been enrolled in an Australian school up to a certain number of years — it did not necessarily target those with the highest level of English language skill needs or, more broadly, learning needs. For example, students with very low literacy levels received the same funding as students with well developed literacy levels in their home language as well as in English. In other words the funding system was indiscriminate.

A new index has been applied in 2005 with the introduction of a new funding mechanism, the Student Resource Package. The following are the new funding weights for ESL (applied for illustration on 2003 data) which are also influenced by length of time in an Australian school and stage of schooling. The length of time has been reduced to 5 years and the stage of schooling weights also changed to provide more assistance to primary schools, compared to the former weights.

<table>
<thead>
<tr>
<th>Level Index</th>
<th>Level Description</th>
<th>Weighting 2003</th>
<th>Per capita core (Average)</th>
<th>Rate 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In Year Prep</td>
<td>0.5</td>
<td>*4223</td>
<td>$211</td>
</tr>
<tr>
<td>2</td>
<td>2-5 years in Australian school</td>
<td>0.1</td>
<td>*4223</td>
<td>$422</td>
</tr>
<tr>
<td></td>
<td>Years 1–6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&lt;2 years in Australian school</td>
<td>0.2</td>
<td>*4223</td>
<td>$844</td>
</tr>
<tr>
<td></td>
<td>Years 1–6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2-5 years in Australian school</td>
<td>0.2</td>
<td>*5374</td>
<td>$1,075</td>
</tr>
<tr>
<td></td>
<td>Years 7–12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>&lt;2 years in Australian school</td>
<td>0.3</td>
<td>*5374</td>
<td>$1,612</td>
</tr>
<tr>
<td></td>
<td>Years 7-12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition to the above index levels, differential ESL learning needs are addressed through the application of SES derived weights. This is done in recognition of the very uneven distribution of ESL students across Victorian schools. Schools with the highest densities of low SES students more often have the highest concentrations of ESL students with additional learning needs associated with low achievement, poor English language skills and little formal schooling prior to arriving in Australia. The weights are set at three levels depending on the density of disadvantaged students.

In South Australia, ESL funding is based on an annual ESL staffing allocation for schools using ESL data collected from schools as part of the annual August school census. The funding is provided to help ESL students acquire language
skills to a level required at their respective year level of schooling. ESL students are defined as those having a non-English speaking background, identified at the time of enrolment. They include Aboriginal or Torres Strait Islander (ATSI) students who speak an ATSI language, including Aboriginal English. Funding is available to permanent residents and some categories of temporary residents, such as temporary protection visa holders. It is not made available to exchange students, full-fee paying international students and some other categories of temporary visa holders.

From 2006 it is proposed that ESL funding be based on a “gap” model, where each ESL learner’s level of need is assessed using the ESL Scales. The level of funding is to be determined by the gap between a student’s language level and the language level required for curriculum success at each year level of schooling. Schools will be required to enter not only the number of ESL students at the time of the annual census, but also an ESL Scale for each category of ESL learner. ESL categories require assessment of student language skills using the ESL Scales. Scale information for all students is supposed to be updated annually or when a student’s language level progresses. Initially newly enrolling ESL students are assigned an ESL level according to their educational background, age and scaled assessment.

Funding is allocated to schools on a per capita basis weighted by ESL scale category. The per capita funds are as follows:

- ESL 1b  $1,860
- ESL 2  $1,590
- ESL 3  $ 592
- ESL 4a  $1,217
- ESL 4b  $ 878

ESL 1A students are those who are newly arrived residents with minimal or no English and no previous schooling in Australia. To be eligible, students must be enrolled in a school or New Arrivals Program (NAP) unit within 12 months of arrival in Australia. Students are no longer eligible as ESL 1A when they have achieved sufficient language skills to successfully exit from a NAP unit or after a period of 12 months from their first enrolment in a school. ESL 1B students are enrolled in Reception or Year 1, have lived in Australia for more than 18 months or who were born in Australia and have minimal or no English. ESL 2 students are enrolled from reception to Year 12 and assessed as requiring “sustained and intensive support to access the language demands of all the Learning Areas in the curriculum”. ESL 3 students assessed for eligibility in ESL 3 require support to access the language demands of most though not all learning areas across the curriculum. ESL 4A students are those who are enrolled in SACE ESL Stage 1. ESL 4B students are those students who are enrolled in SACE ESL Stage 2.

In Tasmania, as in other states, funding is designed to provide teacher support for students who are learning English as a second language so they may
acquire enough English to participate fully in mainstream classrooms. Eligibility is based on schools making applications for ESL support to the district or regional office. Evidence of the need for support is demonstrated by assessed skill levels according to the ESL scales. Support is provided to schools for different durations according to stage of schooling, but for no longer than 4 years. Approximate duration of support is provided as follows:

- New arrivals – Four terms intensive English language tuition (on-going support dependent on level of schooling)
- Primary students with a pre-literate background, 1-2 years
- Secondary students with formal literacy backgrounds, 1-2 years
- Secondary students with a refugee background, 3-4 years.

**Internationally**

In England, while money is provided by the Government to help meet the linguistic needs of children for whom English is not a first language, the purpose of the funding is more broadly targeted than for the acquisition of language skills alone. Its purpose is to address disadvantage in a wider sense, disadvantage brought about by differences of language or culture and experienced by members of any ethnic minorities in accessing education, training, and a wide range of opportunities. For this reason, funding allocated to students with English as an Additional Language (EAL) is incorporated into the allocation for Additional Education Needs (AEN). EAL and ethnicity indicators are combined with other social indicators into a single AEN index which is used to estimate the proportion of pupils with additional needs in each local education authority. Two indicators of EAL are used: English as an Additional Language and membership of low achieving ethnic groups. According to recent publications, national test results reveal that students from Chinese and Indian backgrounds tend to do better than average, whereas as groups, students from Pakistan, Bangladesh, Africa and the Caribbean tend to achieve well below average (DfES, 2003).

The budget for AEN is approximately 18.8 per cent of the total school budget. Funds are allocated to Local Education Authorities and schools based on assessed need including numbers of AEL students. One of the uses of AEN funds is to support the cost of employing additional teachers and bi-lingual classroom assistants to teach English as an additional language in schools.

The needs of new arrivals and bi-lingual pupils are also targeted using the resources of a further program, the Ethnic Minority Achievement Grant (EMAG), which is designed to both enable schools and LEAs to narrow achievement gaps between students of different ethnic backgrounds, and meet the costs of additional support for bi-lingual learners and under-achieving pupils (DfES, 2004). EMAG funding is distributed to LEAs through a formula based on numbers of pupils learning English as an additional language and the numbers of pupils from nationally underachieving minority groups. Pupils who are both bi-lingual and from an underachieving group are only counted once. This number of pupils is then multiplied by the proportion of all pupils
Some schools employ EAL specialist teachers and/or teaching assistants who provide on-site advice and specialist provision. However many schools are not able to employ EAL specialists directly, nor do they have access to regular additional EAL teaching support provided by the LEA. In some local authorities, schools can elect to buy EAL teaching and other relevant support from their LEA. An example is provided by a West Midlands secondary school. The Language Support Department (LSD) divides its time between catering for the needs of about 30 new arrivals and targeting 25 per cent of bi-lingual pupils in the school (about 70 pupils), many of whom were born in the UK but still require support with written academic English. This school receives £83,000 in EMAG funding, which funds a full-time language support coordinator, a part-time language support teacher and 25 hours teaching assistant time. Some pupils receive small group-focussed teaching for two periods a week, others are placed straight into mainstream classes with the support of a language support teacher or teaching assistant. Lunchtime homework clubs are also well attended by pupils who arrived in the UK in the previous two-to-three years. The LSD also provides staff training in EAL issues.

A pilot program, the *Primary National Strategy EAL Pilot*, has been recently introduced. It involves the provision of EAL consultants in 21 LEAs who each work with 10 schools to develop professional development programs for mainstream staff. The project aims to support improvement in the standards of attainment in English and mathematics of bi-lingual learners by developing and disseminating understanding of bi-lingualism and EAL pedagogy and practice (DfES, 2005).

In New Zealand, the equivalent ESL program is English for Speakers of Other Languages (ESOL). Additional resources are provided to schools to meet the assessed needs of all English language learners other than fee-paying “international students”. ESOL funding is used to provide:

- in-class mainstream support (e.g. extra teacher or teacher aide working alongside the classroom teacher),
- small group teaching,
- bi-lingual resource staff (e.g. to interpret, translate or liaise with NESB families), and
- additional ESOL specific resources (e.g. preparation or purchase of resources).

Schools wanting to access ESOL funding are required to assess English language learners on the basis of set criteria which relate to comparisons of students’ competence with that of their “cohort” group, similar to the approach proposed for South Australia. Departmental ‘verifiers’ visit schools to check
that effective assessment is undertaken and ensure that funding is being used appropriately.

In 2004 the total ESOL allocation was 1.1 per cent of the total education budget. Newly arrived migrant students (in their first year in a NZ school) are funded at:

- $700 a year at primary level (Years 0 to 6)
- $800 a year at intermediate level (Years 7 and 8)
- $800 a year at secondary school (Years 9-14).

Funding for students from refugee backgrounds is higher:

- $1200 a year for the first two years after arrival (primary and intermediate)
- $550 a year for third, fourth and fifth year after arrival (primary and intermediate)
- $1800 a year for the first two years after arrival (secondary)
- $550 a year for the third, fourth and fifth year after arrival (Secondary).

At present, eligible students generate funding for a maximum of three years (12 terms), or five years for students from a refugee background. However, in the future a five-year entitlement to ESOL support will be phased in for all migrant students who score below the benchmark of the ESOL set criteria of achievement. New Zealand born students (of migrant or refugee parents) will be eligible for 3 years after their first 2 terms at school, funded at $550 per year.

The approach to ESL programs in the United States varies by state. About 10 per cent of students in the US are English learners or ESL students (Kindler 2002). In the nation they number about 4.6 million. Most English learners speak Spanish as their primary language (about 79 per cent of all ESL students), and the second largest language group is Vietnamese. However they only account for 2 per cent of ESL students (Gandara et al, 2003).

ESL students receive intensive assistance for the acquisition of English language skills via specific classes, immersion in mainstream classes or through bi-lingual programs. Some of the most common programs used by schools include:

- intensive instruction in English with ESL taught during a specific school period and students involved in other mainstream, immersion or bi-lingual classes during the day,
- transitional bi-lingual education where both English and the native language are used for instruction, and
- dual-language immersion in which the curriculum is taught in both English and the other language to a class where there are approximately equal numbers of English-proficient students and ESL students.
Not all states provide funding for bi-lingual and ESL programs in their state budgets. A survey of 10 randomly selected states undertaken by the Education Commission of the States (ECS) (2002) revealed a wide range of funding levels and programs. Funding amounts varied from $100 per identified student in California to $1350 per student in Maryland. Indicators used to identify students included enrolment in an ESL program, language other than English spoken at home, score on an English proficiency test, and participation in a state-qualified bi-lingual program. In most states funding is provided for pupils from homes where a language other than English is spoken and where the student obtains a score below a threshold on a standardised test of English proficiency. In Seattle, for example, enrolment in English language programs is determined by testing. Students who score below a certain point on oral and written proficiency tests become eligible for bi-lingual support and can receive bi-lingual services until they have the English skills to move into regular school programs. Approximately 13 per cent of students receive transitional bi-lingual services. The budget allocation for bi-lingual education is 3.4 per cent of total school funding. In some states funding is tied to proficiency in the home language as well as in English.

The approaches to ESL funding in Canada vary by province though contain common elements. In most provinces, to receive funding schools generally have to show student need through results on standardised tests of English proficiency. In British Columbia, for example, for a student to be recorded and funded as an English as a Second Language (ESL) student, all of the following must be met:

“There must be:

1. a record of a current annual English language proficiency assessment, confirming that the student’s use of English is sufficiently different from standard English that he or she is identified as requiring specialized services to develop intellectually, to develop as a citizen and to achieve the expected learning outcomes of the provincial curriculum;

2. evidence that a current annual instructional plan is in place, designed to meet the identified needs of the student;

3. evidence that a specialist teacher is involved in the development of the instructional plan and participates in a regular review of that plan during the school year (at a minimum, at each student reporting period);

4. evidence that additional services are being provided;

5. a schedule detailing the amount or nature of direct support provided by an ESL/specialist teacher of teachers; assistant and/or a list of specialized services being provided to the student;
6. documentation of the student’s progress in the acquisition of English in all Student Progress Reports” (Ministry of Education British Columbia, 2003, p. 8).

Determinations of competence are made by educational professionals with ESL training, in conjunction with classroom teachers. Student progress is evaluated annually. School-age students can receive ESL services for a maximum of five years.

In other provinces, funding is provided for up to a maximum of either three or five years.

**The approach to ESL in New South Wales**

ESL programs in New South Wales aim to develop ESL students’ English language competence and improve their learning outcomes to a level where they can fully participate in schooling and independently pursue further education and training. The programs are delivered in primary schools, high schools, Intensive English Centres (IECs) and the Intensive English High School (IEHS). In these schools ESL programs are delivered in a variety of ways to meet the different needs of ESL students at different stages of learning English. They include intensive support for both newly arrived and continuing ESL students from Kindergarten to Year 12.

There are two main programs for ESL students provided in government schools: the ESL Targeted Support Program (TSP) and the ESL New Arrivals Program (NAP). The programs target two groups of students: those requiring on-going support in mainstream school classrooms and newly arrived ESL students with limited English language skills who require intensive support. In addition to TSP and NAP, there are supplementary funding programs available for schools in rural and regional areas which enrol newly arrived ESL students and do not receive funds through the ESL Targeted Support Program. Funds are also available to assist schools that receive a sudden significant increase in newly arrived ESL enrolments that occurs after the annual allocation of the TSP funding.

Eligibility for the Targeted Support Program is based on ESL Annual Survey data that are provided by each school. The survey includes details about the numbers of refugee and humanitarian visa holders enrolled. It also requires schools to provide information on the level of ESL need according to three broad levels or phases — first, second or third phase — for the purpose of identifying levels of ESL need. Phase 1 learners are those with limited English language skills and in need of intensive assistance. Phase 2 learners have acquired basic skills but are still in need of structured assistance. Phase 3 learners have gained fluency and good skills but still require occasional assistance. Measurement of skill and grading into phases is based on the use of ESL Scales which were originally developed by the Australian Education Council on behalf of all states and territories. They were designed as an...
assessment and reporting framework and used to describe the English language and literacy competence of ESL students as identified from school, curriculum or class based assessment information. Schools are required to provide the numbers of students in each phase in the annual survey.

Eligibility for the New Arrivals Program Teaching Support is based on the following:

- the ESL student be newly arrived in Australia (enrolling in school within 6 months of their arrival or for kindergarten students with 18 months of their arrival);
- be from a language background other than English and be in need of intensive ESL tuition;
- be enrolling in an Australian school for the first time or transferring within 6 months;
- be a permanent resident or a temporary visa holder with an Authority to Enrol form issued by the International Business Unit.

Each year the Commonwealth government provides a once only per capita grant for schools with a New Arrival (NA) enrolee with intensive English tuition needs.

The ESL Targeted Support Program provides specialist ESL teachers, in addition to the school’s normal staffing allocation, to primary and secondary schools which have sufficient numbers of identified ESL students. The TSP has a fixed number of 876 teaching positions. In 2004, 611.4 were allocated to primary schools and 264.6 allocated to secondary schools. Teachers are allocated in increments of 0.2 to a maximum of 6.0 equivalent full-time positions. The formal allocation of teachers across the stages of schooling reflects a weighting in favour of primary schools, consistent with the higher numbers of ESL students in primary schools.

Teacher allocation is based on data provided in the annual survey. Each school determines how many of their students fall into each of the three ESL phases and reports the numbers in the annual survey. The three phases are assigned weightings of 3.0 (for Phase 1), 2.0 (for Phase 2) and 0.25 (for Phase 3). A school’s ESL load (SL) is determined by adding the weightings of those ESL students who are receiving support (ESL Receiving Load) and those ESL students who are not receiving support (ESL Non-Receiving Load).

The Department moderates the school reported ESL needs by calculating the length of enrolment in Australian schools of LBOTE students. This ‘Years in Australia Load’ (YAL) is calculated in the following way:

\[
YAL = \text{Number of students in an Australian school for less than 1 year by 3} \\
\quad + \text{number of students in Australian school for 1-3 years by 2} \\
\quad + \text{number of students in Australian school for 3-7 years by 0.25.}
\]
The YAL is used to moderate the ESL need reported by the school to achieve a Moderated School Load (MSL). The MSL is calculated in the following way:

- If YAL minus SL is less than minus 50 (-50) then the MSL = (YAL + SL)/2
- If YAL minus SL is between 0 and minus 50 (0 to –50) then the MSL = (YAL+YAL+50)/2
- If YAL minus SL is greater than 0 then MSL = SL

Eligibility for funding is based on length of time in an Australian school. The current maximum at which funding cuts out is 7 years, based on a view that the acquisition of English language skills to full proficiency takes 7 years.

**Targeting of ESL need**

There are several points to note in an assessment of how well the current ESL program in New South Wales meets school and student need.

A first point to note is that the current distribution of available ESL teaching positions allocates resources across stages of schooling based on the aggregate or total number of ESL students without regard to the relative need based on skill levels. The 876 ESL teachers are divided between primary and secondary schools based on the proportion of ESL students at each broad stage of schooling. In 2004, the aggregate number of ESL students suggested a split of 611 teachers for primary schools (69.7 per cent) and 265 teachers for secondary (30.3 per cent). However, differences in assessed need at each stage would call for a different distribution.

Table 6.1 presents actual unadjusted numbers of ESL students and weighted (adjusted) numbers of ESL students based on the current weights used to estimate the distribution of ESL positions within each stage of schooling (Phase 1 enrolments by 3, Phase 2 enrolments by 2, and Phase 3 enrolments by 0.25).

| Table 6.1 Actual and weighted ESL enrolments, by broad stage of schooling |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Actual Number of ESL students | Phase 1 | Phase 2 | Phase 3 | Total | Proportion |
| Primary                       | 16219  | 40032 | 31152 | 87403 | 69.3         |
| Secondary                     | 2292   | 11586 | 24869 | 38747 | 30.7         |

| Weighted number of ESL students based on phases |
|-----------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Primary                                      | 48657           | 80064           | 7788            | 136509          | 79.0           |
| Secondary                                    | 6876            | 23172           | 6217            | 36265           | 21.0           |
According to the figures in Table 6.1, if ESL positions were allocated between primary and secondary schools in the same way that they are distributed between schools within each broad stage of schooling then primary schools would receive a further 10 per cent of available positions. This would mean that primary schools would receive 692 EFT positions and secondary schools would receive 184 positions. Such a distribution would reflect not only actual numbers of ESL students, but needs associated with the relative skill levels of students.

A further point to note in looking at ESL need is that the numbers of ESL students have grown in recent years. At the broadest level, numbers have increased from 110,719 students or 14.7 per cent of total government school enrolments in 1996 to 127,932 students or 17.1 per cent of all students in 2004. The growth of 15.1 per cent has not been even across stages of schooling. Figure 6.1 shows the changes in the numbers of ESL students between 1996 and 2004 for primary and secondary schools.

**Figure 6.1 Number and percentage of ESL students, 1996 to 2004: primary school and secondary schools compared**

Primary schools in New South Wales have experienced substantial growth in ESL numbers over the last decade. Between 1996 and 2004 the numbers
increased from 71,471 to 87,403. ESL students as a proportion of all students also grew over this time. For primary schools, there was a 4.1 percentage point increase in ESL students as a proportion of total enrolments.

Secondary schools experienced growth in total ESL enrolments during the late 1990s and early 2000s, but enrolments have declined in the last three years. The number of ESL students in 2004 was only 509 more than in 1996. This has occurred in the context of continuous upwards movement in primary school ESL enrolments. The growth in primary school enrolments has not translated into an expansion in secondary school ESL enrolments, suggesting that the growth in primary school enrolments has been mainly in the early years. ESL eligibility is limited to students in an Australian school for less than 7 years. For the primary school proportionate growth not to be registered in secondary schools (as an increase in the percentage of ESL students relative to all other students), it is likely that the main growth has occurred at the earliest year-levels.

The growth in numbers of ESL students has not been accompanied by an increase in resources. The number of ESL equivalent full-time positions has remained the same since 1993. If the number of positions in 1996 was deemed as adequate to meet demand, then the equivalent number of positions needed to sustain the ESL effort would require an increase of 14.9 per cent in ESL staffing positions, based on the absolute increase in numbers of ESL students. However, an assessment based on weighted numbers relative to increases in the numbers linked to the ESL phases would suggest the need for an increase of 18.3 per cent in ESL staffing. All of the increase in staffing is needed in primary schools, according to the patterns and location of growth.

The growth in numbers of ESL students provides evidence in support of the need for increasing ESL resources. Several other trends have been occurring in the ESL population which also need consideration and bear on the call for additional resources.

One is that there has been little change in the distribution of ESL students according to the ESL phases at secondary school level. Figure 6.2 presents the distribution of Phase 1, Phase 2 and Phase 3 ESL students for each year from 1996 to 2004. It shows that for secondary schools, the proportions of Phase 1 and 2 learners has not changed over the period. Therefore, not only has there been little absolute growth in ESL enrolments between 1996 and 2004, there has been little change in the demand for resource based on ESL skill levels.

The distributions for primary schools suggest a slightly different situation. There has been a slight increase between 1996 and 2004 in the numbers of phase 2 learners as a proportion of all ESL students (from 44 to 46 per cent). The percentage of Phase 3 learners has fallen (from 37 to 35 per cent). This suggests that not only has there been an absolute increase in the numbers of ESL students, there has been a shift in relative need associated with ESL skill levels. The growth in ESL students has been accompanied by a proportionate
increase in the numbers of ESL students requiring more intensive support. Again this supports the call for additional resources.

**Figure 6.2 Distribution of ESL students, by ESL phases 1996 to 2004: primary schools and secondary schools separately.**

Another trend that has occurred with ESL students might best be described as a gradual gentrification of the ESL population. Figure 6.3 shows the proportions of ESL students enrolled in low SES and high SES primary schools. Low SES schools are those in the lowest quintile of schools on the SES scale for all schools based on the composite SES scale ranking schools using quadrennial survey data and ABS postcode SEIFA data. High SES schools are in the highest quintile of schools according to the same scale. The results show that there has been a dramatic shift in the distributions of ESL students. Between 1996 and 2004 there has been an increase in the proportion of ESL students enrolled in high SES primary schools and a fall in the proportion enrolled in low SES primary schools.

**Figure 6.3 Percentage of all ESL students: high and low SES primary schools compared (%)**
ESL students in increasing numbers have been enrolling in schools located in middle class areas. This has shifted the relative distributions. At the same time, the changes do not mean a fall in the numbers of ESL students in low SES schools. On the contrary, the numbers of ESL students in low SES primary schools (schools in the lowest quintile of SES) have grown from 13,744 to 14,589. The growth, however, has been dwarfed by the growth in high SES schools where the numbers have swelled from 14,941 to 21,386.

The changes have also occurred in secondary schools where the proportion of ESL students in low SES schools (those in the lowest quintile) has fallen from 36.0 per cent in 1996 to 32.9 per cent in 2004. In high SES secondary schools, the proportions increased from 24.9 per cent to 26.9 per cent over the same period. An interesting change in secondary schools has been a growth in ESL students in selective entry schools. The ESL numbers have remained virtually unchanged in non-selective entry schools (12.1 per cent of all enrolments in 1996 and 12.2 per cent of all enrolments in 2004). However, in selective entry schools the percentage has grown from 15.7 to 19.6 per cent over the period from 1996 to 2004, again highlighting a change in the use of schools within ESL populations.

The changes have affected the allocation of resources. In 1996, low SES primary schools were allocated 21.6 per cent of the equivalent full-time ESL teaching positions (across all primary schools). In 2004, the percentage had fallen to 18.0 per cent. At the same time, the allocation for high SES primary schools increased from 19.5 to 22.7 per cent.

Figure 6.4 ESL teaching position allocations: low SES and high SES schools compared

Secondary schools have also experienced changes in resource distribution. While low SES schools were allocated 36.3 per cent of ESL positions (for all secondary schools) in 1996, they received only 28.1 per cent in 2004. High SES schools increased their share from 28.5 to 33.7 per cent.
The apparent ‘gentrification’ of parts of the ESL population has occurred in conjunction with several other changes linked to changes in the language background origins of students. Low SES primary schools enrol large numbers of students from Middle Eastern, South East Asian and Pacific Islander language backgrounds (see Figure 6.4). In 2004, children from Middle Eastern language backgrounds in low SES schools (3,938) accounted for 21.2 per cent of all children from Arabic-speaking families. Children from Pacific Islander language backgrounds accounted for 40.1 per cent of all children from these backgrounds in NSW government primary schools. It is in this group that the numbers have rapidly increased, from 1710 in 1996 to 2757 in 2004. High SES primary schools have very few of these students (493 or 7.3 per cent in 2004).

Chinese language background students make up the single largest category for high SES primary schools: 8,748 in 2004, which was 43.6 per cent of all students from these language backgrounds in government primary schools. The numbers of these students have almost doubled between 1996 and 2004.

An examination of data for secondary schools reveals the following:

- 34.2 per cent of LBOTE students in high SES schools in 2004 were from Chinese language backgrounds compared to 8.9 per cent in low SES schools. The Chinese language background students in high SES schools made up 11.7 per cent of all LBOTE students in NSW secondary schools.

- 8.0 per cent of students from language backgrounds other than English in high SES schools in 2004 were from families where Dravidian or Indian languages were mainly spoken. This compared with only 3 per cent of such students in low SES schools.

- 8.1 per cent of LBOTE students in high SES schools in 2004 were from East Asian language backgrounds (e.g. Japanese, Korean) as against only 1.1 per cent in low SES schools.

- 31.4 per cent of all LBOTE students in low SES schools in 2004 were from Middle Eastern language backgrounds as against 7.9 per cent in high SES schools.

- 10.1 per cent of LBOTE students in low SES schools in 2004 were from Pacific Island language backgrounds, almost double the rate in 1996. High SES schools have as few as 1.1 per cent.

- 18.9 per cent of LBOTE students in low SES schools in 2004 were from South East Asian language backgrounds compared to 8 per cent for high SES schools.

- 56.2 per cent of all students in selective-entry high schools are from language backgrounds other than English, compared to 25.5 per cent in all other high schools. 25.4 per cent of all students in selective-entry high schools are from Chinese language backgrounds, as against 3.6 per cent for other high schools.

- The numbers of students from language backgrounds other than English entering selective-entry high schools has increased by 69 per cent from 1996 to 2004. The numbers of Chinese language backgrounds gaining entry to selective schools has increased by 134 per cent over the same period.
Figure 6.4 Language backgrounds of students in high SES and low SES schools: 1996 and 2004 compared

Low SES primary schools

High SES primary schools

Note: Green dots represent each language background as a percentage of all students in government primary schools from that background in 2004.
The shifts that have taken place in distributions of ESL enrolments, concentrations of students from different language backgrounds and resource allocations have equity implications. Some of the assessment of ESL need in other countries, such as the United Kingdom, is based on social need as well as English language skill levels. This is because irrespective of their language background and skill levels children from some non-English language backgrounds tend to achieve very well in school while some others do not. In the United Kingdom, students from African, Arabic and Bangladeshi language backgrounds tend to achieve poorly in school, while those from Indian and Chinese language backgrounds tend to achieve highly. In New South Wales, students from Arabic-speaking, Turkish, Maltese and Pacific Island backgrounds generally do less well in terms of educational outcomes and employment than other groups do (New South Wales Public Education Inquiry, 2002). Those from Chinese, Northern European and Indian backgrounds tend to do well.

The growth in ESL student numbers in middle class schools has removed ESL resources from low SES schools. But it is the low SES schools that continue to have the largest enrolments of ESL students requiring the most intensive assistance. Low SES schools serve by far the largest numbers of students from Pacific Island language backgrounds and this population has almost doubled in the last 10 years. They also serve disproportionate numbers of children from Middle Eastern families, particularly Lebanese, Maltese and Turkish students. The proportions of refugees are also large in low SES schools, particularly in South West and Western Sydney. For many students from these backgrounds the ESL needs are intensive because they are coupled with low levels of educational achievement and higher levels of poverty with fewer educationally-supportive family resources.

The growth in primary school ESL enrolments in middle class communities has been accompanied by growth in relative need assessed according to the ESL scales. The numbers of Phase 1 and 2 learners have increased in middle class schools. However, while the ESL scales provide a mechanism for assessing need internal to a school, they are not moderated or standardised across schools. It is quite possible that the categorisation of students into phases varies from school to school and may not reflect real levels of need.

It is important also to note that need has to be assessed not only in terms of individual students, but effects at a school level. Table 6.2 presents the results of regression analyses predicting mean levels of school achievement using a variety of indicators as independent variables. The predictors include density of ESL enrolments, mean SES, density of indigenous students, density of integration students and school size (enrolments). Two achievement outcomes are measured: mean Year 3 literacy and mean Year 8 literacy. Three models are presented. The first is for all schools. The second is for low SES schools which comprises schools in the two bottom quintiles of schools ranked on SES. The third is for high SES schools which comprises schools in the two top quintiles of schools ranked on SES. In the results, standardized b-
coefficients (beta weights) are presented because they can be used to judge the relative predictive power of the independent variables. Beta is the average amount the dependent increases when the independent increases one standard deviation and other independent variables are held constant.

### Table 6.2 Standardised regression estimates of Year 3 and Year 8 literacy achievement, 2004

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<td>0.16*</td>
<td>0.27**</td>
</tr>
<tr>
<td>Density of indigenous students</td>
<td>-0.25**</td>
<td>-0.38**</td>
<td>-0.11</td>
</tr>
<tr>
<td>Density of integration students</td>
<td>-0.36**</td>
<td>-0.14</td>
<td>-0.42**</td>
</tr>
<tr>
<td>Enrolment size</td>
<td>0.06</td>
<td>0.13</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note: Low SES schools include those in the bottom two quintiles of schools ranked according to the SES scale. High SES schools include those in the top two quintiles. Selective-entry schools are excluded.

The results for primary schools show that the density of ESL enrolments has little influence on achievement levels for all schools. However, for low SES schools (those in the bottom two quintiles) the higher the density of ESL students, the lower the levels of achievement, all else equal. The effects are stronger than for SES, enrolment size or density of integration students. By contrast, in high SES schools, the density of ESL enrolments has a significant independent effect, but the effect is positive meaning that in middle class schools the higher the density of ESL students the higher the levels of achievement, all else equal. The ESL students recruited to their schools are a source of academic advantage to high SES schools and at the same time those recruited to low SES schools are a source of disadvantage to those schools in terms of achievement levels.

These results suggest that high concentrations of ESL students in low SES schools have a large negative impact on school performance. This is likely to reflect the social and language backgrounds of the groups of ESL students that attend low SES schools. It suggests that ESL resources as they are currently distributed are not doing enough to counteract the effects of the particular gaps in learning needs associated with different groups of ESL students. They also imply that the re-distribution of resources to middle class schools associated with the growth in ESL students from the mid-1990s may not be targeting in
the best way the levels of teaching and learning needs associated with the ESL student population.
7. Country Areas Program

Introduction

Rural and isolated schools, usually much smaller in size than those in metropolitan centres, often need more funding per student, all else equal, to provide a uniform standard of education. Funding for rural education is an issue of importance to all Australian governments, including New South Wales, where many schools are located in small towns or rural areas. One of the driving goals of state educational systems is to operate efficient and effective schools. But if the cost of providing an educational program is higher for rural, small schools, then, all else being equal, they will need additional assistance to provide the same quality of programs and ensure the same quality of outcomes as other schools.

One of the programs designed to assist rural schools is the Country Areas Program (CAP). This is a Commonwealth Government funded program that provides supplementary funding to assist schools in rural and isolated areas. It was established in 1977, following the recommendations of the Karmel Report (1973), to target disadvantage associated with rurality and isolation. The focus of the program has been on attempting to overcome the effects of disadvantage associated with geographical circumstances. This chapter presents an overview of the CAP program in New South Wales and looks at how well it is meeting its main objectives. We begin by looking at how other systems have approached the funding of programs to address disadvantage associated with rurality and isolation.

Approaches to isolation funding in other systems

Many systems around the world provide supplementary funding and programs to target disadvantage associated with rural and isolated locations. In Australia, the Country Areas Program operates in every state and territory, apart from the ACT, as part of a targeted initiative by the Commonwealth Government. However, other forms of rurality and isolation funding operate in most states and territories and CAP is a smaller part of those initiatives.

Australian states and territories

The geography of Victoria means that issues of rurality and isolation are important to consider. The Rurality and Isolation program is the main mechanism for providing supplementary funding to rural schools. The Rurality and Isolation component of the annual school budgets recognises the need for a rural size adjustment factor, shared specialist teachers in small rural primary schools and location-based funding. A major difference between rurality and isolation funding and other forms of resource allocation, such as that covered by the ESL program, is that it is applied to the total population of
certain schools rather than to individual students. A further key difference is that the rationale for additional funding for rurality and isolation is related not to educational disadvantage but rather to the additional costs of provision and the distance from other providers. Extra costs are associated with curriculum provision, administration, and student support services in schools in isolated locations. From this perspective, Rurality and Isolation funding is not an equity program per se, for it is not intended to target gaps in achievement and participation between rural and urban children, rather its aim is to provide additional resources to ensure the provision of basic services and academic programs.

The approach to funding is based on the view that a basic entitlement calculated solely on pupil numbers would not necessarily provide scope for recognizing the additional costs associated with small schools and those operating in isolated locations. Two broad points are recognised in relation to the funding of schools in rural and isolated locations:

- population distribution has a clear effect on the costs of providing education in remote rural communities.
- funding for rurality and isolation is provided in recognition of extra costs associated with curriculum provision, administration, and access to student support services.

In terms of the Rurality and Isolation scheme, two components of funding exist: (1) location funding which compensates schools for their distance from the Melbourne metropolitan area, and (2) rural size adjustment which aims to provide small rural schools with additional funds to meet the extra costs needed to provide basic educational services.

Small primary schools, secondary colleges, and P-12 colleges in non-metropolitan locations, and non-provincial locations, are eligible for funding under the Rural School Size Adjustment Factor. This funding applies to eligible Primary Schools with enrolments up to 200 students and eligible Secondary Colleges with enrolments up to 500 students.

The Rurality and Isolation Location Index is calculated for each primary school, secondary college and schools in special settings outside Melbourne on the basis of 3 factors:

- distance in kilometres from the Melbourne metropolitan area;
- distance from the nearest provincial centre with more than 20,000 inhabitants; and
- distance from the nearest primary or secondary school, as appropriate, that is not eligible for funding as a rural or isolated school.

The factors are weighted equally and a school size adjustment factor threshold is applied. Only schools below specified thresholds receive funding for this factor.

Funding in 2003 for Rurality and Isolation funding totalled $32 million.
In addition to Rurality and Isolation funding, Victoria provides funding through CAP. The eligibility criteria and allocative mechanism are such that all schools are eligible for Country Areas Program (CAP) funding if they are located:

- more than 150 km from Melbourne, and
- more than 25 km from the nearest provincial centre with a population of more than 20,000, and
- in a community with a population of less than 5,000.

The CAP grants are calculated on a base allocation of $1,650 and separate per student formulae for primary and secondary enrolments multiplied by an isolation index based on the school’s distance from Melbourne. Per student funding is provided for up to the first 300 primary students and up to the first 500 secondary students for eligible schools.

South Australia provides additional support to rural schools to meet prescribed educational outcomes. The program, Rural and Isolated Student Funding, is estimated using a Rural and Isolated Students Index. Funding for the Rural and Isolated Index comes from a variety of sources including the Country Areas Program, and is therefore considerably larger than the Country Areas Program allocation.

The additional ‘country’ factor includes the following:

- Country Areas Program - Index of geographic isolation that measures the ability of country schools to access services
- Administration Supplement Allocation - Additional administration allocation to supplement small country schools with a primary component
- Country Factor in Grants - A number of grants contain a loading for country schools eg $0.35m of the Training and Development Grant is due to a country loading
- Staff Formula - differentiations in the staff allocation formula for smaller student populations in the R-2, 3-7, 8-10 or 11-12, that exists predominately in the country schools
- Utilities - higher per student utilities costs for country schools in comparison to metropolitan schools.

The Rurality and Isolated Student Funding (RISF) program is allocated according to relative difficulty in achieving prescribed educational outcomes for each student. Funding includes an assumption that all country students travel to Adelaide to access specialist services and so calculates funding for two trips to Adelaide per year per capita.

There are 247 schools more than 80 kilometres from Adelaide that have a Rural and Isolated Students (RIS) Index. Every school in SA is given an Index number.
The RIS Index calculates 3 critical dimensions:

- Ability to access services
- Amenities and utilities
- Access to transport

The Commonwealth Government funded Country Areas Program provides part of the funding for RISF. In 2005, the CAP funding was $1.4 million. An additional $2.1 million of State government funding is added to the Country Areas Program and allocated using the Rural and Isolated Index.

Western Australia, Tasmania and Queensland provide funding through the Country Areas Program using a variety of indexes. In Western Australia, for example, each school is awarded CAP points between 1 and 60. Points are awarded using 6 components each valued between 1 and 10. The components are:

- Distance from a town of 5,000
- Distance from a town of 10,000
- Distance from Perth
- Distance from a District Office (there are 14 in WA, including 4 in Perth)
- Distance from a Like School
- Enrolments (acts as a bonus for small schools)

Schools above 12 points get CAP funding, with a minimum requirement that they are 150 kilometres from Perth and over 50 kilometres away from centres with a population of at least 10,000. In WA, 174 schools out of the state total of 770 receive CAP funding. In 2004, CAP funding was $2.9 million.

Internationally

New Zealand offers a program of targeted funding for isolated students. Schools in isolated areas are eligible for supplementary operational funding to recognise the additional costs of accessing the goods and services needed to operate a school and deliver the curriculum. The Isolation Index is calculated on the distance of the school from population centres of different size: 5,000, 20,000 and 100,000. Weightings of 0.8 times the distance in kilometres from a population centre of 5,000, 1 times the kilometres from a population centre of 20,000 and 0.4 times the kilometres from a population centre of 100,000 are used. The philosophy of the approach is that schools can access basic maintenance services from population centres of 5,000. Schools can access a greater range of facilities such as financial and banking services from population centres of 20,000. The full range of goods and services, including professional development, specialist education services and ICT servicing, is available from population centres of 100,000 or more. Together the three centres are able to provide schools with all the goods and services they need to teach and operate. The weighting for each centre reflects the relative importance of each in terms of accessing the goods and services schools need. Base amounts of funding per school are $6,002 and per students are $24.
Funding for rural schools in the United States varies across jurisdictions. Thirty states currently include a factor in their school finance formula to compensate for additional costs necessary to mount an educational program in rural, small schools:

- ten states distribute funding based on school or district size.
- six states provide aid for sparsely populated or isolated districts.
- nine states award aid based on a combination of size and isolation of the school or district.
- two states use size, sparsity, and tax effort for allocation purposes.
- three states provide funding based on other characteristics, such as cooperative arrangements (Verstegen, 1990).

Among the ten states offering funding based on size, most allocate base funding on school district enrolments. Generally, eligibility for additional assistance is based on specific numerical thresholds set for schools, school districts, or both. Districts or schools with enrolments below these thresholds are eligible for assistance beyond basic state funding guarantees. Currently, thresholds for elementary school size tend to be about two to three times smaller than the required number of students for additional aid purposes in high schools. The median threshold reported in 1989-90 was 138 students for elementary schools and 428 for secondary schools. For school districts, the median was 1,500.

Six states provide extra funding to districts based on small school size. Louisiana provides aid to all schools with fewer than 438 students. Montana, Nevada, New Mexico, and North Dakota provide differential support levels based on separate population thresholds for elementary, junior high, and high schools. For example, in Montana, small schools receive help based on a sliding scale of support, until a threshold of 300 students in elementary schools and 600 students in high schools is reached. When schools reach these thresholds, supplemental aid stops. New Mexico schools with fewer than 200 elementary or secondary students get supplementary assistance. In North Dakota, high schools with 550 or fewer pupils, and with small or one-teacher elementary schools generate additional funds. Among the other three states who fund on the basis of small school size, Ohio gives additional support to three small Lake Erie Island schools. In Virginia, additional aid goes to small schools, based on guarantees of minimum class size.

Four states — Kansas, Oklahoma, Colorado, and New Mexico — provide aid based on an overall school district enrolment. For example, in Oklahoma, funding is awarded to school districts with fewer than 500 students. Colorado supplements funds for districts with enrolments of fewer than 150 funded students. New Mexico allots additional aid to small schools in districts with 4,000 or fewer students in average daily membership (ADM).

Six states offer assistance for population sparsity and isolation. Of these six states, two — North Carolina and Idaho — provide assistance directly to
isolated schools. Four states — Florida, Georgia, Nebraska, and West Virginia — provide funding to isolated school districts rather than directly to schools. Most states determine isolation based on the distance to the next school or district, the time required to reach the next school by bus (to account for barriers of terrain), or the sparsity of population per square mile. Nebraska, for example, uses the number of persons per square mile to help determine equalization funding. The percentage of 10%, 20%, 30%, or 40% is added to the total basic need calculation for districts that have 4, 3, 2, or 1 person per square mile. West Virginia has a new provision in its finance formula to provide additional aid to districts based on the sparsity of the population and bus miles driven.

In Canada, funding based on geographical factors is common. In Ontario, for example, the Distant Schools Allocation Grant is designed to recognize the additional costs of operating small schools in isolated areas, and costs associated with the geography of boards (including board size and school dispersion). The components of the GCG are: (1) Distant Schools Allocation (including an allocation for principals), (2) Remote and Rural Allocation (responds to higher costs of purchasing goods and services for small school boards, school boards that are distant from major urban areas and school boards that are distant from one another). Total funding of $237.8 million was allocated in 2004-5, which represents approximately 3% of total education expenditure.

In British Columbia $136.3 million (4.3% of Total Operating Grant) is allocated on the basis of geographic factors. These include allowances for small communities, low enrolments, rurality, climate, sparseness, and physical and environmental factors. Similarly, in Alberta, extra funding is allocated to jurisdictions based on a number of characteristics:

- Small Schools by Necessity (increased base allocation and per student allocation based on sliding scale. E.g., schools with < 150 FTE students receive an extra $78,000 and $2,601 per K-12 student)
- Isolated schools (based on intra-jurisdiction distance, funded per km of eligible distance)
- Small Board Administration (sliding scale of extra funding for jurisdictions with less than 3000 enrolments)
- Northern Allowance (from $416 to $938 based on location in lower, intermediate or upper zone)
- Relative cost of purchasing goods and services adjustment (no details available)

Manitoba provides additional support to divisions to meet the additional needs of small schools. Funding is allocated on the basis of the number of FTE pupils per grade, on a sliding scale. Each school receives from $5 per pupil to $70 per pupil, depending on grade level and enrolments. Each school also receives an amount of $3,300.
In the United Kingdom, a funding supplement is available for schools located in sparsely populated areas. Funding for sparsity is factored into Local Education Authority (LEA) funding, but only for primary schools, to accommodate the higher costs of operating very small schools (less than 80 pupils) and small schools (80-150 pupils). The costs of sparsity in secondary schools tend to be in terms of higher school to home transport costs, which are covered in LEA funding. Sparsity funding accounts for 0.4 per cent of total school funding.

Approach to CAP in New South Wales

The Country Areas Program (CAP) provides support to students, schools and communities in geographically isolated areas in recognition that they have less access to educational services and opportunities than do students schools in metropolitan centres. The aims of CAP are to help schools and school communities improve the educational outcomes and opportunities of students who are educationally disadvantaged because of their geographical isolation so that their learning outcomes match those of other students. CAP is available for projects aimed at enhancing the educational achievements and increasing the opportunities and choices available to students disadvantaged by geographical isolation.

In New South Wales, the Department of Education and Training and the Catholic education offices of Canberra-Goulburn, Bathurst and Armidale operate CAP jointly, pooling funds and employing common eligibility criteria, funding allocation provisions and accountability requirements. According to the program philosophy, geographic areas are targeted for funding rather than individual schools. The criteria used to determine the eligibility of schools for inclusion employs three measures:

- distance from the nearest centre of 10,000 or more persons
- population size measured by student enrolments in all primary schools, government and non-government in the community
- school density which covers a community’s isolation from other schools.

Communities outside Sydney, Newcastle and Wollongong are grouped into 20 clusters and the most isolated 9 clusters are included in CAP. Eligibility is assessed every five years.

CAP funding is used to support schools and their communities in a variety of ways. Direct grants are provided to schools, with funding allocations incorporating a base grant ($6,000), a sliding enrolment scale, and an isolation factor. In addition to direct grants, which make up about 80 per cent of non-administrative funds, schools and communities, individually or as a collective, can apply for special project funds for the development of new and innovative initiatives to address the effects of geographic isolation on student outcomes. Separate allocations to schools are also made to enable school staff to participate in development days, workshops and conferences. Funding is also
provided for specific initiatives such as support for teacher trainees undertaking practicums in CAP schools. CAP funding is also used to cover salaries and operating expenses for consultancy and administration of the program.

CAP supports 250 schools and 26,000 students. About two-thirds of the schools are small one and two teacher schools. Funding for 2005 is $5.3 million.

**Targeting of need**

Program funds have been concentrated in primary schools, mainly because there are many more primary schools in rural areas. Of the 220 schools funded for CAP, 163 are primary schools (10 per cent of all primary schools). A further 37 schools are central schools, representing 56 per cent of all central schools. There are 20 CAP secondary schools (about 5 per cent of all secondary schools).

Originally, CAP was devised as an adjunct to the Disadvantaged Schools Program. Reflecting this origin, schools in the early years of the program were selected on the basis of both geographic isolation and social background characteristics. During the early 1980s, however, the rationale of CAP changed from a concern with both rural and socio-economic disadvantage to a concern for issues associated more directly with isolation, issues such as poor access to support services, high staff turnover, lack of breadth in provision of curriculum and teaching programs, more limited access to quality information technology and infrastructure, and poorer access to cultural and social facilities and activities more readily available in metropolitan centres. Rurality and isolation, though sometimes associated with social disadvantage, covers a broader range of communities and schools, evident in New South Wales.

Table 7.1 shows that in non-metropolitan New South Wales, proportionately, there are as many non-CAP primary schools receiving PSFP funding as there are CAP schools receiving funding. It suggests that as a group rurally-based CAP funded primary schools are no more disadvantaged in social terms than other rural schools.

Other features do characterize CAP rather than non-CAP primary schools. They tend far more frequently to be small in size: average of 69 enrolments as against 215 for non-CAP rural schools and 364 for metropolitan schools. The size is consistent with their status as isolated schools. They have a higher density, on average, of indigenous students: 10.3 per cent compared with 7.7 per cent for other rural primary schools and 2.9 per cent for metropolitan schools.
These patterns are evident for secondary and central schools. Compared with their metropolitan and rural counterparts, CAP schools are smaller and have high concentrations of indigenous students.

Table 7.1  Features of CAP schools, by level of schooling

<table>
<thead>
<tr>
<th></th>
<th>Enrolments in 2004</th>
<th>Density of Indigenous students</th>
<th>Density of ESL enrolments</th>
<th>Density of integration students</th>
<th>PSFP funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAP school</td>
<td>69</td>
<td>10.3</td>
<td>0.1</td>
<td>4.1</td>
<td>32.5</td>
</tr>
<tr>
<td>Non-CAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan</td>
<td>364</td>
<td>2.9</td>
<td>29.9</td>
<td>2.7</td>
<td>17.3</td>
</tr>
<tr>
<td>Non-metropolitan</td>
<td>215</td>
<td>7.7</td>
<td>0.6</td>
<td>3.3</td>
<td>32.9</td>
</tr>
<tr>
<td><strong>Secondary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAP school</td>
<td>293</td>
<td>17.0</td>
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<td>2.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Non-CAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan</td>
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<td>2.2</td>
<td>24.2</td>
<td>2.2</td>
<td>23.1</td>
</tr>
<tr>
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<td>6.9</td>
<td>0.7</td>
<td>2.2</td>
<td>18.4</td>
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<td><strong>Central schools</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CAP school</td>
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<td>0.0</td>
<td>4.9</td>
<td>45.9</td>
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<tr>
<td>Non-CAP</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-metropolitan</td>
<td>357</td>
<td>9.8</td>
<td>0.1</td>
<td>3.6</td>
<td>33.3</td>
</tr>
</tbody>
</table>

The targeting of CAP funding is linked to aspects of location and access to services. It is focused on smaller schools, but can cover a range of socio-economic characteristics. As a result, funding is not necessarily linked in any way to school achievement or academic performance. Figure 7.1 shows Year 3 literacy achievement levels by social intake for CAP-funded and non-CAP schools in non-metropolitan areas of New South Wales.

Figure 7.1  Mean Year 3 literacy achievement: CAP and non-CAP (non-metropolitan) schools compared
The chart shows that CAP-funded schools span the social scale, some among the most disadvantaged schools according to SES intake, and some among the most advantaged. The pattern reflects the aim in CAP to address rurality and isolation issues rather than social disadvantage. The schools, therefore, tend to be also spread along the scale of Year 3 literacy achievement, some with high levels of mean achievement and some with low levels.

**Impact of CAP**

The guiding principle of CAP is to improve learning outcomes in geographically isolated areas to match those of students in metropolitan areas. Therefore the focus of CAP is to offset some of the educational disadvantages of geographical isolation. It aims to achieve the broad goal by:

- enriching curriculum provision to meets needs of geographically isolated students (eg supplementing costs of travel, camps, excursions, delivery of hard to staff programs such as LOTE and music, supporting students in post-school pathways via VET in Schools programs, careers expos, university orientation programs).
- improving access to Information and Communications Technology (ICT).
- providing professional development opportunities to teachers in geographically isolated areas.
- helping inform school communities of CAP activities through evaluation, documentation and dissemination of reports.

A review of CAP was conducted in 2003 by the Department of Education Science and Training. It provided a mainly positive view of impact. It pointed to the range of projects and services that have been implemented to improve learning:
• development of a widely-used and valued internet website in New South Wales which provides curriculum materials, support, communication and information on initiatives and the opportunity for students to have access to wider educational resources and a wider student base with which to interact
• cultural enrichment programs including excursions, visiting artists, and cultural and sporting festivals
• specialist support services such as advisory teachers and consultants
• more extensive and relevant professional development opportunities for teachers
• combined school peer camps providing students with intensive special skills training and opportunities for wider peer interaction and the exercise of social skills
• participation in an annual CAP conference providing opportunity for the exchange of information on successful initiatives and practices.

The website, advancements in the infrastructure of ICT, regional and local planning and the annual conference have helped establish a sense of ‘community’ among CAP funded schools which in turn has promoted a sense of purpose and success. Many of the opportunities, initiatives and developments would not be possible without access to CAP funds.

Most evidence about the impact of CAP on participation and achievement is anecdotal. The DEST review argues that the anecdotal evidence is very positive and supportive, but it does note a few issues. One is with school concerns over the excessive level of documentation required for what is essentially a small amount of funding. There is also an issue around the level of resources required to manage this process. In addition, issues were also raised about areas of responsibility. NSW has invested considerable resources in Staff professional development and “Quality Learning Process” (see Website). In some regions, there is a strong belief that teacher professional development is the responsibility of education authorities and that CAP funding should be spent on activity that is of direct benefit to students rather than teachers (DEST, 2003, p. 45). This highlights a dilemma about the targeting of funds, whether it should be directly focused on students or on teachers, the school and its community. The DEST review reported that in NSW, where CAP consultants deliver professional development to schools and teachers, they “play a major role in promoting effective pedagogy and developing a quality culture in small rural schools” (p. 52). Promoting quality learning outcomes may require the application of funds for enhancing both student-based activities, programs and resources and the skills of teachers responsible for quality and delivery of teaching.

The anecdotal and documented evidence would suggest that CAP is having an impact on extending services and providing isolated students and communities with access to services and programs not often available in remote locations. Meeting the more specific goals of CAP — to improve the participation and achievement levels of rural and isolated students — is harder to assess. For
one thing, a major difficulty with quantifying the impact of CAP on students’
learning outcomes is the supplementary nature of funding, and the relatively
small amounts of money involved. Because many CAP schools combine
funding from a range of sources (such as PSFP), it is not always possible to
isolate the impact of CAP funding. For this reason DEST argues that the
imposition of performance measures to quantify learning outcomes would
reveal little meaningful data. However, it is possible to compare the
performance of rural and isolated schools receiving CAP funding against other
schools to assess differences after controlling for a range of intake factors.

Table 7.2 presents the results of regression analyses predicting mean levels of
primary school achievement using a variety of indicators as independent
variables. The predictors include concentrations of indigenous students, mean
SES, density of integration students, school size (enrolments) and a variable
identifying CAP schools. Four achievement outcomes are measured: mean
Year 3 literacy and numeracy results, and mean Year 5 literacy and numeracy
achievement. Two models are presented for each achievement indicator. The
first is for non-metropolitan schools and compares CAP and non-CAP funded
schools in rural settings. The second is of all primary schools. The results are
presented as standardized b-coefficients (beta weights) which are useful for
comparing the relative predictive power of the independent variables. Beta is
the average amount the dependent increases when the independent increases
one standard deviation and other independent variables are held constant.

<table>
<thead>
<tr>
<th></th>
<th>Year 3 literacy</th>
<th>Year 3 numeracy</th>
<th>Year 5 literacy</th>
<th>Year 5 numeracy</th>
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<td>Non-metro</td>
<td>All</td>
<td>Non-metro</td>
<td>All</td>
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<tr>
<td>SES</td>
<td>0.19**</td>
<td>0.47</td>
<td>0.14**</td>
<td>0.43**</td>
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<td></td>
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<td>0.17**</td>
<td>0.46**</td>
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<td>Indigenous</td>
<td>-0.37**</td>
<td>-0.28</td>
<td>-0.33**</td>
<td>-0.25**</td>
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<td>-0.39**</td>
<td>-0.27**</td>
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<tr>
<td>Integration</td>
<td>-0.18**</td>
<td>-0.18</td>
<td>-0.19**</td>
<td>-0.18**</td>
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<td></td>
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<td></td>
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<td></td>
<td>0.06</td>
<td>0.08**</td>
</tr>
</tbody>
</table>

The main aim for CAP is to ensure that students in schools serving isolated
communities are not disadvantaged by comparisons with their metropolitan
counterparts. A measure of success therefore would be to find that the
estimates of achievement for CAP schools are not negative and significant,
because that would suggest poorer performance. Therefore rather than finding
significant differences, a positive outcome would be to find non-significant
estimates. This is the case for Year 3 literacy. In both models (comparing
achievement for all schools and for schools only in rural locations), CAP-
funded schools gain a positive but not significant estimate, indicating that
achievement in CAP schools is equivalent to achievement in non-CAP schools, all else equal. Achievement is affected strongly by social intake, numbers of indigenous students and numbers of integration students, but after controlling for these effects, there are no significant gaps in achievement between CAP-funded schools and other schools.

On indicators for numeracy achievement, however, there are positive gains for CAP schools and these are not removed after taking account of social intake indicators and school size. All else equal, CAP schools are doing better than both non-metropolitan schools and metropolitan schools for Year 3 numeracy achievement and better than other schools across the state in Year 5 numeracy.

It cannot be assumed from these results that the gains in numeracy achievement are linked to the effects of CAP funding. This is because it is not possible to fully isolate the effects of CAP funding from the effects of other programs. However, the results do show that achievement levels in CAP schools are as strong, or stronger, as in other schools across NSW after controlling for various social and other intake factors.
8. Literacy and numeracy programs

Introduction

A major focus of school systems in recent years has been on raising the literacy and numeracy skill levels of young Australians. This push has been based on the view that literacy and numeracy skills are the foundation to successful learning across all knowledge areas and the springboard to successful participation in school and in further education, training and work. In this context, providing appropriate literacy and numeracy learning opportunities, especially for children experiencing learning difficulties, is a challenge for teachers and schools. In New South Wales, a broad state literacy strategy, operating since 1997, has underpinned efforts in this area. It is a coordinated strategy central to many of the support services and programs, such as CAP, PASP and PSFP. It has also been directly supported through focused or specific literacy and numeracy programs such as the Early Literacy Initiative (ELI), the numeracy program Count Me in Too, and Reading Recovery. These targeted programs for raising literacy and numeracy skill levels are focused on the early years. This is based on the view that early intervention is critical to reducing gaps in skill levels so that all students have a solid common platform of literacy and numeracy skills on which they can build as they ascend school.

This chapter presents a review of the key literacy and numeracy programs: the Early Literacy and Numeracy Initiative (ELNI) and Reading Recovery. Consideration is given to the effectiveness of the programs in targeting need and addressing equity concerns for disadvantaged students with weak literacy and numeracy skills. Reflection is also provided on factors that work to limit the impact of the programs. We begin by looking at how other systems have approached the funding of programs to improve literacy and numeracy skill levels of students in government schools.

Approaches to literacy and numeracy funding in other systems

Australian states and territories

In Tasmania, literacy in primary school is supported through the Tasmanian Department of Education's Flying Start program. The program was initiated in 1997 as a staffing allocation made to schools to support literacy teaching and learning in kindergarten to Year 2. The resource supports a range of initiatives and programs based on the work of Marie Clay(a). Through the Flying Start resource the following is provided:

- extra staffing resources for primary schools, particularly from Prep to Year 2
- smaller pupil-teacher ratio for a critical teaching and learning time each day, from Prep to Year 2
• increased opportunities for teachers to work in partnership through a team approach
• increased opportunities for teachers and parents to work in partnership
• assistance for classroom teachers with the key strategies of assessment, planning, explicit teaching, monitoring, recording and reporting
• additional professional development opportunities for classroom teachers, kindergarten to Year 2
• programs for parents as children’s first and continuing educators, and
• advice and guidance to school communities to establish quality programs which provide continuity across child care and schooling.

One component of Flying Start Framework is Reading Recovery, a school-based, early intervention literacy program which aims to assist students at risk of not achieving literacy benchmarks. Reading Recovery focuses on Year One students who are not developing effective reading and writing skills. At the beginning of each year, children in Year One who are identified as having difficulty learning to read and write are selected for the Reading Recovery Program. Students selected for the program have their classroom literacy program supplemented with daily one-to-one lessons of thirty minutes. The program runs for 12 to 20 weeks with a specially trained teacher.

Literacy and numeracy initiatives in South Australia are focused on additional funding in the early years to assist schools develop targeted strategies to help promote improvements in literacy and numeracy outcomes. Early Intervention Grants are paid direct to schools on a per capita basis linked to the number of students enrolled in Years Reception to 2. A total of $2 million was allocated in 2003 to help target literacy and numeracy outcomes. In addition, literacy and numeracy grants are paid to schools based on national benchmark test outcomes. This funding for additional student support, is based on the number of students who were in the lower literacy and numeracy skill bands in the Year 3 and Year 5 literacy and numeracy tests. It is a funding program that is directly linked to achievement levels.

In addition to the Commonwealth funded literacy and numeracy program that was formerly the Disadvantaged Schools Program, Western Australia provides targeted funding for literacy and numeracy through its Getting It Right program. The Program funds the allocation of specialist Literacy and Numeracy teachers to schools. In 2004, there were 200 full-time equivalent (FTE) specialist teachers working in identified high needs schools across the state. Resources provided through the Getting it Right Literacy and Numeracy Strategy are equally divided between literacy and numeracy, so half of the 200 FTE focus on literacy. This translates to 154 literacy specialist teachers working in approximately a quarter of the system’s primary schools.

Staffing allocations are made according to a needs index determined by benchmark testing scores. The literacy and numeracy benchmark tests for Year 3 students in each district are factored against the number of specialist literacy
Specialist teachers work with classroom teachers, helping them to identify the nature of literacy difficulties being experienced by students in their classrooms, and collaboratively planning teaching and learning programs that will explicitly address those needs. Specialist teachers are appointed to schools for a period of at least 2 years and in that time, participate in seven 3-day workshops which enable them to:

- develop improved understandings, confidence and teaching skills in relation to literacy
- understand curriculum based outcomes relating to literacy, especially those set out in the English learning area
- collect and analyse credible diagnostic and summative student performance data to inform the planning and teaching cycle
- participate in cohesive, data-driven, whole-school planning for literacy, and
- participate in and engender two-way home-school collaboration and communication in support of literacy development.

In 2004, the cost was $6.5 million equivalent to 0.25 per cent of total school spending.

The Early Years Literacy Program and the Early Years Numeracy Program are the focus of the effort in Victoria to raise literacy and numeracy skill levels. The Early Years Literacy Strategy is a comprehensive and strategic approach to literacy achievement in the early years of schooling. It involves implementation of the research based Early Years Literacy Program, supported by multilayered professional development and a series of conferences. It is based on the premise that, given sufficient time and support, all children can achieve success and that a whole-school approach to school improvement is the most effective way to achieve this. The Early Years Numeracy program commenced in 2001 and was designed to support schools planning for and implementing a strategic and comprehensive approach to successful early numeracy achievement. The Early Years Numeracy program was modelled on the Early Years Literacy program.

To assist schools in implementing the Early Years Literacy program (EYLP), annual funding is provided for early literacy coordination. A number of resource kits and initiatives to support schools in implementing effective early years literacy programs were developed and published. Resources included advice for teachers, professional development modules, parent programs and videos. Project officers in each region are responsible for supporting early years literacy within their region. This role includes the facilitation of region-based initial and ongoing training for school-based coordinators and early years teachers. Activities included the facilitation of regional Early Years conferences, forums and seminars. Early Years Literacy Coordinators delivered initial training to their Early Years teams and delivered and
facilitated ongoing professional development on-site and at a regional and state-wide level.

The funding for EYLP is to assist schools in a coordination role to support the implementation of the program. Funds are provided on the basis of $190.58 per student in years P-2, capped at 200 students. These funds are payable to all Primary, P-12, Special, Special Developmental, English Language and Community Schools, with a P-2 enrolment.

Reading Recovery is a component of the EYLP. It is provided as a one-on-one intensive program for students in Year 1. Funds are provided at a base rate of $202.49 per P-2 student, uncapped. For disadvantaged schools (those above a threshold measured using an SES index) the base rate is increased by $78.80 multiplied by the amount that the school’s SES index exceeds the threshold. In addition, for schools with a P-2 enrolment of less than 50, there is a size adjustment factor. Funds for Reading Recovery are payable to all schools with a Prep to Year 2 enrolment. Funds are provided to ensure that all possible effort has been made to provide daily one to one assistance, from an appropriately trained teacher, for students who are most ‘at risk’ in Year One.

Internationally

In England, there are several intervention programs to improve the quality of learning in literacy and numeracy. They involve elements of early intervention, continuous monitoring and strategic intervention at critical stages where needed as children progress through school. The programs include the following: Early Literacy support (ELS), Additional Literacy Support (ALS), Further Literacy Support (FLS), and Springboard programs for mathematics. Each program provides additional funding for schools, some weighted to support schools with high concentrations of disadvantaged students. Schools generally use this funding to run “booster” classes. “Booster” provision typically involves the lowest attaining pupils working in small groups with a qualified teacher. The support is provided across early and middle stages of schooling (Years P-8).

ELS was developed by the National Literacy Strategy to address the needs of pupils who are not making the expected progress during the first term of primary school. It is focused on early identification and intervention. The aim is to reduce or remove the need for further additional support in the future. A key element of the programme is the partnership between Year 1 teachers and their teaching assistants. Every school in the country has been given funding for a teaching assistant in one Year 1 class. Towards the end of Term 1 the teacher and Teaching Assistant identify the children who need a more intensive programme of support – research indicates this may be about 20 per cent of an average class (that is, a group of about 6 children). In Term 2 all children continue to be supported, but in addition the identified group receive a daily planned programme of support from the Teaching Assistant. By Term 3 it is expected that most children will no longer need daily additional support.
although some may need continuing group support whilst others may be identified, through assessment, as needing individual support. The aim of the programme is to reduce the percentage of children needing individual support from approximately 20 per cent of the class to no more than 5 per cent.

Additional Literacy Support (ALS) is designed to help pupils who fall behind in literacy, but who would not otherwise receive any additional support in this area. ALS was introduced to address the needs of children in Years 3 and 4 who have not benefited from other programs and who have weak literacy skills.

Further Literacy Support (FLS) is an intervention programme designed to operate in Year 5. FLS is designed to support children who have fallen behind at the end of the first term in Year 5, and provides a term of targeted support to help students catch-up.

Springboard is a catch-up programme for children in Years 3, 4, 5 and 7. The materials focus on key areas of number. They provide additional tuition for small groups of children outside the daily mathematics lesson during the weeks when these areas are being taught in maths. The aims of Springboard are to help improve the skills of students who have fallen behind so that they can catch up with their peers and be in a better position to access and benefit from the main teaching programme. For example, Springboard 3 is intended for those children in Year 3 who have not achieved the targeted benchmarks in national tests in mathematics and who, with extra help, are likely to achieve the standards by the end of Year 4. It consists of the units that focus on the important teaching objectives from the Year 2 teaching programme which children must meet if they are to tackle with confidence the key objectives of the Year 3 programme. Similarly to the literacy interventions described above, Springboard sessions are designed to be delivered within or outside scheduled mathematics lesson times.

The approach in New Zealand to improving literacy and numeracy skill levels is based on two main strategies. The first, the Literacy and numeracy Strategy, does not comprise a single, discrete literacy project. Instead, the strategy acts to support a range of policies, programmes, and projects all focused on improving literacy achievement. Schools are provided with funds (a total of $6.8 million across schools in 2004) to identify and develop mechanisms and practices appropriate to their students and community for improving literacy and numeracy outcomes. Much of this in the past has been focused on the early years, but recently has been extended to other year-levels.

The second main strategy is based on Reading Recovery. This is a prevention strategy that contributes directly to raising educational achievement by providing extra assistance to the lowest achievers after one year at school. The aim is to prevent literacy difficulties at an early stage before they begin to affect a child’s educational progress. The view is that effective implementation of Reading Recovery will reduce the spread of literacy
achievement that any teacher has to deal with, and so improve the effectiveness of classroom teaching in the primary school. Reading Recovery is nationally implemented and monitored by the Ministry of Education. It identifies those children having difficulty early, before problems become consolidated, and provides specialised one-to-one assistance from a teacher trained in Reading Recovery procedures. The intervention provides for a series of daily individual lessons, additional to the classroom programme, which continues for 12 to 20 weeks determined by individual rates of learning. Schools decide whether to implement Reading Recovery and how many teachers they need.

According to the most recent evaluation (Anand and Bennie, 2005) 15 per cent of six-year-olds entered Reading Recovery in 2003. The proportion of schools operating Reading Recovery was 67 per cent. While higher SES schools (i.e. schools with higher proportions of students from higher socio-economic groups) had higher reading and writing scores on average, the gains that students made in lower SES schools were slightly greater than for students in the higher SES schools. The evaluation suggests that the strategy was working to reduce achievement gaps in literacy.

In Canada, as in Australia, approaches to the provision of literacy and numeracy programs vary across jurisdictions, though most provinces make provision for intervention and improvement. In Ontario, for example, there are two programs that focus on literacy and numeracy. These are Early Literacy, and Literacy and Math Outside the School Day. Early Literacy is a component of the Learning Opportunities Grant and is estimated to be $67 million in 2004-5. Funding for Early Literacy is allocated on the basis of enrolments from Kindergarten to Grade 3. For 2004-5, there was $124 per student. Schools are required to focus the resources on primary students with the greatest need: students in Grades 1 to 3 whose achievement levels are poor according to standardised assessments and those whose reading assessments show they need remedial help.

Literacy and Math Outside the School Day provides additional support to enhance the literacy and maths skills of students at risk of not meeting benchmark standards and the requirements of the Grade 10 literacy test. In 2004-5 the program funding was $20.6 million (or $5,400 per student). The courses and programs are provided during the summer, and during the regular school year outside the school day. Eligibility for programs is determined by recommendations of the school principal. Some students are eligible for assistance with the cost of transport to Summer Literacy and Maths programs.
In Manitoba, funding is provided to implement early literacy intervention programs (such as Reading Recovery) that have clearly demonstrated success in increasing the literacy proficiency of the lowest achieving Grade 1 pupils. In 2004/5 $6.2 million was made available to support the programs. To be eligible for funding, schools are required to submit a plan and after receiving the funds, provide progress and outcomes reports.

**The approach to literacy and numeracy in New South Wales**

Since 1997, the State Literacy Strategy has provided a broad framework for the monitoring and targeting of need. It has been a coordinated strategy in which a literacy focus drove several of the funded equity programs including CAP and PSFP. Across these programs, improvements in literacy skills was the common goal. It was to be achieved through the targeting of additional resources and support to schools serving the highest concentrations of disadvantaged students, those requiring the highest levels of support based on achievement gaps in literacy. For example, PSFP, serving communities with the highest concentrations of socio-economic disadvantage, was used to support improvements in literacy and numeracy outcomes. Identified schools received grants and support services such as teaching consultancy, community development officers, statewide targeted projects, school network meetings, resource development, evaluation and administration.

The State Literacy Strategy also provided an overarching framework for the delivery of specific programs designed to lift literacy and numeracy achievement. These included the teaching of reading K-6, interventions where students were experiencing difficulties, the monitoring of students’ literacy needs as they progress through school, the Early Literacy Initiative (ELI), the numeracy program *Count Me in Too*, and Reading Recovery.

During 2003, an evaluation of the State Literacy Strategy was undertaken. The qualitative and quantitative data used for the review showed that the State Literacy Strategy had helped improve teaching practice and had more finely focused the resources to improve student literacy. The evaluation identified some new directions for the strategy from 2004. However, the key early years programs ELNI and Reading Recovery are to remain central to the literacy and numeracy efforts, particularly in the early years.

The Early Literacy and Numeracy Initiative (ELNI) supports the improvement of literacy and numeracy outcomes of K-3 students in schools serving low socio-economic status communities. Schools in the ELNI program are identified as relatively disadvantaged in SES terms based on the quadrennial survey. Additional schools have been included in the ELNI program since 2000 as a result of negotiation with district superintendents and targeting to improve the schools’ basic skills test results.

NSW ELNI schools have whole school literacy and numeracy training and development as a major focus in their management plans. They implement
assessment practices consistent with the NSW English K-6 and Mathematics K-6 syllabus outcomes framework. The literacy and numeracy components of the ELNI both emphasise the importance of effective teacher and community partnerships to ensure literacy and numeracy development in the early years of schooling.

The literacy component of the Early Literacy and Numeracy Initiative is a multi-layered structure involving school networks, trained network facilitators, district consultants and state level project managers. Regional Office based literacy facilitators work with teachers in schools to help develop strategies and approaches to support school-based efforts in literacy in the early years. It is a skill-building enterprise in which teachers in schools are supported through direct assistance and professional development to enhance the teaching and learning of literacy in the most demanding settings. The model emphasises whole school planning, and planning to identify each K-3 teacher’s professional development needs. It uses flexible delivery of local training to meet the needs of participating K-3 teachers, sustained support over time, collaboration at the district level with a range of educational workers such as district literacy and numeracy facilitators, Reading Recovery, and PSFP consultants and the development of community partnerships.

ELNI also incorporates the early numeracy program Count Me In Too. This is a curriculum based training and development program designed to improve the quality of teaching in mathematics. It aims to do this by supporting facilitators, teachers from each school, who work with their colleagues to develop approaches and strategies to improve the quality of mathematics teaching and learning. Unlike the literacy program (ELI) which locates facilitators in regional offices, the focus in numeracy is on identifying a facilitator in each school to work with other staff to develop strategies and help build the skills of teachers in maths. Count Me In Too operates within targeted schools. It is further supported by consultancy positions located across the regional offices. The role of these consultants focuses on promoting and supporting the school-based facilitators.

Focussed support for students experiencing difficulty in literacy operates in the context of the whole school approaches to literacy teaching. Reading Recovery is the principal intervention mechanism used in NSW. It involves individualised instruction tailored to the needs of individual learners, so that learners make accelerated progress in order to catch up with peers. Reading Recovery is delivered by a trained teacher on a daily basis (usually a 30 minute session) to students in their second year of school (Year 1) over a period of 12-20 weeks.

In 2005 Reading Recovery is implemented in 831 schools in NSW, reaching an anticipated 7,500 students. Selection of schools for Reading Recovery is based on:

- the type and number of literacy support programs already in the school (including Reading Recovery)
the number of students needing assistance
• the school’s Basic Skills Test results (percentage of students in lowest bands)
• the number of students of non-English speaking and Aboriginal and Torres Strait Islander background
• the relative socio-economic disadvantage of school communities, measured by the Priority Schools Funding Program (PSFP) index, and
• advice from the Regional Offices.

There is an extensive system of training and support for Reading Recovery. The budget is approximately $32 million.

Targeting of need

The focus of ELNI, both the literacy and numeracy strategies, is on schools that have high proportions of students from disadvantaged backgrounds. This means that it is heavily focused on the PSFP schools. This is an appropriate focus given the large gaps in literacy and numeracy achievement that are evident in the Year 3 and 5 achievement results and affect many PSFP schools, particularly the most disadvantaged. Specific data on the school by school resource-use or targeting related to ELNI were not available for the current review, and therefore, further comment on the targeting of need is not possible.

Reading Recovery is not specifically designed as a program to target the most disadvantaged schools in socioeconomic terms. Currently over 800 schools access Reading Recovery funds. This includes about 60 per cent of PSFP schools and 46 per cent of non-PSFP schools. Schools from across the SES spectrum obtain support. Reading Recovery in its current focus is designed to target the needs of individual students who have weak literacy skills and need some intensive support to catch-up. It involves about 15 per cent of students.

It is not possible to assess the targeting of need without information on individual students within schools. Such data were not available for the current review. What can be said, from available data, is that many schools with low mean levels of literacy achievement in Year 3 do not make use of Reading Recovery. Figure 8.1 shows the mean achievement levels of schools receiving Reading Recovery funds in 2004 and schools not receiving any allocation. The schools are grouped by SES quintile. The figures show that in each SES quintile Reading Recovery schools have lower Year 3 literacy achievement levels than schools not participating in the Reading Recovery program. This would suggest that the program is targeting need appropriately within SES bands: Reading Recovery schools are those where students have literacy skill needs in greater concentration, at least according to mean literacy achievement levels. However, what it also suggests is that there are many more students in low SES schools that have weak literacy skill levels and do not receive Reading Recovery support.
Figure 8.1  Mean Year 3 literacy achievement levels, by SES quintile: Reading Recovery schools and schools not receiving Reading Recovery funds compared

The average gap between low SES schools not participating as a Reading Recovery school and high SES schools that do participate is 3.7 points. Standard deviations are similar across all groups (ranging from 6.2 to 6.6). It suggests that the numbers of students requiring intensive literacy support are larger in low SES schools than in high SES schools currently receiving funds. It suggests that are levels of unmet need more heavily concentrated in low SES schools.

Supporting this view is the contention that the gains Reading Recovery helps produce are relative to local standards (other students in an individual school setting), and not state-wide standards. In other words, the standard for selection and completion of the program is not equitable, as students are selected on the basis of their performance in relation to their peers, and treated as successful outcomes when they reach the average for their class, and not a state-wide standard. This disadvantages students in low-income schools with heavy concentrations of non-readers (see Grossen et al). To achieve equity, students need to be selected on the basis of state-wide rather than local averages. It means that Reading Recovery is not likely to reduce the social gaps in achievement that exist in New South Wales nor in other systems if it is not tied to social as well as academic indicators.

Impact of the literacy and numeracy programs

Without individual-level as well as school-level data it is very difficult to evaluate the impact of the literacy and numeracy programs. School-level data are available for Reading Recovery and they suggest that gaps remain between Reading Recovery schools and schools not participating in the Reading Recovery program.
Table 8.1 presents the results of regression analyses estimating mean Year 3 literacy achievement scores. Two models are presented. The first provides an estimate for Reading Recovery which is based on whether a school participates in the program. The second model provides results based on the level of funding each school is allocated. Only those schools that had participated in the program from 2000 to 2004 are included as Reading Recovery schools. Schools that had participated in one or more years, but not for every year, were excluded from the analysis. Schools which did not receive an allocation for Reading Recovery in any of the years were included as the control group. The Year 3 literacy achievement results were for 2004. The results are presented as standardized b-coefficients (beta weights) to help compare the relative predictive power of the independent variables.

Table 8.1  **Standardised regression estimates of Year 3 literacy achievement: separate models to test the effects of participation in the program and level of funding.**

<table>
<thead>
<tr>
<th></th>
<th>Participation in program</th>
<th>Level of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density of Indigenous students</td>
<td>-0.21</td>
<td>-0.21</td>
</tr>
<tr>
<td>Density of ESL enrolments</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>SES</td>
<td>0.29</td>
<td>0.28</td>
</tr>
<tr>
<td>Enrolments</td>
<td>0.07</td>
<td>0.10</td>
</tr>
<tr>
<td>Density of Integration students</td>
<td>-0.16</td>
<td>-0.16</td>
</tr>
<tr>
<td>Reading Recovery school</td>
<td>-0.11</td>
<td>-0.13</td>
</tr>
</tbody>
</table>

Note: Excludes schools that

The results suggest that, after controlling for social intake and other factors, Reading Recovery schools do not do as well as schools which do not participate in the program. The estimate is negative and significant suggesting that there are significant gaps in mean achievement between Reading Recovery schools and other schools, all else equal. Reading Recovery has not enabled schools to bridge the gaps in literacy achievement at a mean school level. The estimate for the model including level of Reading Recovery funding reinforces this view. The more funding allocated the greater the achievement gap.

But that is not in any way an adequate test of the Reading Recovery program. For one thing, the gaps may have been much greater if not for the Reading Recovery program. For another thing, and more importantly, we do not have individual level data that would allow us to compare within schools both the changes in literacy skill levels for students who receive assistance through the program and changes in performance relative to students who do not participate.
Evaluations of Reading Recovery have been undertaken in other systems as well as in New South Wales. Evidence in favour of benefits is strong, and supported by studies conducted in several countries. In addition, positive comments from students, teachers and parents provide supportive evidence of its effectiveness. According to a New South Wales review it can reduce the number of children failing to achieve at appropriate levels of literacy by between half and three quarters (NSW DET website). In the United Kingdom, about 81 per cent of children in 2003 who left the program were regarded as having developed sufficient strategies to enable them to continue to consolidate literacy learning within the classroom and to be able to access mainstream curriculum alongside peers.

There is some evidence to suggest that Reading Recovery may not sustain initial gains and participants begin to fall behind again in the later years of primary school and into secondary school. If this is the case, it would point to the need for continuous monitoring and further strategic intervention at critical stages of schooling. There is conflicting evidence, however, on the capacity of Reading Recovery to sustain gains over the long term. This is also true of Australian research, though two studies are positive. Wade and Moore (1996) and Rowe (1995) concluded that the gains made in Reading Recovery were sustained over several years.

Factors affecting the impact of literacy and numeracy strategies

The literacy and numeracy strategies, as with the other equity programs, are severely affected by quality and stability in the teaching staff. It is the development of the teaching skill base that is fundamental to gaining improvements in effectiveness and outcomes. This is particularly the case with the literacy and numeracy strategies which are based on skill-based capacity building in the area of literacy and numeracy, particularly in the early years. Facilitation of skill building in these areas is provided by teams of regional consultants and facilitators, in literacy, and support for school-based facilitators in numeracy.

The success of the programs, given their design, is dependent on staff stability. In low SES schools, where the literacy and numeracy needs are greatest, the high turnover rates make it very difficult to sustain effort and retain highly skilled teachers. The literacy and numeracy programs are designed to develop the skill levels through support, professional development and strategy development. But much of the gain is lost through the continual exodus of teachers. The programs deliver, but the systemic issue of staff loss continually undermines the efforts. The programs are continually undermined by structural and systemic features associated with teachers and teaching in disadvantaged schools.
In addition to staffing, there are issues of cost and value for money. Reading Recovery is an expensive program because as a one-on-one program it is resource intensive. The high cost of Reading Recovery ($32 million a year) makes it difficult for schools to provide help to all who need it, and some needy yet ineligible students will inevitably “fall through the cracks”. This raises the question of whether or not the money would be better spent providing universal access to quality materials and instruction, such as better teacher training and professional development, more parental involvement, better teacher-student ratios, and in-class support for students with special needs. Grossen et al’s analysis concludes that Reading Recovery is significantly less cost-effective than effective reading instruction in the classroom delivered in a context of reduced class sizes and ongoing professional development for teachers.

Despite the criticism of high initial costs, there are arguments that Reading Recovery reduces the cost of long-term remedial instruction and low achievement later on. Swartz (1996) reported several studies that showed reduced enrolment in learning disabilities classrooms in schools with Reading Recovery compared against schools without the program.
Future directions
9. Future options and directions

One of the clear findings from the review is that social disadvantage is continuing to exert a strong effect on the performance of schools. Social gaps in achievement remain large. While the current equity funding programs are working to reduce differences, the sizes of gaps suggest that there is still some way to go. The relationship between markers of social disadvantage and achievement is very strong. If the aim is to reduce differences in performance and promote high achievement for all, a sizeable task remains. This suggests the need for a re-examination of the current framework of equity funding.

The main approach to addressing social inequality in public schools in New South Wales in the past has been based largely on a fiscal compensation model. The assumption is that money is necessary and sufficient to improve the quality of schooling in disadvantaged areas. Funds have been allocated to schools without clear ideas about how the resources will or should be spent. Resources are allocated largely using a needs-assessed ‘formula driven’ model based mainly on numbers and categories of students rather than strategies. This leads to a situation in which there is little accountability from schools, and little control over how schools use the funds and whether or not they are employed to develop programs that target the needs of the students that the funding is designed to serve. We do not know how resources are used within classrooms and schools. This has tended to characterise the PSF program, even when it was framed around targeting improvements in literacy and numeracy.

Equity funding, quality classroom practices and school effectiveness programs need to be joined. It is essential to identify the practices and instructional conditions within schools and classrooms that enhance learning in disadvantaged school settings. Then it is necessary to allocate resources to ensure that the practices can be implemented and sustained. However, it is not only improvements in the quality of instruction that is needed, but also programs that help promote student engagement and participation as well as address the multiple needs of disadvantaged students. This means that equity funding needs to be based on the costs of providing programs designed to meet the additional educational and social needs of children from disadvantaged backgrounds, such as the greater need for pastoral care, smaller class sizes, mentoring and case management, more intensive one-to-one instruction to assist with learning recovery, attendance and discipline strategies, home-school liaison, and contact with outside agencies. Unlike in wealthier areas, where schools can rely on families to provide supplementary resources supporting the efforts and demands of school, families in disadvantaged areas are much more reliant on schools to provide the resources and requirements needed to promote successful outcomes. Quality teaching and learning needs to be incorporated into strategies designed to promote student engagement as well as address the broader needs of disadvantaged students.
What is required is an equity funding framework which is program driven or based and where there are sufficient funds provided to ensure that the strategies can be implemented and can operate successfully. Several features should characterise such a framework:

1. **Effective programs**  It is essential to identify programs that are successful in promoting better outcomes for disadvantaged students. There is little value in providing additional funds to schools to reduce gaps in achievement without linking the funds to targeted strategies to improve the quality of teaching and learning. Various programs have been developed overseas and in Australia to promote quality learning and higher achievement, enhancements in classroom and school conditions, the promotion of better student engagement, improvements in home-school liaison, and smoother transitions from school. Some of the programs have been devised and used in New South Wales. Proper evaluations need to be undertaken to assess effectiveness and knowledge of what works, under what conditions, used to build future strategies and help target funding.

2. **Sufficiency of funds**  Once effective programs are identified it is essential that they are properly costed and sufficient funds made available to allow the programs to be fully implemented and to operate successfully.

3. **Continuous monitoring, review and accountability**  Monitoring arrangements need to be in place to assess the impact of programs and funds. Do programs and equity funds help improve student outcomes or provide other benefits? Does a scheme meet policy objectives? For monitoring purposes, various forms of system-wide data are required extending beyond achievement measures to student attitudes, attendance and participation records, teacher characteristics and views, and parental attitudes. Information is also required on how schools use resources. Schools need to be accountable for the funds they are given to implement programs. What changes are made to classroom and school conditions through the implementation of programs and the allocation of additional funds? Schools may find this a burdensome task, but it is essential to ensure that funds are used appropriately and programs operate successfully. External auditing is also desirable for this purpose. Gathered information is needed to help undertake reviews of programs and funding schemes to assess impact. This needs to occur regularly.

4. **Efficiency or value for money**  The provision of all public funds, quite rightly, comes with a need to guarantee efficiency in targeting, application, operation and management. It is important to ensure that programs and funds deliver value for money. Some strategies may be more expensive and deliver few benefits over cheaper options.

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*Equity programs for government schools in New South Wales*
Similarly, effective strategies may be very resource intensive and the gains will have to be weighed against costs and levels of funds available. Programs need to be evaluated according to efficiency as well as effectiveness. This includes consideration of longer term (concealed and referred) outcomes, costs and benefits.

5. **Sustainability**   
Schools need to have certainty that the funds they are allocated will remain in place long enough for the successful implementation and operation of programs. Generally, this means multi-year funding arrangements.

Approaches containing these elements have been proposed and adopted in other locations. One of these is described in the work of Odden (2001) in which policy-makers and systems identify programs that have been researched and evaluated as effective in delivering school and student improvements as well as meeting social needs. The costs of delivering the programs are then calculated and the funds allocated to implement the strategies. This is a centralised or ‘top-down’ approach, with the central authority (region or state) determining strategies, needs, incentives and funds. An alternative, proposed in the work of Miles and Darling-Hammond (1998), is to allow schools, individually or in groups, to develop their own reform strategies and then apply for or seek funds to implement them. This more ‘bottom-up’ approach allows schools to respond to their specific needs, though it assumes that schools have clear visions of reform and change (which many may not) and staff have the skills and time necessary to research, evaluate, plan, devise, implement and monitor. A mixed approach might be possible in which appropriate levels of equity funding are made available and can be accessed only with multi-year improvement plans based on identifiable programs that aim to enhance classroom and school conditions. Such plans could be devised by schools, or groups of schools, working independently if they wish and/or in conjunction with researchers, policy-makers and system officials.

Of the current programs, PASP (and to an extent CAP) comes closest to this model. Schools participating in the PAS program are provided with a funding allocation to support the implementation of priority strategies identified by the school to improve performance and outcomes. To access funds, schools are required to conduct an evaluation of their own work, assisted by an academic partner experienced in school-based research. Teachers and school leaders participate in this process, therefore helping engage the key facilitators and agents on whom the success of programs will partly depend. After building a profile of teaching and learning within the context of local setting, the school then identifies strategies to target need and agrees on and implements a program of change to help lead to improvements. Strategies for change can relate to a variety of areas including pedagogy, staffing solutions, organization for learning, interagency cooperation, parent involvement, student welfare, and staff professional development. Funding is tied to identified strategies and effectiveness programs, based on research at a local school level to identify areas of most need. Funding is delivered to schools after negotiations with
system-level experts and consultants to identify how the additional resources are to be used.

As an experiment PASP has produced some promising results with achievement gains in some schools, small gains admittedly, but gains nonetheless. PASP, though, suffers from several limitations. It is designed to fund schools for only a limited number of years. The strategy of providing selected schools funding for two to three years and then giving other schools a turn potentially may undermine all of the gains made in some schools, particularly given high rates of teacher turnover and leadership change. This element of PASP treats disadvantage as if it is a temporary characteristic of schools and the implemented strategies, that will continue to need resourcing, dispensable. Knowledge gained about what works needs to be retained and should be shared with other schools which over time may lead to improvements in resource use, but unlikely to ever require the complete withdrawal of program resources to individual schools. Disadvantaged schools need continuity and sustainability in resource levels. Another limitation with PASP is that it is targeted at a small number of schools (74) when there is a much larger number of schools that need assistance.

What is required is a mechanism for broadening the benefits of PASP to a larger number of schools in a sustainable way. This is not possible if current arrangements continue and funding for social disadvantage remains a two-tiered system with PSFP funds thinly spread across a large number of schools, and PASP concentrated on a smaller group. Results from the analysis of the impact of PSFP show that it has not been successful in reducing gaps in achievement and outcomes, particularly in the most disadvantaged schools, owing to the lack of a more concentrated and better targetted funding approach. PASP may have produced gains in schools, but a larger number of schools need the sorts of assistance possible through the intensive support that has been provided through the scheme.

For larger numbers of schools to benefit through intensive assistance, there is either a need for reductions in the total numbers of schools receiving equity funds or, alternatively, massive increases in the amount of funds provided by government. There are indeed strong and legitimate arguments for the Commonwealth government to increase its level of SAISOP funding. The amount of funding provided by the Commonwealth in 2004 to New South Wales was virtually the same as in 1996 in actual dollars, despite cost of living and salary cost increases over that time which have massively eroded the value of the funding assistance. Over the same period, the Commonwealth has increased funds to private schools by a massive 76 per cent, highlighting a marked reduction in commitment to equity funding. However, it is unlikely that equity funding will increase in the short term. Given this, and assuming that funding levels are not going to increase, there is a need to explore other options for concentrating funds to expand the benefits of PASP to other schools.
Better targeted resourcing can be achieved with some changes in current funding arrangements. In the context of current resource levels, the disparities could be addressed through either a change in the threshold leading to fewer schools being eligible to receive funds and/or the introduction of funding weights to target proportionately more funds at schools in the most disadvantaged areas.

Three options are canvassed here. The first option is based on maintaining the current PSFP threshold and applying a weight to the funding based on scaled levels of disadvantage. At present, schools that are above the threshold receive equivalent per capita funding. Therefore, schools that are the most disadvantaged in social terms do not receive any more funding proportionately than schools close to the threshold. Funding linked to relative need would mean applying a weighting factor associated with the levels of disadvantage across schools so that schools serving the most disadvantaged populations receive more funds. This is fundamental to the principles of equity funding on a relative-needs basis, principles that are applied not only in all other Australian jurisdictions, but in virtually all other countries examined as part of the current review.

One way to do this would be to use percentile ranking based on scaled level of disadvantage as a weighting factor. The procedure would be to:

- Derive the state-wide mean percentile rank, that is the mean PSFP rank for all survey schools (SMR)
- Create a standardised measure of disadvantage by subtracting the state-wide mean percentile rank from the PSFP percentile ranking for each school (IMR)
- Calculate a weighted enrolment by multiplying the standardised measure of disadvantage by school enrolments (SE)
- Calculate a Per Student Rate by dividing the allocated amount of funding by the total number of weighted enrolments for all eligible schools above the threshold (PSR)
- Derive individual school funding by multiplying the weighted enrolments by the per student rate
- The formula for weighted funding is (((IMR-SMR)*SE)*PSR).

This generates weighted proportional funding for schools based on PSFP disadvantage index rankings. The impact of applying this method using the 2004 levels of funding is displayed in Table 9.1. Schools are grouped on the basis of 5-percentile rankings (i.e. the most disadvantaged schools ranked from 95.01 to 100 on the PSFP percentile rankings are in the highest rank, the next most disadvantaged ranked from 90.01 to 95 form rank 2, and so on). Total and mean per capita amounts are presented for each grouping. Funding levels using the current PSFP method (for 2004) are compared with those produced using the proposed weighting method. Amounts are presented for two levels of funding:

(1) PSFP funding only
(2) PSFP and PASP funding combined.

The presentation of both sets of figures is to show what would be possible should either all PSFP and PASP funds be available in the future for targeting need, or only PSFP funds.

Table 9.1 Threshold set at current level (21 per cent) with weighted option using percentile ranking: 2004 fund levels and weighted option compared ($)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Current funding</th>
<th>Weighted Option</th>
<th>Total amount ($)</th>
<th>Enrolments</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td></td>
</tr>
<tr>
<td>Highest rank</td>
<td>3004130</td>
<td>7597130</td>
<td>4811254</td>
<td>6767830</td>
<td>11336</td>
</tr>
<tr>
<td>2</td>
<td>3501281</td>
<td>7471281</td>
<td>5195425</td>
<td>7308232</td>
<td>13502</td>
</tr>
<tr>
<td>3</td>
<td>4569179</td>
<td>6884179</td>
<td>5991130</td>
<td>8427524</td>
<td>17790</td>
</tr>
<tr>
<td>4</td>
<td>4011866</td>
<td>5079066</td>
<td>4736377</td>
<td>6662504</td>
<td>16181</td>
</tr>
<tr>
<td>5</td>
<td>5615129</td>
<td>6972129</td>
<td>5555228</td>
<td>7814354</td>
<td>22290</td>
</tr>
<tr>
<td>6</td>
<td>5467569</td>
<td>6472989</td>
<td>4557621</td>
<td>6411054</td>
<td>22692</td>
</tr>
<tr>
<td>7</td>
<td>5226916</td>
<td>5226916</td>
<td>3422152</td>
<td>4813828</td>
<td>21225</td>
</tr>
<tr>
<td>Lowest rank</td>
<td>5112289</td>
<td>5412289</td>
<td>2451883</td>
<td>3448982</td>
<td>21070</td>
</tr>
</tbody>
</table>

| Per capita ($) | Highest rank | 265 | 670 | 424 | 597 | 11336 | 66 |
|                | 2           | 259 | 553 | 385 | 541 | 13502 | 67 |
|                | 3           | 257 | 387 | 337 | 474 | 17790 | 68 |
|                | 4           | 248 | 314 | 293 | 412 | 16181 | 67 |
|                | 5           | 252 | 313 | 249 | 351 | 22290 | 69 |
|                | 6           | 241 | 285 | 201 | 283 | 22692 | 68 |
|                | 7           | 246 | 246 | 161 | 227 | 21225 | 69 |
| Lowest rank    | 243 | 257 | 116 | 164 | 21070 | 66 |

The effect of using a weighted funding formula for eligible schools is to increase the resources available to the most disadvantaged schools. The weighted option using the current threshold of 21 per cent of students and PSFP funds only would increase funds on a per capita basis from $265 to $424 for the most disadvantaged schools (those in the highest 5-percentile rank). Correspondingly, the funds would be reduced from $246 to $161 per student for schools closest to the threshold (the lowest ranked schools).

With the inclusion of PASP funds, the mean per capita funds available for the highest ranked schools (the most disadvantaged) would go from $670 to $597, while the lowest ranked schools would fall from $257 to $164. The fall in the highest schools is due simply to the fact that PASP funds would be available to
all students and all schools, not just the few that are currently funded. It would represent a substantial increase in funds for all of the most disadvantaged schools, providing intensive assistance at levels which would promote greater effectiveness using the PASP or program-driven paradigm of equity funding.

The second option canvassed here to increase resource levels to the most disadvantaged schools (to levels that may reduce achievement gaps based on current evidence) is to change the threshold levels so that a smaller number of schools receive more intensive funding. This was an option discussed and proposed in several of the consultations undertaken for the current review. It was proposed by members of different advisory groups. One possibility would be to change the funding threshold to 15 per cent of students (rather than the current 21 per cent). The impact on schools of changing the threshold is presented in Table 9.2.

Table 9.2  Threshold set at 15 per cent of students: 2004 fund levels, unweighted and weighted options compared ($)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Current</th>
<th>Unweighted Option</th>
<th>Weighted Option</th>
<th>Total amount ($)</th>
<th>Enrol. Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td>PSFP Only</td>
</tr>
<tr>
<td>Highest</td>
<td>2987917</td>
<td>7580917</td>
<td>3717934</td>
<td>5227235</td>
<td>5474137</td>
</tr>
<tr>
<td>2</td>
<td>3501281</td>
<td>7471281</td>
<td>4428153</td>
<td>6225769</td>
<td>5911240</td>
</tr>
<tr>
<td>3</td>
<td>4569179</td>
<td>6884179</td>
<td>5834488</td>
<td>8203009</td>
<td>6816575</td>
</tr>
<tr>
<td>4</td>
<td>4011866</td>
<td>5079066</td>
<td>5307014</td>
<td>7461405</td>
<td>5388945</td>
</tr>
<tr>
<td>5</td>
<td>5615129</td>
<td>6972129</td>
<td>7310353</td>
<td>10278004</td>
<td>6320615</td>
</tr>
<tr>
<td>6</td>
<td>5467569</td>
<td>6472989</td>
<td>7442197</td>
<td>10463370</td>
<td>5185560</td>
</tr>
<tr>
<td>Lowest</td>
<td>2066985</td>
<td>2066985</td>
<td>2707852</td>
<td>3807109</td>
<td>1642600</td>
</tr>
</tbody>
</table>

Weighted and unweighted alternatives are presented. The unweighted alternative applies current PSFP formulas to the allocation of funds. The weighted alternative applies the method of weighting outlined above, but to schools serving 15 per cent rather than 21 per cent of the disadvantaged students.
The unweighted alternative shows that schools would gain an extra $75 per student, on average, over current funding levels based on PSFP funds only. If PASP funds are included this would be $65, on average, though the amount would vary substantially across rankings of schools. The weighted alternative would produce major changes for the most disadvantaged schools. Based on PSFP funds alone, the most disadvantaged schools would increase their funds per capita by $219 (from $264 to $483). The fall for the lowest ranked schools would be $51 per capita ($250 to $199). If PASP funds are also added the most disadvantaged schools would receive substantially more funds. Over current PSFP funds, they would receive $415 more per student, on average. Over mean PSFP and PASP funds they would receive $10 more per student.

A third option is for the threshold to be set at 10 per cent of students, the level used in Queensland. The effects of this change are presented in Table 9.3. It shows that the most disadvantaged schools would receive intensive assistance. For the weighted option, funds would increase from $264 per student to $629, based on PSFP funds alone. If PASP funds were included it would increase to $884. This would represent a substantial injection of funds to the schools that currently struggle to make gains. Even the lowest ranking schools would receive a substantial increase in funds, under both weighted and unweighted alternatives.

### Table 9.3 Threshold set at 10 per cent of students: 2004 fund levels, unweighted and weighted options compared ($)

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Current</th>
<th>Unweighted Option</th>
<th>Weighted Option</th>
<th>Enrol.</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td>PSFP Only</td>
<td>PSFP + PASP</td>
<td>PSFP Only</td>
</tr>
<tr>
<td></td>
<td>Total Amount ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td>2987917</td>
<td>7580917</td>
<td>5568455</td>
<td>7828893</td>
<td>7126001</td>
</tr>
<tr>
<td>2</td>
<td>3501281</td>
<td>7471281</td>
<td>6632170</td>
<td>9324409</td>
<td>7695002</td>
</tr>
<tr>
<td>3</td>
<td>4569179</td>
<td>6884179</td>
<td>8738479</td>
<td>12285745</td>
<td>8873530</td>
</tr>
<tr>
<td>4</td>
<td>4011866</td>
<td>5079066</td>
<td>7948465</td>
<td>11175037</td>
<td>7015101</td>
</tr>
<tr>
<td>Lowest</td>
<td>3990715</td>
<td>5067715</td>
<td>7851304</td>
<td>11038434</td>
<td>6042363</td>
</tr>
<tr>
<td>Highest</td>
<td>264</td>
<td>669</td>
<td>491</td>
<td>691</td>
<td>629</td>
</tr>
<tr>
<td>2</td>
<td>259</td>
<td>553</td>
<td>491</td>
<td>691</td>
<td>570</td>
</tr>
<tr>
<td>3</td>
<td>257</td>
<td>387</td>
<td>491</td>
<td>691</td>
<td>499</td>
</tr>
<tr>
<td>4</td>
<td>248</td>
<td>314</td>
<td>491</td>
<td>691</td>
<td>434</td>
</tr>
<tr>
<td>Lowest</td>
<td>250</td>
<td>317</td>
<td>491</td>
<td>691</td>
<td>378</td>
</tr>
</tbody>
</table>
In addition to levels and concentrations of funds, there is a need to consider the indices used to identify need and determine the allocation of funds. In the past it was felt that of the various ways of allocating funds for high-need students, the most effective method was to make use of an index of need based on a composite of indicators: indigenous enrolments, densities of unemployed parents, parents on income support, single parents, parents in employment, mean parental occupational status, and mean educational attainment of parents. While all of the categories that comprise the PSFP index are correlated with indicators of achievement, not all of the categories have the same strength of relationship and not all are equal in importance as measures of SES. For example, traditional measurement of SES does not include ethnicity or race. Separate funding is provided to meet the needs of indigenous students and while density of indigenous enrolments is linked independently to student outcomes, race is not a measure of SES and therefore should not be included in the PSFP index. The results of the analyses presented in this report show that a composite measure is not necessary and may not improve the targeting of real need over a single index. The results reveal that in terms of achievement, the variable contributing most to explaining differences in how schools perform is social intake as measured by family occupational status. Mean educational attainment is also very influential. In terms of achievement both measures provide strong predictability, while most other measures do not provide any additional independent predictive power.

It is proposed that the composite PSFP Index be replaced by a single measure of family occupational status to assess equity funding needs. Data on the occupations of parents, at least for entering cohorts, are being collected annually from 2005 as part of the annual school census for all schools. This could be used to develop an occupational index scale to replace the current PSFP index which is reliant on a quadrennial survey, a survey that is voluntary and one in which many schools do not participate. Further, the survey is expensive to establish and manage. Employment status should be incorporated into the occupational status scale. One option would be to use a scale designed with the following weights:

- 0.00 for students whose parents have professional or managerial occupations
- 0.25 for students whose parents hold clerical and similar white collar occupations
- 0.50 for those from skilled and semi-skilled manual backgrounds
- 0.75 for those with parents in unskilled manual occupations
- 1.00 for those whose parents are unemployed/pensioners.

ESL

The current ESL component of school funding is directed at schools with large numbers of students from language backgrounds other than English requiring English as a Second Language (ESL) support. There are several issues with
current funding arrangements. One is that the use of ESL scales to allocate ESL students to phases (degree of need) is not standardised across schools. Students identified as Phase 1 and 2 learners in some schools, may not be classified in the same way as in other schools. In other words, the current ESL scheme does not recognize adequately differences in learning needs. More accurate screening processes and tools for determining students’ proficiency in English and literacy in their dominant language are essential. This would help identify differences in levels of need across groups of ESL students. Schools need to develop effective identification and assessment processes, as well as common identification, assessment, and monitoring tools.

One option would be to strengthen and improve the current use of ESL scales. This would require the development and implementation of an extensive moderation-style process in which there are inter-school comparisons of the judgements leading to the allocation of ESL students to phases. Professional development, regional involvement and auditing would all be necessary components of the process. The auditing should ideally be undertaken by a body independent of individual schools. An alternative option would be to employ methods similar to those used in Canada and the United States where standardised instruments are used to assess English-language proficiency as well as proficiency in the home language to provide a measure of learning need. Funding could be provided to schools in a scaled way based on the numbers of students who fall below a threshold of proficiency. The level of funding per student would be weighted according to the level of proficiency to separate funding assistance for high and low need ESL students.

A second issue in relation to current funding arrangements for ESL is that the numbers of ESL students have grown in recent years. At the broadest level, numbers have increased from 110,719 students in 1996, or 14.7 per cent of total government school enrolments, to 127,932 students in 2004, or 17.1 per cent of all students. The growth in numbers of ESL students has not been accompanied by an increase in resources. The number of ESL equivalent full-time positions has remained the same since 1993. If the number of positions in 1996 was deemed as adequate to meet demand, then the equivalent number of positions needed to sustain the ESL effort would require an increase of 14.9 per cent in ESL staffing positions, based on the absolute increase in numbers of ESL students. The growth in ESL numbers supports the call for an increase in resources to meet the larger demand. However, an assessment of the need for further teaching positions needs to take account of other issues, issues that are outlined below.

A third issue in relation to ESL funding arrangements is that there has been a ‘gentrification’ in the ESL population over time. ESL students in increasing numbers have been enrolling in schools located in middle class areas. This has shifted the relative distributions of ESL students. The changes do not mean a fall in the numbers of ESL students in low SES schools. On the contrary, the numbers of ESL students in low SES primary schools (schools in the lowest quintile of SES) have grown from 13,744 to 14,589. The growth, however,
has been dwarfed by the growth in high SES schools where the numbers have swelled from 14,941 to 21,386. The changes have affected the allocation of resources. In 1996, low SES primary schools were allocated 21.6 per cent of the equivalent full-time ESL teaching positions (across all primary schools). In 2004, the percentage had fallen to 18.0 per cent. At the same time, the allocation for high SES primary schools increased from 19.5 to 22.7 per cent. The apparent ‘gentrification’ of parts of the ESL population has occurred in conjunction with several other changes linked to changes in the language background origins of students. The growth in ESL student numbers in middle class schools has removed ESL resources from low SES schools. But it is the low SES schools that continue to have the largest enrolments of ESL students requiring the most intensive assistance. Low SES schools serve by far the largest numbers of students from Pacific Island language backgrounds and this population has almost doubled in the last 10 years. They also serve disproportionate numbers of children from Middle Eastern families, particularly Lebanese, Maltese and Turkish students. The proportions of refugees are also large in low SES schools, particularly in South West and Western Sydney. For many students from these backgrounds the ESL needs are intensive because they are coupled with low levels of educational achievement and higher levels of poverty with fewer educationally-supportive family resources.

A fourth and linked issue is that school-level achievement is influenced by the densities of ESL students. There is a very uneven distribution of ESL students across New South Wales public schools. Schools with the highest densities of disadvantaged students more often have the highest concentrations of ESL students with additional learning needs associated with low achievement, poor English language skills and little formal schooling prior to arriving in Australia. Schools with the lowest densities of disadvantaged students more often have the ESL students with low need, from language backgrounds associated with high levels of achievement in school. The distributions have an impact on performance. For low SES schools, the higher the density of ESL students, the lower the levels of achievement, after controlling for other intake factors. By contrast, in high SES schools, the density of ESL enrolments has a significant independent effect, but the effect is positive meaning that in middle class schools the higher the density of ESL students the higher the levels of achievement, all else equal. It suggests that ESL resources as they are currently distributed are not doing enough to counteract the effects of the particular gaps in learning needs associated with different groups of ESL students. They also imply that the re-distribution of resources to middle class schools associated with the growth in ESL students from the mid-1990s may not be targeting in the best way the levels of teaching and learning needs associated with the ESL student population.

Funding for ESL should be determined and allocated on the basis of assessed need, identified through a more rigorous system of standardised assessment than is currently used. Accurate (standardised) assessment of individual learning needs in relation to ESL would help identify real levels of resource
needs and provide the foundation to fairer and better targeted allocation across schools.

In the absence of such a process, or until improvements in the use of ESL scales can be achieved, there is a need for the use of a weighting factor to address the additional educational needs of students from refugee backgrounds (more often in low SES schools) as well as those from backgrounds where English language skill needs are combined with low educational achievement and poor learning skills (also more often located in low SES schools). Some of the assessment of ESL need in other countries, such as the United Kingdom, is based on social need as well as English language skill levels. This is because irrespective of their language background and skill levels children from some non-English language backgrounds tend to achieve very well in school while some others do not. In the United Kingdom, students from African, Arabic and Bangladeshi language backgrounds tend to achieve poorly in school, while those from Indian and Chinese language backgrounds tend to achieve highly. In New South Wales, students from Arabic-speaking, Turkish, Maltese and Pacific Island backgrounds generally do less well in terms of educational outcomes and employment than other groups do (New South Wales Public Education Inquiry, 2002). Those from Chinese, Northern European and Indian backgrounds tend to do well. These language backgrounds tend to be concentrated differently according to the social intake of schools.

One option to address these issues is to weight the ESL full-time equivalent teacher allocation according to the social intake or level of disadvantage of schools. If schools are grouped into quintiles based on the postcode level SEIFA-derived SES scores for disadvantage, a scale that covers all schools, then the following weights could be used:

<table>
<thead>
<tr>
<th>Level Index</th>
<th>Level Description</th>
<th>Proposed weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lowest quintile of SES based on catchment</td>
<td>1.2</td>
</tr>
<tr>
<td>2</td>
<td>Lower middle quintile of SES based on catchment</td>
<td>1.1</td>
</tr>
<tr>
<td>3</td>
<td>Middle quintile of SES based on catchment</td>
<td>1.0</td>
</tr>
<tr>
<td>4</td>
<td>Upper middle quintile of SES based on catchment</td>
<td>0.8</td>
</tr>
<tr>
<td>5</td>
<td>Highest quintile of SES based on catchment</td>
<td>0.7</td>
</tr>
</tbody>
</table>

The effects of applying the weights, based on allocation of teaching resources, and compared to teacher allocations arrangements of 2004, are presented in Table 9.4.

The re-distributions of ESL resources based on the proposed weights provide additional resources to low SES schools in recognition of the higher concentrations of refugees and ESL students from backgrounds associated with higher levels of additional educational need.
Table 9.4  Impact of changes in funding of ESL students based on the proposed weights: EFT teacher allocations for primary and secondary schools

<table>
<thead>
<tr>
<th>SES quintile</th>
<th>Allocation in 2004</th>
<th>Allocation after applying new weights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>247.2</td>
<td>296.6</td>
</tr>
<tr>
<td>Lower middle</td>
<td>71.4</td>
<td>78.5</td>
</tr>
<tr>
<td>Middle</td>
<td>65.4</td>
<td>65.4</td>
</tr>
<tr>
<td>Upper middle</td>
<td>98.0</td>
<td>88.2</td>
</tr>
<tr>
<td>Highest</td>
<td>125.0</td>
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<tr>
<td>Total</td>
<td>607.0</td>
<td>616.3</td>
</tr>
<tr>
<td><strong>Secondary schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>69.6</td>
<td>83.5</td>
</tr>
<tr>
<td>Lower middle</td>
<td>33.2</td>
<td>36.5</td>
</tr>
<tr>
<td>Middle</td>
<td>28.2</td>
<td>28.2</td>
</tr>
<tr>
<td>Upper middle</td>
<td>41.8</td>
<td>37.6</td>
</tr>
<tr>
<td>Highest</td>
<td>83.2</td>
<td>58.2</td>
</tr>
<tr>
<td>Total</td>
<td>256.0</td>
<td>244.1</td>
</tr>
</tbody>
</table>

*Other equity programs*

The Country Areas Program (CAP) provides support to students, schools and communities in geographically isolated areas in recognition that they have less access to educational services and opportunities than do students schools in metropolitan centres. The aims of CAP are to help schools and school communities improve the educational outcomes and opportunities of students who are educationally disadvantaged because of their geographical isolation so that their learning outcomes match those of other students. The targeting of CAP funding is linked to aspects of location and access to services. It is focused on smaller schools, but can cover a range of socio-economic characteristics. As a result, funding is not necessarily linked in any way to social disadvantage, school achievement or academic performance. While CAP funding may be used in conjunction with other programs to address need as part of a ‘whole-school approach’, there are many CAP-funded schools that do not qualify for funding from other programs. For this reason, CAP funding can not really be treated as part of a more broad-banded approach. Reviews of CAP suggest that it is working to extend services and provide isolated students and communities with access to services and programs not often available in remote locations.

The literacy and numeracy programs – the Early Literacy Initiative (ELI), *Count Me In Too*, and Reading Recovery – target improvements in literacy
and numeracy skill levels through intervention in the early years. This is based on the view that early intervention is critical to reducing gaps in skill levels so that all students have a solid common platform of literacy and numeracy skills on which they can build as they ascend school. Evidence available for this review was not adequate or appropriate for evaluating the effectiveness of the programs. However, it was identified that both ELI and the numeracy strategy (Count Me In Too), are based on capacity and skill building amongst teachers in disadvantaged schools. High levels of teacher turnover continually undermine the impact and value of the programs. For the programs to be more effective and be free to exercise their full impact, continuity of staffing needs to be addressed.

Addressing systemic or structural barriers to effectiveness

There are systemic or structural factors that seriously limit the potential impact of all of the equity programs. The most pressing is the quality of teachers and stability in teaching staff. All of the equity programs have successfully contributed to the development and implementation of initiatives and innovations that help build skill capacity among teachers and staff – strategies directly designed in many instances to improve instructional conditions and the quality of teaching and learning. It is the development of the teaching skill base that is fundamental to gaining improvements in effectiveness and outcomes through improvements in the quality of teaching and learning. But much of the gain is lost through the continual exodus of teachers just at the points when it might be expected for the staff development to have an impact. The continual loss of staff leads to schools having to recruit high numbers of inexperienced, casual and overseas trained staff. Funds then have to be used for professional development and skill capacity building in a continuous way — having to pay again and again to build capacity without retaining the benefits it should bring.

Staff turnover rates, averaging 35.3 per cent in PSFP schools in 2004, continue to work against the value of programs such as PASP, ELI, CAP and PSFP. High staff turnover means that the benefits of professional development and capacity building, particularly delivered through new and innovative programs designed for disadvantaged students, do not stay with the school.

It is this issue that continues to seriously undermine the whole equity effort in NSW. Fundamental to any framework of change will be the need to promote continuity in teaching staff in disadvantaged schools and the recruitment of quality teachers. Levels of casualisation and the usage of temporary and overseas-qualified staff need to be reduced. Addressing these issues alone may do more to reduce achievement gaps and raise levels of achievement in disadvantaged schools than any single equity program. Continuity and stability in staffing are essential ingredients to a robust equity funding framework.
During the review consultations, several options were proposed for promoting lower rates of staff turnover and the recruitment of quality teachers. One was for a salary allowance (income or pay loading) specifically for teachers located in disadvantaged and hard-to-staff schools. Another proposal was for substantial increases in the numbers of senior (leadership) positions within disadvantaged schools, providing inducements to retain staff and attract skilled teachers. Such proposals need to be considered to address the current problems that affect the staffing of schools in disadvantaged areas.

**Equity compact**

The options and proposals outlined in this section involve a major commitment on the part of government to raising achievement levels and reducing gaps in achievement. Such a commitment needs to be matched by the schools benefiting from it through a stronger commitment on their part to use the funds and implement programs diligently and appropriately. This could be achieved through an Equity Compact in which schools provide an agreement or undertaking to use the funds for specific or targeted programs. Such a Compact would articulate expectations for improvement, including monitoring and evaluation processes, while also setting out the Government’s undertaking to increase resource standards and service support.

There are three elements integral to implementing an Equity Compact. The first is to fulfil the purposes of accountability. Agreements should be provided by schools on how funds are to be used, the monitoring and reporting on progress and actual use of funds, and assessment of outcomes. The reporting on how funds are used and what outcomes are achieved is fundamental to accountability for the provision of public money in relation to equity funding. The second element is related to the development of knowledge around effective policies and programs at a school level. Agreements provided by schools on the use of funds will help deliver, through agreed monitoring and reporting of outcomes, better understanding across the system of what works and what doesn’t work — of the most successful programs for particular groups of students. This leads into a third element which is to make better use of such knowledge by schools at each new round of funding, with the requirement that schools continue to identify the programs to be implemented using equity funds. This would help to ensure that in the future equity funding is more clearly and directly linked to provision of programs demonstrating positive learning effects. A program basis for equity funding would provide greater leverage as well as greater certainty in relation to targeting.

Further work is needed to develop the role of an Equity Compact and the way it would work. This could be done through a project which would involve schools, regions and the Central Office of DET collaboratively developing the features, procedures and elements of what would comprise an Equity Compact.
References

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