



AUSTRALIAN CATHOLIC UNIVERSITY



ISSUES PAPER 1: EQUITY and EDUCATION

Prepared by the Public Policy Institute of Australian Catholic University for the
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1. Background

The Public Policy Institute (PPI) of the Australian Catholic University has been commissioned by the Independent Schools Council of Australia to prepare a series of papers to inform discussion about schooling policies in Australia, as a contribution to the Australian Government's Review of Funding for Schooling. The focus of the first paper is equity in education. Other papers will discuss choice and values and parental contributions to education.

The analysis of current research evidence and proposed policy options in these key areas of public debate are the independent work of the PPI. The views in these papers are not necessarily the views of the independent schools sector.

2. Why equity?

Equity is at the centre of public debate in Australia about school policies and resourcing and is the main polarising issue between government and non-government school supporters. In much of the debate, the non-government school sector is wrongly characterised as fostering inequality, segregating society on socioeconomic grounds, preserving privilege, increasing the growing gap between the haves and have-nots and marginalising the public school sector. This characterisation, which is based on a dated comparison of a small number of elite private schools with local public schools in low socio-economic areas, is out of step with the current diversity of the non-government sector, attracting 34 per cent of Australian school students. It also ignores research evidence that establishes the significant contribution non-government schools make to creating a more equal and productive Australian society and to improving the life chances of students from disadvantaged backgrounds.

Non-government schools are deeply committed to equity and are effective in achieving both equity and quality objectives, the dual goals agreed by Australian governments.

This paper discusses the different meanings and interpretations of equity in education and the expectations on all schools to create a more equitable society. It reviews research evidence on:

- various interpretations of equity in the education debate;
- equity and quality outcomes of Australian schools;
- expectations of schooling in relation to both equity and quality;
- social diversity of Australian society and schools; and
- approaches that have proven to be effective in improving equity.

What this evidence shows is that:

- directing public investment to strategies, approaches and programs that lead to high quality educational outcomes, whether in the government or non-government sector, is a means of reducing the dependence of student achievement on social background;
- investing additional resources in disadvantaged schools measured by low socio-economic status does not in itself make a difference to equity outcomes. Investing in quality education is the best investment in equity; and
- overcoming social disadvantage through education is more effective when schools have the flexibility to respond to the educational needs of each individual student, a clear focus on quality and achievement, strong systems of accountability to parents and government, and the capacity to recruit high quality staff.

3. Different concepts of equity in education

The concept of equity in school education is poorly defined. Equity means different things to different people, resulting in debate that is often at cross purposes, leaving little prospect for moving beyond long-entrenched positions. The non-government school sector pursues equity through a commitment to providing the opportunity for all students to achieve their full potential.

Equity as fairness

The most widely understood and accepted meaning of equity in education is in the sense of *fairness*, defined as making sure that personal and social circumstances are not obstacles to achieving education potential. This implies that specific instances of disadvantage will be addressed and overcome.

Equity as minimum standards

Another common approach equates equity with *equality*, which can mean either a *basic minimum standard* for all – circumstances of birth should make no difference and every student, regardless of social background, should have equal prospects for educational achievement – or *equal outcomes* for all, regardless of social and family background.

Equity and excellence

Official documents, commentators, researchers and advocates adopt varying conceptions of equity. For example:

The *Melbourne Declaration on Educational Goals for Young Australians* (December 2008) couples equity and excellence as the twin primary goals for schooling. This is expanded to encompass:

- providing access to high quality education without discrimination
- addressing Indigenous disadvantage
- ensuring that socioeconomic disadvantage ceases to be a significant determinant of educational outcomes
- reducing the effects of other sources of disadvantage
- contributing to social cohesion
- encouraging high expectations
- promoting a culture of excellence.

The *Melbourne Declaration* (2008:12) therefore connects the two goals of equity and excellence and charges Australian governments to pursue “not only equality of opportunity, but also more equitable outcomes.”

Under the *National Education Agreement* signed by the Commonwealth and States and Territories in 2008, all jurisdictions are answerable for meeting these goals, for delivering high quality schooling that will promote social inclusion and reduce the educational disadvantage of children, especially Indigenous children. The main policy directions are integrated strategies for low socio-economic status (SES) school communities and ‘Closing the Gap’ in educational outcomes between Indigenous and non-Indigenous students.

Equity and disadvantage

The COAG Reform Council (COAG RC), which reports annually on progress towards these agreed outcomes, defines educational disadvantage as occurring:

...when the benefits of education are not evenly distributed within a population, where there are barriers to access and participation and when expected outcomes from education differ for particular individuals or groups.
(COAG RC 2010: 56)

The Commonwealth’s whole-of-government *Social Inclusion Agenda* emphasises the multidimensional nature of social exclusion. All Australians, especially the disadvantaged, are expected to have access to high quality education, housing, health, employment and other services. The whole-of-government approach recognises the overlap of socio-economic disadvantage with other sources of disadvantage – location, Indigeneity, health, disability, homelessness and unemployment.

The *Review of Funding for Schooling Discussion Paper* (April 2010:2) restates the commitment from all levels of government to:

... building a world-class education and training system in Australia so that all Australian school students acquire the knowledge and skills to participate effectively in society and employment in a globalised economy.

Among other objectives, high quality schooling is expected to “deliver equality of opportunity in a democratic society” and “promote social cohesion through sharing values and aspirations underpinned by knowledge and tolerance.” The paper states that socioeconomic factors play a stronger role in determining student outcomes and life chances than they should in Australia and envisages a system of schooling, “in which every child is able to progress and achieve their full potential, whatever their background, circumstances and location.”

The Review’s *Emerging Issues Paper* (December 2010) puts forward several views of “*equity of education outcomes*” including the:

- Review Panel’s own view, that “*differences in student outcomes should not be attributable to differences in wealth, income, power or possessions;*”
- Australian Government’s view, that schooling could be a vehicle to address social disadvantage by lifting student participation and improving the quality of education that is available for all; and
- Views from meetings with educational groups, that educational disadvantage should be addressed wherever it occurs, emphasising the multiplier effect of disadvantage.

The **OECD** (Policy Brief 2008) recognises two dimensions to equity in education and sees them as intertwined:

- *Fairness*, which basically means that personal and social circumstances such as gender, SES, ethnic origin should not be obstacles to achieving educational potential; and,
- *Inclusion*, ensuring a basic minimum standard of education for all, so that everyone should be able to read, write and do simple arithmetic.

A more **individual merit-based** approach is adopted by economist Fred Argy who interprets equity as:

... a situation where everyone is able to develop their full potential irrespective of the original circumstances of their birth and childhood and where a person’s economic prospects are determined overwhelmingly by their own ability and character (see Arthur 2006).

While not ignoring the advantages some families are able to pass on to their children, Argy focuses on the opportunity education provides for well-motivated, capable and hard-working people to get ahead in life and achieve their maximum potential, no matter what their social background. He distinguishes between **formal equality of opportunity**, which calls for only minimal intervention from governments to avert discrimination, and **substantive equality of opportunity** where governments may need to actively intervene if children are not to be unduly impeded by lack of parental wealth, status and power in achieving their full potential.

Social scientist Peter Saunders (2002) takes the **meritocratic view** further, believing that “*people should be properly rewarded for their talent and ability and for the personal effort that they make to improve their situation.*” He sees this as grounded in the idea of equality of opportunity but not equality of outcome and argues that economic outcomes are largely the result of hard work and talent:

Social background and the associated advantages or disadvantages count for nothing, only talent and ability are the yardsticks of success.

He characterises egalitarianism as requiring some “competitors” to be pulled back so that all contestants cross the line together:

Egalitarianism stipulates that the effort of the individual is unimportant as everyone must be equal at the end of the day.

As the Australian Education Union (2011) sees it, at the “*heart of the equity problem*” in schooling:

... is the increasing concentration of students from wealthier families in private schools and those from low SES families in public schools – a segregation that is the direct result of the market ‘reforms’ of successive governments. The increased under-funding of our public schools and privatisation of education has led to poorer overall results and greater inequality. The gap between students from low SES families and those from high SES families is now the equivalent of up to three years of schooling. The gaps in achievement between metropolitan and remote area students and Indigenous and non-Indigenous students also remain unacceptably large.

Equity outcomes

While it is clear from the above that schools are expected to deliver both quality and equity, the public discourse on schooling leans heavily on the equity side and in particular, on the limited progress made by schools in addressing disadvantage. Conventionally, the equity outcomes of schooling are measured by linking performance with factors such as Indigenous status, disability, English language background, gender, location (metropolitan, rural or remote) and above all, socioeconomic status. SES and Indigeneity are the most commonly used measures. Typically, outcomes in the non-government sector are higher than in the government sector and this tends to be explained in terms of the greater numbers of disadvantaged students in the government sector.

Some outcomes which show the basis for significant concern about equity outcomes are summarised below:

- In the NAPLAN 2009 tests, students with parents with the highest levels of education attainment (proxy for higher socio-economic status) achieved the highest outcomes, with very low proportions of students at or below the national minimum standard. Parent attainment of Year 12 seems to be a threshold qualification, below which the Reading and Numeracy achievement of students is significantly worse. Achievement increased as the level of parental education attainment increased (COAG Reform Council 2010);
- The COAG Reform Council found the *Index of Community Socio-Educational Advantage* (ICSEA) used on the My School website to be a strong predictor of reading and numeracy achievement – higher scores on ICSEA were associated with higher levels of achievement and ICSEA accounted for large proportions of variation in reading and numeracy scores at all year levels in all jurisdictions;
- The 2009 PISA results for reading, numeracy and scientific literacy also show the higher the level of socioeconomic background, the higher the student performance (Thomson et al 2010);
- The *National Report on Schooling in Australia 2008* showed that Year 12 completions varied by socio-economic status, locality and sex. Nationally, 58 per cent of low SES students, 63 per cent of medium SES students and 77 per cent of high SES students completed Year 12. Female students were more likely to complete Year 12 than male students – 72 per cent, compared with 59 per cent. Students in metropolitan areas (68 per cent) were more likely to complete than students in remote areas (51 per cent);
- The COAG Reform Council (2010) found:
 - The national gap between Indigenous and non-Indigenous achievement in literacy is around 20 per cent in Year 3, 26 per cent in Year 5, 22 per cent in Year 7 and 27 per cent in Year 9. The gap in numeracy achievement is similar;
 - In 2008, the national Year 12 attainment rate for Indigenous students was 45.4 per cent compared with a non-Indigenous rate of 85 per cent;
 - Indigenous attendance does not equal or exceed non-Indigenous attendance in any jurisdiction.
- In the 2009 PISA results for reading literacy, the OECD average was 19 per cent of students performing below level 2 or below – 14 per cent of non-Indigenous Australian students performed below this level, and 40 per cent of Indigenous students.

POLICY IMPLICATIONS – Understanding equity

The challenges for schools in pursuing equity are twofold:

- **To provide the best opportunities for all students** to achieve their full potential;
- **To act to address instances of disadvantage** which restrict educational achievement.

In Australian schools, these disadvantages are most likely to stem from social or family background, disability, Indigenous status or location or, more commonly, a combination of these.

The challenge for school funding policies is to resource all schools in such a way that they are well placed to respond to individual students' educational needs.

Progress towards greater equity is measured by the achievement of the knowledge and skills needed for effective participation in society and employment. While research has long shown a strong association between school achievement and family background, **recent research evidence shows that non-government schools add value to student performance regardless of social background and contribute to greater equity.**

4. What outcomes are expected from schooling?

Non-government schools, enrolling more than one-third of Australian students, are a critical part of the high quality schooling system that is essential for Australia's future prosperity. This prosperity depends on economic growth and national productivity which in turn depends on quality outcomes from schooling. Accountability for achieving these outcomes is generally assessed in terms of two dimensions:

- *Foundation skills* as measured by performance in national and international skills tests; and,
- *Quality improvements* as measured by achievement at the highest level of proficiency in national and international skills tests, and end of school achievement.

The broader outcomes expected of schooling – personal development and well-being – and non-cognitive attributes like motivation, perseverance, self esteem and self control are recognised as important, but do not feature in accountability measures as they are not readily measured.

Rationale for public investment

The extensive public investment in education is driven by a human capital agenda which connects the skills and knowledge of the population with national productivity and economic growth.

A strong body of research evidence over time shows how differences in education levels explain the majority of the differences in economic growth rates across OECD countries. Conversely, “performance deficits of countries, measured by average scores on PISA tests and other international tests of mathematics and science, identify serious shortfalls in economic performance relative to economic possibilities” (OECD 2010a:10).

The Australian Government has acknowledged this connection between education investment and both national and individual well-being:

The more we develop the skill level of each worker, the higher the potential productivity of the labour force. A highly educated and skilled workforce supports innovation, the implementation of technological advances and the accumulation of physical capital ... The level of educational and skills attainment also significantly influences an individual's future labour force participation and earnings potential. Australia must continue to build on our skills base to maintain a higher standard of living as the population ages. (Treasury 2010:12)

Economists enumerate the public and private benefits of education as follows:

- As educational attainment improves, GDP increases as a result of higher labour productivity, as well as effects beyond direct employment.
- Increased levels of education lead to ongoing sustainable economic growth. To the extent that knowledge, ideas and techniques build on each other, they provide the basis for improvements in productivity and economic growth.
- Higher overall levels of education in a population:
 - reduce dependency on social welfare
 - are associated with better health outcomes and higher levels of institutional trust and civic cooperation and lower levels of crime and imprisonment
 - contribute to greater efficiency in personal consumer and investment behaviour
 - lead to greater investment in the human capital of each child and higher levels of participation in the paid labour force
 - encourage business innovation that depends on knowledge and literacy and institutional trust
 - support democracy and may lead to better public policy.

Recent research draws a distinction between *education attainment*, measured in terms of added years of schooling, and *education quality*, measured by academic achievement. Hanushek (2009) and Hanushek and Woessmann (2010) for the OECD have used economic modelling to relate cognitive skills to economic growth in developed countries. They find that it is higher education achievement that leads to bigger returns:

... higher cognitive skills offer a path of continued economic improvement. . . relatively small improvements in the skills of a nation's labour force can have very large impacts on future well-being", and "the potential gains from improving schools within developed countries appear truly enormous.

It is the quality of learning outcomes that makes the difference.

Hanushek and Woessmann *et al* study and measure the differential effects of raising quality, both by raising average performance and by bringing everyone up to a minimum skill level. They find that both have positive effects on economic growth (Woessmann *et al* 2007). Both achievement of the foundation skills needed to function effectively in modern society, and achievement of the higher level skills and knowledge which contribute to innovation and national competitiveness, are important dimensions of quality schooling.

In Australia, the Productivity Commission has also underlined the importance of education achievement over attainment and sees improvement in basic literacy and numeracy skills as the key to raising productivity and participation in Australia. The Commission estimates that, together with improvements in early childhood education and higher educational attainment, increases in literacy and numeracy could raise Australia's aggregate labour productivity by up to 1.2 per cent in 2030 (Treasury 2010).

These findings on the effectiveness of investment in education have important implications for equity.

Measuring and explaining the outcomes of schooling

Shifting the focus to quality and achievement brings attention to the declining outcomes of Australian students on standard national and international measures. Leigh and Ryan (2009) have documented a fall in students' literacy and numeracy test scores over the long term and have shown that Australia's experience is similar to that of other OECD countries in this respect. They highlight that increased spending on education does not necessarily result in improved education outcomes.

The 2009 PISA results also show that Australia's comparative educational performance for the foundation skills is declining. Most of this decline has occurred through a sharp drop in the proportion of students attaining the highest level of proficiency, without a compensating rise at the lowest levels. Australia was the only high performing country to show a significant decline. While the nation rated

significantly above the OECD average, on all measures, Australia's performance was exceeded by up to eight other countries, and in every case, Australia was well below the top performer. Although the OECD average for reading literacy has not changed between 2000 and 2009, ten countries have significantly improved their performance over time while five countries, including Australia, have declined significantly. The proportion of Australian students reaching level 5 or above in literacy declined from 18 per cent to 13 per cent. In numeracy, the proportion of students reaching level 5 or above declined from 20 per cent to 16 per cent.

The PISA results confirm the link between achievement and socio-economic status – the higher the level of socioeconomic background, the higher the student performance. The association between socio-economic background and performance for Australian students is similar to that found on average over OECD countries, with Australia classified as a high quality/average equity country. This 2009 result marked a change from 2003 when Australia was rated as a high performance/low equity country with a student's socio-economic background a stronger predictor of achievement than in other developed countries.

In presenting the 2009 PISA results, governments have expressed their concern with the "long tail of underachievement" more than with the decline at the top or with Australia's declining position relative to other OECD countries. The "long tail" is associated with Indigeneity, location and low SES.

The close link between social background and education achievement manifested in the PISA results confirms the findings of decades of research. Since the 1966 Coleman Report in the United States, researchers have found that family background characteristics explain a larger share of the variation in student performance than school characteristics. As Barry McGaw observed in discussing the PISA results of 2006, the strong evidence showing the relationship between social background and student performance could well lead to a counsel of despair. Education may seem to be impotent if it were not for the many individual exceptions and for the evidence that some countries are more successful at ameliorating the impact of social background than others. If socioeconomic status or innate capacity were to entirely explain academic performance, it would be pointless to think about investing in schools to raise educational outcomes. There is, however, a growing body of evidence about the particular kinds of investment and particular school factors that can make a difference.

POLICY IMPLICATIONS – Investing in outcomes

Public investment in quality educational outcomes is driven by the association between levels of educational achievement and economic growth and productivity. Differences in education levels explain most of the differences in economic growth rates across countries. Nations benefit economically and socially from an educated and skilled population and individuals benefit through higher incomes and better health.

Evidence is now available to show that it is quality outcomes, as measured by the achievement of foundation skills and higher levels of proficiency, rather than quantity of education, as measured by participation and retention rates that make the difference to both national and individual well-being. The evidence also clearly shows that increased resources do not in themselves lead to better outcomes for any group.

A body of evidence is building up to show that if resources are targeted at quality outcomes and directed at approaches and programs that have proven their effectiveness, the result will be higher achievement for all.

Non-government schools have been effective in achieving the high quality educational outcomes on which economic growth and national prosperity rely. Funding policies supporting school choice have underpinned this result.

5. Achieving quality with equity

The success of non-government schools in achieving high quality outcomes is conventionally attributed to the nature of student intakes, in terms of social background and academic ability. This characterisation of non-government schools is inconsistent with the broad social composition of the sector and with evidence about the value non-government schools add to students' performance.

Schools and Australian society

Schools are a major social institution, reflecting the society in which they operate. At the same time they are used by government as an instrument for social change to achieve particular economic and social objectives. Schools are expected to ameliorate social inequalities and contribute to a socially cohesive society at the same time as they build the skills and knowledge of the population.

Australian society is typically characterised as egalitarian, with relatively high income and social mobility. While this situation has changed little over time, economists highlight the many barriers to upward mobility faced by Australians from low income backgrounds. They draw attention to evidence that underlying structural inequalities

in education, health, employment, housing and location are increasing and the fact that wealthier Australians are improving their incomes relative to low and middle income earners, and make a case for more investment in early childhood development and improved services.

Using the Gini Coefficient, an international measure of inequality, Australia is considered to have a 'moderate level of inequality' although there has been a gradual increase over the past decade. A value of 1 on the Gini Coefficient represents the highest level of inequality and a value of 0 represents perfect equality. In 2007–08 Australia's Gini Coefficient was 0.331, making it more "equal" than the US, UK and Japan but not as "equal" as France, Germany and the Nordic countries.

The social composition of schools in each school sector mirrors society, although with some well-documented differences between sectors. The application of ICSEA measures to all schools shows that each sector has a broad spectrum of socioeconomic status, from the lowest score of less than 600 to the highest scores of 1200 or more. The average ICSEA value is 1000 and most schools have an ICSEA score between 900 and 1100. For the government sector, the average is 988.16; for non-government schools, the average score is 1027.93.

The SES model distributes funding to non-government schools on the basis of SES scores ranging from 65 to over 130. Very few independent schools have SES scores below 85 (attracting maximum public funding) or above 130 (attracting the minimum public funding). Some 75 per cent of independent schools have an SES score of 107 or less. The average SES score (including independent Catholic schools) is 101.

A snapshot view of the composition of school intakes for all sectors is provided by the 2009 national rollout of the Australian Early Development Index (AEDI), a population measure of children's development and well-being as they enter school. The AEDI found that while the majority of Australian children are developmentally on track, 23.5 per cent of Australian five-year-olds are developmentally vulnerable in one or more domains (five domains were measured: physical health and wellbeing; social competence; emotional maturity; language and cognitive skills; communication skills and general knowledge). Some 11.8 per cent children were developmentally vulnerable in two or more domains. Higher vulnerability is linked to lower socioeconomic status (31.9 per cent of vulnerable children are in the lowest SES quintile compared with 16.1 per cent in the highest) and with being a boy, Indigenous, not proficient in English, or living in a very remote location. These results demonstrate that the factors recognised as contributing to low achievement in national and international testing are present on children's entry to school.

Investing early

The AEDI results build on the large body of recent research which has established beyond question the significance of early intervention if real differences are to be achieved in the social and educational outcomes for socially disadvantaged individuals and groups. Skills and abilities are known to have an acquired character – they are affected by environments, investment and genes – and they differ in their malleability at different ages. The earlier the investment, the greater the return, and early investments feed into later investments.

Parallel to findings from studies in neuroscience, which show the importance of early brain development for children's health, well-being and capacity to learn, Nobel prize winning economist James Heckman has intensively researched the economics of investing in early childhood. Heckman and Masterov's research (2004:3) shows that:

Early environments play a large role in shaping later outcomes. Skill begets skill and learning begets more learning. Early advantages cumulate; so do early disadvantages.

Prevention is more efficient than treatment later. The costs of interventions such as school-based reading recovery programs are higher and their effectiveness less as children get older. In extensive work on the quality and competence of the US labour force, Heckman has found that a major contributor to the failure to improve the competence of the labour force over a 25 year period is the lack of investment in early child development. As the period of early childhood development sets cognitive and non-cognitive characteristics that are important for adult productivity, the greatest return on investment in human development is in the early pre-school years.

Both cognitive and non-cognitive abilities are shaped early in the life cycle and differences in abilities persist. Heckman *et al* (2006: 413-414) underline the importance of these non-cognitive attributes for success in life and show how:

... differences in these abilities are persistent, and both (that is, cognitive and non-cognitive skills) are crucial to social and economic success; gaps among income and racial groups begin early and persist.

The return on investments in schools and in adult learning – although still essential for their benefits to individuals and society – is shown to be smaller than the return on early childhood development.

On productivity grounds alone, it appears to make sound business sense to invest in young children from disadvantaged environments. An accumulating body of evidence suggests that early childhood interventions are much more effective than remedies that attempt to compensate for early neglect later in life. Enriched pre-kindergarten programs available to disadvantaged children on a voluntary basis, coupled with home visitation programs, have a strong track record of promoting achievement for disadvantaged children, improving

their labour market outcomes and reducing involvement with crime. Such programs are likely to generate substantial savings to society and to promote higher economic growth by improving the skills of the workforce.” (Heckman & Masterov 2004: 1)

Economists have also estimated the social costs of poor early childhood development, in relation to behaviour and crime. They estimate that high quality early child development initiatives would reduce the costs of mental health and crime to individuals and society by 50 per cent in 25 years, concluding that:

We cannot afford to postpone investing in children until they become adults; nor can we wait until they reach school age – a time when it may be too late to intervene. Learning is a dynamic process and is most effective when it begins at a very young age and continues throughout adulthood. (Heckman 2000: 50)

Heckman demonstrates that the economic returns to initial investments at early ages are high and that there is no trade-off between equity (targeting programs at disadvantaged families) and efficiency (getting the highest economic returns) provided the investments are made at early ages. There is such a trade-off at later ages.

Investing in both equity and quality

For schooling as for early childhood intervention, there is a substantial body of research that shows that more investment per se is not the answer (McKinsey 2007; Leigh and Ryan 2009; Hanushek and Woessman 2010). As Hanushek and Woessman (2010:33) stress, it is quality provision, not quantity that matters most:

Simply providing more resources gives, according to the available evidence, little assurance that student performance will improve significantly.

The 2007 McKinsey study into the world’s best-performing school systems, based on PISA results, found that despite massive increases in spending per student, the performance of many school systems had barely improved in decades. Analysis of the top-performing school systems led the McKinsey study to conclude that the most important reforms to make a difference in outcomes involve improving the quality of teaching, and targeting support so that every child is able to benefit from excellent instruction:

The quality of a school system rests on the quality of its teachers;

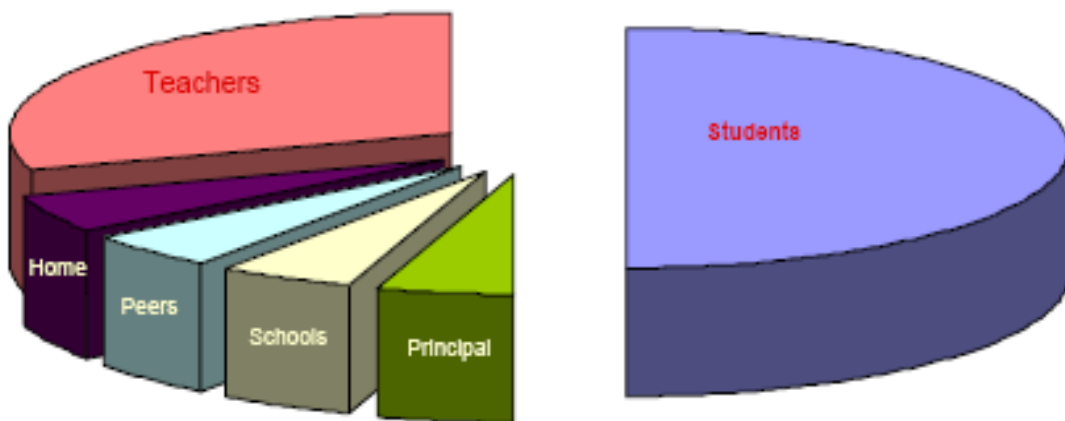
and

High performing school systems ... put in place processes which are designed to ensure that every child is able to benefit from this increased capacity (of high quality teaching). These (high performing) systems set high expectations for what each and every child should achieve, and then monitor performance

. . .The very best systems intervene at the level of the individual student, developing processes and structures within schools that are able to identify whenever a student is starting to fall behind and then intervening to improve that child's performance.

John Hattie's research (2003) shows why this is so (see **Diagram 1**). His assessment is that most of the factors strongly associated with student achievement happen or are caused outside the school. He underlines the need for education policy to focus on those in-school factors that can make a difference to achievement – that is, for the most part, the quality of teaching.

Diagram 1: Percentage of achievement variance



Source: Hattie 2003:3

Hattie found that the major source of variance in student achievement was the students themselves and their innate abilities and predispositions. This accounted for about 50 per cent of achievement. The other major factor outside school, accounting for 5-10 per cent of the variation, was the home environment and the level of expectation and encouragement. Once children are in school however, the major influence on achievement is the quality of teaching, responsible for 30 per cent of differences in achievement. Other in-school factors are the nature of the schools themselves, including principals, finances and size (5-10 per cent) and peers (5-10 per cent).

After teacher quality, there are various school and system-related factors that are associated with better outcomes once the effects of socio-economic background are removed from the equation. As Andrew Leigh (2008) found when he tested the impact of school-related factors on achievement using data from Western Australian schools participating in PISA studies, 'like schools' (on the socioeconomic dimension) do not invariably produce 'like results'. The *My School Website* will allow for such comparisons to be made in all states.

Both Stephen Sedgwick (2008) and Gary Banks (2010) point to the importance of education policy focusing on school achievement and not on socioeconomic status or disadvantage *per se*. They see the need for policy action to improve the literacy and numeracy achievement of all students in order to address social exclusion, as these skills give students their best chance of breaking free of any cycle of disadvantage.

Gary Marks (2009) in Australia and Hanushek and Woessmann (2010) for the OECD have demonstrated school differences in achievement after controlling for socioeconomic background. In Gary Marks' analysis of tertiary entry scores using 2003 PISA results, he finds evidence that, after taking account of SES background, prior achievement and various aspects of student learning, non-government schools "add value" to student performance in the final years of school – by approximately 9 per cent for independent schools and 5 per cent for Catholic schools. While the reasons for this are not clear, one proposition supported by the evidence is that non-government schools promote a more academic environment that lifts student performance, and more for low achievers than high achievers.

Hanushek and Woessman have found that, after controlling for socioeconomic intake, certain attributes in a schooling system – accountability, autonomy and choice – contribute to greater equity, higher achievement and higher outcomes in terms of non-cognitive skills, and reduce the dependence of student achievement on SES.

Targeting investment

The McKinsey study (2007) and various OECD studies are part of a growing body of research that suggests the most effective approach to achieving greater equity in education outcomes is to focus on quality and to target disadvantage. The first target for resources is the early years. Then a rigorous approach is required to address specific education needs, based on evidence about what works.

With the heightened emphasis on performance measurement in education, there has been concern that a rigorous approach is lacking in education programs designed to achieve greater equity and that governments may not have gone far enough in evaluating the various approaches to redressing disadvantage in education (Dowling 2008). Programs designed for the most disadvantaged students often escape systematic evaluation. There is, therefore, a case for looking at the evidence about what works for particular groups in particular contexts and basing policies and programs on that evidence.

In outlining 10 measures needed to achieve greater equity in schooling outcomes, the OECD advocates action in three policy areas – system design, professional practices and resource allocation. In relation to resource allocation, the OECD recommends providing strong education for all with:

- Priority to early childhood and primary levels (as the social gap is established by the time children begin school);
- Resources directed to those students with the greatest needs; and,
- Concrete equity targets.

Having established that social inequalities are persistent and display a pattern of reproduction, and that more resources in themselves will not bring about change, the need is to identify actual barriers and develop strategies to remove or lower these. The OECD points out that no system has been able to achieve sustained high performance without the premise that it is possible for all students to achieve at high levels and necessary that they do so.

The importance of setting the clear expectation that all students should be taught to the same standards is Noel Pearson's (2009) message. Pearson argues the case for disadvantaged students, many of whom are Indigenous, to receive a rigorous schooling that gives them the means to succeed in the wider world.

POLICY IMPLICATIONS – Investing in quality and equity

Both government and non-government schools mirror the diversity of Australian society and its inequalities, although a higher proportion of disadvantaged students attend government schools. Both school sectors are accountable for providing opportunities for students from a wide range of backgrounds to achieve their potential.

The evidence shows that the **investments that make the most difference to quality outcomes also make the greatest contribution to achieving equity**. There is a strong argument for school funding policy to focus on school achievement and policies and programs that are known to raise achievement, rather than to focus on socio-economic status or disadvantage itself. The **investments which have been shown to raise quality and equity** at the same time are:

- **Early intervention** (priority to investment in quality early years education and care)
- **Teacher quality** (the most significant in-school factor influencing students' performance)
- **School-related factors** (eg the learning environment, leadership, focus on achievement)
- **System-related factors** such as **accountability** (performance assessment and publication of information), **autonomy** (flexibility in staffing and in the capacity to respond to students' needs) and **choice** (the incentive to meet parental expectations, in terms of performance and broader outcomes of schooling)
- **Educational strategies targeted** at particular needs, based on evidence about what works for particular students in particular contexts.

These **investments are relevant to both the government and non-government sectors**.

6. Conclusions

Schools, in Australia and internationally, are held accountable for making a contribution to achieving a more equitable society and overcoming disadvantage. The inequalities and disadvantage which exist in all societies tend to be multidimensional. Socioeconomic disadvantage overlaps with other sources of inequality, a fact that is recognised in broad whole of government social inclusion policies that set out to integrate health, education, employment and welfare services.

The substantial investment governments make in education is driven by a human capital agenda which recognises that national and economic productivity is dependent on the level of skills and knowledge of the population. Individual success and well-being are also connected to education outcomes.

There is a growing body of evidence showing that cognitive and non-cognitive abilities are shaped in early childhood and that differences in these abilities persist and determine an individual's life chances. Investment in young children from disadvantaged environments has therefore been proven to be the most effective approach to promoting educational achievement for disadvantaged children and achieving greater social equality.

Comparisons of international testing results and research into effective school systems around the world show that once in school, the most effective approach is to maintain a clear focus on quality, achievement and high expectations for all students. Simply achieving greater participation in education or providing additional resources do not lead to higher achievement or improved equity. A clear focus on quality education, measured by the achievement of foundation skills and higher level performance, leads to better outcomes for all students – even more for low achievers than high achievers. A focus on quality and achievement is the same as a focus on equity.

Certain attributes of school systems, in-school practice and resourcing approaches are associated with improved achievement and greater equity. The most important of these are priority investment in the early years, quality teaching, “accountability, autonomy and choice”, and well targeted and evaluated programs designed to address particular instances of disadvantage. These are recognised attributes of quality schooling, regardless of whether it is delivered in a government or non-government school.

Non-government schools provide a significant return on the government's investment by contributing to national growth and productivity. Characteristics of the non-government sector – a clear focus on quality and achievement, the flexibility to respond to the educational needs of each individual student, strong systems of accountability to parents and government and the capacity to recruit high quality staff – are associated with quality outcomes and these in turn contribute to greater equity.

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