

# What Can Data on Educational Outcomes Reveal Regarding Australian Children's Right to Develop 'To Their Fullest Potential'?

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## Abstract

*Is Australia fulfilling its obligations towards its children, in particular fostering their development to their fullest potential, in accordance with its obligations under the Convention on the Rights of the Child? This article addresses this complex question by elaborating three alternative conceptualisations of the right to development to one's fullest potential, based on the literature on human rights principles, and on the writings of the philosophers John Rawls, Michael Walzer, and Amartya Sen. The analysis suggests that while Australia performs well in comparison with other rich countries according to indicators of educational achievement, disparities in educational outcomes are large, implying that many children fail to realise their right to education to their fullest potential. This is not surprising. More surprising is the contrast between the diligence with which educational outcomes in Australia are measured, and the lack of accurate information on public resource inputs (except at the most highly aggregated levels) to achieve those outcomes. The paper concludes that while the measurement of student outcomes is an important step in the realisation of all Australian children's right to education to their fullest potential, the failure to accurately monitor resource inputs represents an equal failure by Australian governments to protect and promote children's rights.*

## 1 Introduction

Australia, as a signatory to the Convention on the Rights of the Child, has undertaken to recognise children's right to development of their personality, talents and mental and physical abilities 'to their fullest potential' (United Nations 1989, Article 29(a)). In recognising this right, Australia is undertaking to ensure that children realise their developmental goals through policies and resource commitments that are commensurate to the task. The purpose of this

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paper is to examine one part of children's right to development — that part relating to formal education. The question I seek to address is therefore: are all Australian children being educated to reach their fullest potential? This is a question of social and economic significance, as well as one of human rights. The advantage of bringing in the rights perspective is that it draws attention to those who are most disadvantaged, and to disparities between those at the top of the educational achievement ladder, and those at the bottom.

The challenge of measuring the extent to which children are educated, or more generally develop to their fullest potential, has until now been put in the 'too hard' basket. My aim is to show that the concept of 'fullest potential' can be given a concrete meaning that embodies a feasible vision for the progressive improvement of all children's developmental outcomes; and that governments can be held accountable to this vision. This vision is not incompatible with recent declarations of the Australian federal, state and territory governments regarding their aspirations for education (see MCEETYA 2008a). I argue however that concrete decisions taken by these governments appear to be sometimes at odds with their loftier aspirations.

I use Rawls' (1971) *difference principle*, Walzer's (1983) theory of *complex equality* and Sen's (1992, 1999) *capability approach* to propose three alternative methods operationalising 'fullest potential'. Each method has an explicit rights orientation, holds governments accountable to different standards, and each relies on different information bases for the assessment of progress towards children achieving their 'fullest potential'.

To anticipate the conclusion, I find that the difference principle and the theory of complex equality, both of which suggest a focus on children's outcomes, offer useful frameworks for understanding Australian children's achievements in realising their fullest potential. The capability approach on the other hand offers a more comprehensive rights-oriented framework in that it attempts to match the child's capability achievement to the obligations of duty bearers who control the resources invested in her. Therefore instead of concerning itself only with outcomes ('how well did the child do?'), the capability approach also addresses the issue of inputs invested ('what resources were invested in her?'). Or to put it another way, if she had had more resources allocated to her, could she reasonably have been expected to edge nearer towards her 'fullest potential'? This question has proved difficult to answer in the Australian context. It is impossible accurately to estimate the amount of public resource inputs that Australian school students currently receive, and therefore the relationship between those inputs and the outcomes that they achieve. While Australian governments are to be commended for seeking diligently to measure students' educational *outcomes*, their apparent unwillingness to disaggregate resource *inputs* into education represents an accountability failure that is inconsistent with children's right to development to their fullest potential.

The remainder of this paper is divided into the following sections. Conceptualisations of children's rights and their operationalisation in research are considered in Section 2. Section 3 discusses data sources for educational achievement used in this analysis. Findings are presented in Section 4. Section

5 discusses Australian children's right to development to their fullest potential in the context of findings from the data and recent developments in education policy. Section 6 concludes.

## 2 The Right to Education and Development

### *Fullest Potential*

The *Convention on the Rights of the Child* (United Nations 1989) has a dual purpose: first, to extend the fundamental human rights recognised for adults to children so as to challenge assumptions about children based on their age, and the exclusion and exploitation to which this can give rise; and second, to call attention to children's particular status with reference to specific vulnerabilities, interests and entitlements (White 2002). The Convention outlines children's rights in the context of the Charter of the United Nations, which recognises the inherent dignity and equal and inalienable rights of all members of the human family. For the most part, these rights impose 'imperfect duties' (in the Kantian sense) on governments. For example, governments cannot in any meaningful sense decree a right to life and survival (Article 6), or a life free of discrimination (Article 2). But they are obliged under the Convention to adopt a range of measures to the fullest extent that their resource capacities allow (Article 4) to increase a child's possibility of survival, and the possibility that she will not be discriminated against (see UNDP 2000; Green 2001; Pemberton et al 2005).

Articles 28 and 29 of the Convention, which deal with education and child development, contain a number of 'imperfect duties', including:

States Parties agree that the education of the child shall be directed to the development of the child's personality, talents and mental and physical abilities to their fullest potential. (Article 29.1(a))

The intention of this Article is to promote an ethic of education that fosters development of the child's entire personality (Detrick 1999). However, the term 'to their fullest potential' gives the Article a strong normative intent, analogous to the right to the 'highest attainable standard of health' set out in Article 24 of the Convention, and going somewhat beyond the right to an 'adequate' standard of living in Article 27 (Bowers Andrews 1999). This normative intention has been ignored in human rights discourses, where attention has been devoted more towards minimum rights, and rights violations (Chapman 1996), which are more suited to strictly legal interpretations. But most social and economic rights entail imperfect duties for duty-bearers. These do not lend themselves to easy legal interpretation.

Pogge (2008) and Sen (2004, 2006, 2008) propose an alternative, ethical, approach to human rights that can more easily accommodate the concept of 'fullest potential'. Pogge (2008) proposes that rights should be given three meanings: first a maximalist understanding — that the realisation of rights requires positive efforts, not simply respect and non-interference; second, an institutional understanding — that recognition of a human right suggests that society should be reorganised so that all members have secure access to that

right; and third, a moral understanding — that rights claims go beyond legal claims, and are moral claims on the organisation of one's society. In other words, a right that is not legislated for is still a right, and feasibility is not a criterion for what can and cannot be a right.

... why should complete feasibility be a condition of cogency of human rights when the objective is to work towards expanding both their feasibility and their actual realization? The understanding that some rights are not fully realized, and may not even be fully realizable under present circumstances, does not, in itself, entail anything like the conclusion that these are therefore, not rights at all. Rather, this ethical understanding suggests, as Mary Wollstonecraft discussed with much clarity, the need to work towards changing the prevailing circumstances to make unrealized rights realizable, and ultimately, realized. (Sen 2006: 2924)

Children's right to develop to their fullest potential is arguably not fully realisable and therefore not fully feasible (and difficult to legislate for), not least because we perhaps do not yet know the potential that all children have to develop. Nonetheless, we do have good information on what many children do actually achieve, particularly in their formal education. I will propose in this paper to use some of this available information to develop what I term a generally feasible approach to children achieving their fullest potential.

### *Human Rights Principles*

The examination of cross-cutting principles that underpin all human rights can help in the interpretation of Article 29(1)(a). Recognition of principles governing human rights has always been implicit (Cranston 1973), but has recently been made more explicit, not least in order to allow UN agencies to develop a coherent approach to human rights-based assistance programmes in developing countries. However, the relevance of these principles clearly extends beyond the developing country context. UN agencies have agreed on six human rights principles, of which three are particularly relevant to the current exercise (unless otherwise stated, words are taken from UNICEF 2003, Annex B):

1. **Universality** — Human rights are universal and inalienable. All people in the world are entitled to them. They cannot voluntarily be given up, nor can others take them away.
2. **Non-discrimination and attention to vulnerable groups** — All individuals are equal as human beings and by virtue of the inherent dignity of each person. All human beings are entitled to their human rights without discrimination of any kind. Darrow and Tomas (2005) add that human rights standards urge achievement of equality in substantive, not formal terms, and that this may require special or 'affirmative action' measures.
3. **Accountability and rule of law** — States and other duty-bearers are answerable for the observance of human rights. 'Human rights legal standards serve as performance standards for development purposes, reducing ac-

countability to something relatively precise and objective' (Darrow and Thomas 2005: 211).

Darrow and Thomas (2005) add a further principle that is made explicit in the International Convention on Economic, Social and Cultural Rights (United Nations 1966), and also in many interpretations of other UN treaties (Detrick 1999; Hodgkin and Newell 2002):

**4. *Progressive realisation and non-retrogression*** — these are intimately associated with the definition of human rights. No right should suffer an absolute decline in its level of realisation.

The aim of the first two of the above principles is to promote substantive equality among people. The implication of the third principle is that governments are obliged to publicly and transparently monitor progress towards the achievement of human rights, and equality among rights holders, while the fourth principle suggests that retrograde steps in the achievement of human rights are unacceptable save in exceptional circumstances. In this context of this article, I interpret these principles to mean that policy should aim towards the formal education of all children to their fullest potential while at the same time working to reduce as far as is practically possible disparities among children, ensuring that progress is always positive, and that indicators relevant to children's development are closely monitored.

### *The Child's Development and Educational Achievement in Australia*

Clearly, educational achievement is just one aspect of the development of the child's personality. However, education is one of the key levers available to governments to progress towards a wide range of social and economic goals, and to ensure that the rights of all children are realised. This is made clear in strategic plans published by Australian commonwealth and state level education departments, which often adopt the language of the Convention. For example, the *Melbourne Declaration on Educational Goals for Young Australians* (which incidentally includes a very comprehensive statement on the broad aims of education in Australia) states that all young Australians should become successful learners, where successful learners are characterised as 'motivated to reach their full potential' (MCEETYA 2008a: 8). The New South Wales Department of Education states that:

Overall our students are high performers, but within these statewide achievements there are some groups who lag behind. We are progressively raising the bar and closing the gap but still need to drive up overall achievement. (NSW Department of Education and Training 2008)

The Victorian Department of Education and Early Childhood Development sets out to monitor the following school achievement indicators:

- Proportion of children enrolled in and attending school;
- Literacy and numeracy achievement of Years 3, 5, 7 and 9 students in national testing;

- Proportion of students in the bottom and top levels of performance in international testing (eg. PISA; see below);
- Proportion of the 19-year old population having attained at least a Year 12 or equivalent;
- Proportion of young people participating in post-school education or training six months after school;
- Proportion of 18–24 year olds engaged in full time employment, education or training (Department of Education and Early Childhood Development Victoria 2008).

These goals (other states have similar goals) seek to raise the proportion of students achieving minimum standards and raise average performance, ensuring competitiveness between the states, and with the best international standards. Most states also have additional outcome targets for indigenous students.

To the extent that they monitor overall performance and minimum standards, and relative performance of indigenous students, Australian state governments can claim to be adhering to the general human rights principles of universality, non-discrimination and progressive realisation in seeking to help children in reaching their fullest potential. The fact that all states participate in several national and international comparisons of learning and academic achievement, have explicit outcome targets, and publish results on their performance, shows the extent to which accountability in outcomes is built into Australian education administration. This is strengthened in some cases by an explicit commitment to consult with both parents and students themselves on key policy directions for schools (see for example Department of Education and Early Childhood Development Victoria 2008). International studies of educational achievement moreover are intensively analysed at both national and state levels in Australia (Lokan, Greenwood and Cresswell 2001; Thomson, Cresswell and De Bortoli 2004; Thomson and Fleming 2004; Masters 2005; Thomson 2006; Thomson, McKelvie and Murnane 2006; Thomson and De Bortoli 2008). Therefore, even where given sets of outcomes as measured by these surveys are not explicitly adopted as targets, they are publicly debated, and can therefore be seen as an important part of the overall monitoring apparatus of educational performance in Australia.

### *Operationalising 'Fullest Potential'*

As the remainder of this article sets out to show, however, much could be added by placing results for Australia from surveys of international educational achievement (and other tests that take place at state and national level) in an explicit child rights framework. This suggests the need to define 'fullest potential' in relation to education. Consideration of 'fullest potential' has been an important omission from rights debates in Australia and elsewhere. Bringing it in from the cold has three advantages. First, it reminds us that education (and child development policy more generally) should not only be concerned with the attainment of minimum standards, but with high norms of achievement — supporting children to be all they can be. Second, 'fullest potential' is

ultimately a relative issue — how else are we to know what fullest potential is, except by comparisons of what different children actually achieve? Therefore, it can be used to focus on distributions. Third, however, it does not suggest that every child *should* be able to reach any minimum threshold, but that each child has their own feasible maximum, and that this is what they should be supported in striving towards.

Rawls' (1971) *Theory of Justice* offers a number of useful ideas for deriving a practicable definition of 'fullest potential'. His concept of the 'veil of ignorance' suggests that children should be able to choose as an 'original position', the sort of system that they would wish to be educated in without having prior knowledge of their own natural talents and other advantages. His implicit assumption is that they would choose a system whose principles accord with the human rights principles of universality and non-discrimination (since they would not know under their veil of ignorance if they belong to a minority group that might suffer from discrimination). The 'difference principle', Rawls' proposal on the extent of inequality in certain key goods that should be allowed in society, moreover allows for the achievement by the most advantaged children of the absolute goal of 'fullest potential', subject to the proviso that the outcomes of the least advantaged are maximised too. In other words, while absolute equality is not a condition of Rawls' justice, there needs to be a balance between *average* educational achievement and the *distribution* of achievement. I propose this as the first feasible definition of 'fullest potential'.

Walzer (1983, 1994) offers an alternative pathway towards a feasible definition of 'fullest potential'. He undermines the case for simple equality with a proposal for what he terms complex equality — acceptance that inequality in different spheres (for example, income, political power, educational achievement) may exist, but that the pattern of inequality in any given sphere should not govern the pattern of inequality in another sphere. Under this schema, 'fullest potential' can be defined as what the child might achieve, given her personality and talents, if she were not burdened by, say, socially or economically determined disadvantages. (His maximalist view of justice also emphasises the intrinsic rewards of achievement in any one sphere such as education, rather than the transferability of these rewards to other spheres, such as economics.) For Walzer therefore, it is not average achievement or the distribution of achievement *per se* that counts, but its correlation with other social and economic factors.

Alternatively, 'fullest potential' can be characterised in terms of Sen's (1992, 1999) concept of capabilities. In Sen's terminology, the achievement of 'fullest potential' is a functioning that suggests capability in education (something that Sen sees as intrinsically valuable). The capability approach however places as much emphasis on the resources a person needs to achieve her 'fullest potential' as on its actual achievement (a 'functioning' in Sen's terminology which at the end of the day is a matter of personal choice). This switches attention away from final outcomes, and towards the availability and appropriateness of resources to allow each individual to achieve their fullest potential (this idea is arguably implicit in Rawls' and Walzer's writings, but is brought out explicitly by Sen). The implication is that each individual has a unique set of talents, capacities and limi-

tations, and each therefore needs a specific package of resource inputs in order to achieve her fullest potential. In practical terms, since actual capabilities are often difficult to observe, it is the relationship between resources and functionings that becomes the crucial indicator of the achievement of capabilities. Although both Rawls' and Walzer's writings have clear human rights interpretations, the capability approach has arguably been adopted as the dominant human rights approach to poverty reduction (Office of the High Commissioner of Human Rights 2004). It offers a number of advantages for the interpretation of 'fullest potential'. Most important, emphasis on resources places attention on the duty bearer, whose responsibility it is to fulfil children's rights to development through the provision of appropriate policies and resource allocations. Under this schema, 'fullest potential' is reached (and rights realised) when resource, policy and other inputs are such that a person has 'secure access' (to use the terminology of Pogge 2008) to achievement of her 'fullest potential'.

To summarise, the 'Rawls' conceptualisation of 'fullest potential' could be operationalised as what the best country in the world manages to achieve, subject to a distributional proviso. The combination of high average score and low inequality sets a 'gold standard' for educational achievement. The 'Walzer' conceptualisation of 'fullest potential' can be operationalised in terms of what children in Australia who are most socially and economically advantaged achieve — their standard should be the standard that all Australian children have the right to achieve. The 'Sen' conceptualisation focuses not only on outcomes, but also on inputs — achievement of 'fullest potential' can only be effectively judged in the context of resources invested in its achievement. These three operationalisations are explored in more depth below.

### 3 Data

#### *The PISA Study*

The Programme of International Student Assessment (PISA) study is one of a number of national and international repeated studies in which Australia participates, that compare levels and trends in education and learning, and effectiveness of schooling, across rich and increasingly developing countries. Other international studies include the Progress in International Reading Literacy Study, the Trends in International Mathematics and Science Study, and the International Adult Literacy Study. National tests now include the NAPLAN, where every Australian student in Years 3, 5, 7 and 9 sits a uniform test. PISA was first carried out in 2000 in mainly OECD member countries, and was repeated in 2003 and 2006. OECD (2001: 14) describes the aims of PISA as a collaborative effort among member countries to measure 'how well young adults, at age 15 and therefore approaching the end of compulsory schooling, are prepared to meet the challenges of today's knowledge societies'. In all three survey years, students were assessed through internationally comparable written exercises on their reading, mathematics and science literacy. Students were also asked some information about their homes and families, and information was also collected on schools the students attended. National studies were designed



to be representative of 15 year old students in each country (OECD 2001, 2004, 2007). Scoring of students' performance in science, mathematics and reading is graded into six 'proficiency levels' (with each proficiency level equating to about 70 points), and scores are adjusted to average 500 in each discipline in 2000. In the Australian context, Thomson and De Bortoli (2008) equate a proficiency level to about two full school years. The Australian PISA study involved about 6,000 students in 2000, 12,500 students in 2003 and 15,000 students in 2006 (Lokan et al 2001; Thomson et al 2004; Thomson and De Bortoli 2008).

### *Investment in Education*

Analysis of investment in education is more problematic than analysis of educational performance for two reasons. First, although internationally comparable data on total education expenditure are available, the relationship between (public or private) investment in education and educational outcomes is somewhat uncertain (Koutsogeorgopoulou 2009). Rather, it is now understood that the efficiency of education systems can be best judged using a range of financial and institutional indicators, of which relatively few are available in an internationally comparable format. Even within Australia, while there is a considerable amount of aggregate data, little of it is disaggregated according to student type, or directly related to student performance. I therefore use mostly aggregate information to draw some conclusions about the relationship between inputs and outcomes in the Australian education system.

## **4 Results**

For this analysis, I examine the following statistics. First, I examine Australian students' average performance in science, mathematics and reading in comparison with those of students in other OECD countries, and trends in average scores between 2000 and 2006. These headline measures are commonly cited by policymakers and in the media. Second, I present statistics on the relative distribution of Australian scores in science, mathematics and reading, focusing on the proportions of students at the 5<sup>th</sup> and 95<sup>th</sup> percentiles of the distribution of scores in the three subjects. Third, I look at available correlates of academic performance: socio-economic status, indigenous status, living in a remote or rural area, and language spoken at home. Fourth, I examine resource inputs into education.

### *Average Scores*

Table 1 shows average national scores in OECD countries across the three disciplines in 2000, 2003 and 2006. Countries are ranked according to their average score in 2006. Finland is at the top. Australia's score is considerably above the OECD average at 520 — the sixth highest out of thirty in the OECD. One interpretation of this score suggests that the right of Australian children to development to their fullest potential is, on average, being fulfilled in the area of formal education and learning, since they are doing better than in most other OECD countries (and by implication, most other countries in the world). However, two

other interpretations are also possible. First, the goalposts are shifting. In 2000, Japan had the highest average score with 543. By 2006, Finland had the highest mean score with 553 — 33 points above the Australian mean score, equating to about half a proficiency level, or one full year of education. The Finnish average now has become the new ‘gold standard’. Compared with this score, it could be argued that Australian children are on average somewhat short of their goals of reaching their ‘fullest potential’. In comparative terms, the significance of a 33 point difference in average scores can be seen in the fact that the average score for Norway is 33 points below that of Australia. Norway’s mean score is ranked 21<sup>st</sup> out of 30 OECD countries, and less than the OECD average.

**Table 1: Average National Scores in OECD Countries in Reading, Mathematics and Science, 2000–2006**

	2000	2003	2006	Per cent change 2003–2006	Per cent change 2000–2006
Finland	540	545	553	+1.4	+2.4
Korea	541	538	542	+0.7	+0.1
Canada	532	526	529	+0.6	-0.5
New Zealand	531	522	524	+0.5	-1.3
Netherlands	-	525	521	-0.8	-
<b>Australia</b>	<b>530</b>	<b>525</b>	<b>520</b>	<b>-0.9</b>	<b>-1.8</b>
Japan	543	527	517	-1.7	-4.7
Switzerland	506	513	513	+0.1	+1.4
Belgium	508	515	511	-0.9	+0.6
Ireland	514	508	509	+0.3	-1.0
Germany	487	499	505	+1.2	+3.7
Sweden	513	510	504	-1.0	-1.6
Austria	514	496	502	+1.2	-2.2
Czech Republic	500	509	502	-1.5	+0.3
United Kingdom	528	-	502	-	-5.0
Denmark	497	494	501	+1.5	+0.8
Poland	477	495	500	+1.1	+4.8
<b>OECD average</b>	<b>500</b>	<b>498</b>	<b>496</b>	<b>-0.3</b>	<b>-0.7</b>
Iceland	506	501	494	-1.4	-2.4
France	507	506	493	-2.6	-2.9
Hungary	488	492	492	0.2	+0.9
Norway	501	493	487	-1.2	-2.9
Luxembourg	443	485	485	0.0	+9.5
Slovak Republic	-	487	482	-1.0	-
United States	499	490	482	-1.6	-3.4
Spain	487	484	476	-1.6	-2.1
Portugal	461	471	471	+0.1	+2.2
Italy	474	476	469	-1.6	-1.2
Greece	461	466	464	-0.4	+0.7
Turkey	-	433	432	-0.2	-
Mexico	410	397	409	+3.0	-0.4

Source: Author’s calculations from OECD (2001), Tables 2.3a, 3.1 and 3.3; OECD (2004), Tables 2.5c, 6.2 and 6.6; OECD (2007), Tables 2.1c, 6.1c and 6.2c.

Note: Scores represent simple averages for each country of overall reading, mathematics and science literacy scores in each year. Scores in each subject are based on testing of students’ applied knowledge, and are adjusted to average 500 in each subject in 2000 across all OECD countries. Countries are ranked according to score in 2006. Data for Netherlands, Slovak Republic and Turkey were not collected in 2000. Data for the UK were not collected in 2003. Data for the US in 2006 are calculated from averages for science and mathematics only.

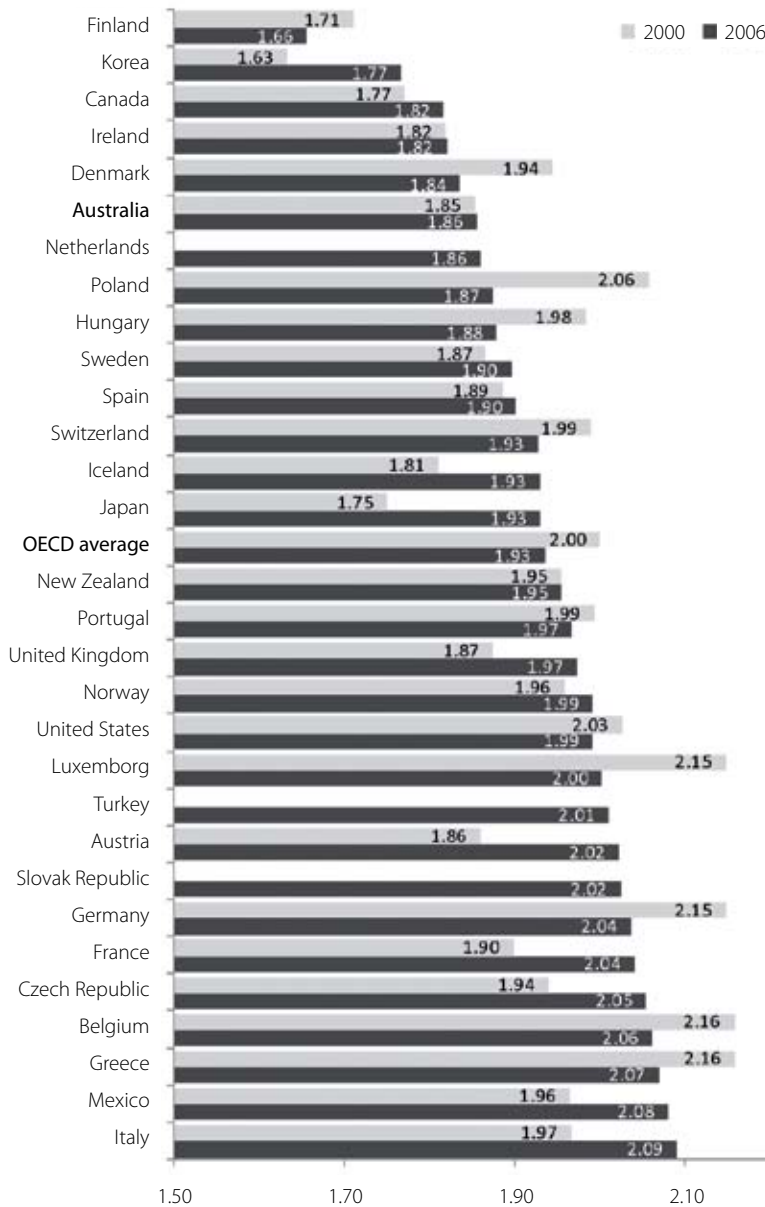
In another sense too, Australian children's performance may give cause for concern. The average score for Australia fell by 1.8 per cent between 2000 and 2006. This may suggest a violation of the principle of progressive realisation. The trend for Australia can be contrasted with that for a number of other countries including Finland, Denmark, Germany and Poland, where the average score increased consistently and significantly between 2000 and 2006, suggesting that 'progressive realisation' may be on track in these countries.

### *Distributions*

Figure 1 shows a measure of the distribution of science, mathematics and reading scores across all OECD countries — the ratio of the score at the 95<sup>th</sup> percentile over the score at the 5<sup>th</sup> percentile. OECD (2004: 62) states that having a high proportion of students who perform poorly 'may give rise to concern that a large proportion of tomorrow's workforce and voters will lack the skills required for the informed judgements that they will need to make'. A high mean score coupled with a narrow range of scores is therefore an indicator of a well functioning school system. A small group of countries achieve this standard to a considerably fuller extent than other countries — Finland, Korea, Canada, Australia and the Netherlands — these countries are at, or near, the top of Table 1, and at, or near, the top of Figure 1. In other words, following the 'Rawls' conceptualisation, these countries appear to come closest to the goal of enabling all children to realise their fullest potential in terms of education. Their performance can be contrasted with the performance of Italy, Greece and Mexico, all of which languish at the bottom of both Table 1 and Figure 1. Australian students' mean score is 51 points higher than that of Italian students in 2006, representing about two thirds of a 'proficiency level'. The difference in scores between the two countries is 61 points at the 5<sup>th</sup> percentile, and 43 points at the 95<sup>th</sup> percentile, and the Australian 95<sup>th</sup>/5<sup>th</sup> percentile ratio (1.86) is significantly lower than that of Italy (2.09).

These differences between the top and the bottom of the OECD table should not however mask the considerable differences in performance within the top five. The 5<sup>th</sup> percentile score for Australia in 2006 is 52 points lower than the 5<sup>th</sup> percentile score for Finland, while the 95<sup>th</sup> percentile score is only 16 points lower. Australian children who are already educationally advantaged are considerably closer to reaching the 'gold standard' than Australian children who experience educational disadvantages. And while the 95<sup>th</sup>/5<sup>th</sup> percentile ratio did not increase in Australia between 2000 and 2006, neither did it fall, in contrast to Finland, where the ratio did fall from 1.71 to 1.66.

**Figure 1: Distribution of National Scores in OECD Countries in Reading, Mathematics and Science, 2000–2006 (Ratio of 95<sup>th</sup>/5<sup>th</sup> Percentiles)**



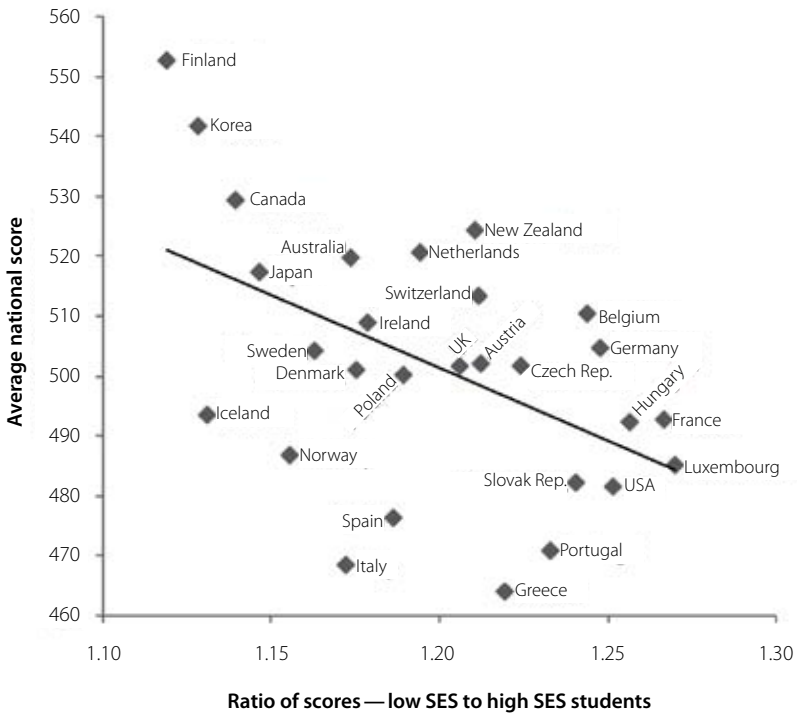
Source: OECD (2001), Tables 2.3a, 3.1 and 3.3; OECD (2004), Tables 2.5c, 6.2 and 6.6; OECD (2007), Tables 2.1c, 6.1c and 6.2c. Averages calculated by the author.

Note: Scores represent simple averages for each country of 95<sup>th</sup>/5<sup>th</sup> percentile ratios in reading, mathematics and science literacy scores in each year. Therefore, a lower ratio indicates less inequality. Countries are ranked according to score in 2006. Data for Netherlands, Slovak Republic and Turkey were not collected in 2000. Data for the US in 2006 are calculated from averages for science and mathematics only.

**Disparities**

To a considerable extent, inequalities in outcomes are a given. However, the 'Walzer' conceptualisation of fullest potential suggests that children's rights are violated when these differences in outcomes are related to differences in another sphere—for example socio-economic status, locality or race. PISA surveys include data (mostly reported by the student) which can be used to construct an index of socio-economic status (which OECD calls an *index of economic, social and cultural status*), based on mother's and father's occupational status, mother's and father's levels of education, access to educational and cultural resources in the home, and migration status of the student and his/her parents (OECD 2007:174).

**Figure 2: Average National Scores and Socio-Economic Gradients in Reading, Mathematics and Science in OECD Countries, 2006**



Source: Author's calculations from OECD (2007), Tables 2.1c, 4.11, 6.1c and 6.2c.

Notes: Data on the vertical axis represent average ratios of mean scores for science, mathematics and reading among students in the top quartile of a constructed index of social, economic and cultural status, to mean scores for science, mathematics and reading among students in the bottom quartile of the index. Data on the horizontal axis represent average national scores in science, mathematics and reading (as reported in Table 1). The index of social, economic and cultural status is constructed from the following variables: parents' occupational status, parents' education, cultural resources in the home, and migration status of the student and his/her parents. Pearson's Correlation Coefficient ( $R^2$ ) for the two variables is 0.25.

Figure 2 shows a scatterplot of the relationship between mean national scores in science, mathematics and reading for students for the 30 OECD countries in 2006, and ratios of average scores for students in the top and bottom quartiles of socio-economic status. Overall, the relationship between the two variables is weak ( $R^2=0.25$ ) but negative: thus in general, as the mean score increases, inequality in scores by socio-economic status falls. Australia, in common with Japan, Canada, Korea and Finland, falls into a 'high average score — low disparities' group. OECD (2007: 182) notes that 'these countries set important benchmarks of what can be achieved in terms of the quality and equity in learning outcomes'. Luxembourg, Slovak Republic, USA, Portugal and Greece on the other hand fall into a 'low average score — high disparities' group. But even in the highest performing group, differences in average scores between top and bottom quartiles are large, ranging from 62 points in Finland (almost one proficiency level) to 83 points in Australia (well over one proficiency level, or two school years).

Table 2 shows that there are other important disparities in the Australian context, in particular between indigenous and non-indigenous students. The average score for indigenous students in 2006 (439) was lower than the average for every OECD country except Turkey and Mexico. The 83 point gap between the averages for indigenous and non-indigenous students is as large as the gap in performance between students from the upper and lower quartiles of the socio-economic status scale. Differences in average scores between the two groups moreover do not appear to have diminished significantly over time (although data for subgroups in the 2000 PISA survey must be treated with caution due to the relatively small sample size in that year).

**Table 2: Disparities in Education Outcomes in Australia, 2006**

	2000	2003	2006
<b>Indigenous &amp; Non-Indigenous</b>			
Mean score — indigenous	448	439	439
Mean score — non-indigenous	532	527	522
Proportion (indigenous/non-indigenous)	0.84	0.83	0.84
Absolute gap (non-indigenous/indigenous)	83	87	83
<b>Remote &amp; Metropolitan</b>			
Mean score — remote	498	491	471
Mean score — metropolitan	535	529	529
Proportion (remote/metropolitan)	0.93	0.93	0.89
Absolute gap (metropolitan — remote)	37	38	58
<b>English not Spoken at Home/English Spoken at Home</b>			
Mean score — English not spoken at home	508	514	509
Mean score — English spoken at home	535	521	523
Proportion (non-English/English)	0.95	0.99	0.97
Absolute gap (English — non-English)	27	7	14

Source: Author's calculations from Lokan et al (2001), Tables 5.7, 5.9, 5.11; Thomson et al (2004), Tables 3.8, 3.11 3.13, 4.7, 4.9, 4.10; Thomson and De Bortoli (2008), Tables 3.4, 3.5, 3.8, 5.3, 6.2, and pages 173 and 206.

Notes: Scores for remote & metropolitan panel are calculated from averages of science and mathematics scores only.

Differences in achievement between students living in remote areas and those living in metropolitan areas are also significant, and appear to have increased over time. Students in remote areas score on average 58 points less than students in metropolitan areas. On the other hand, differences between students who speak English at home and those who speak another language are small, suggesting the relatively successful integration of most migrant children into the Australian education system.

### *Resources*

Sen's capability approach demands that attention be paid not only to outcomes, but also to inputs to achieve those outcomes. International and Australian studies show that the relationship between national averages of public and private expenditure on education and student outcomes in tests such as PISA is weak (Leigh and Ryan 2007; Koutsogeorgopoulou 2009). However, a number of recent studies compare efficiency in education in OECD countries using more specific indicators of inputs (Gonand et al 2007; Sutherland and Price 2007; Sutherland et al 2007). These studies use a common framework, where inputs are measured in six domains—decentralisation; matching resources to specific needs; outcome focused policy; managerial autonomy at the school level; benchmarking; and user choice. The domains are measured according to a number of indicators drawn from questionnaires completed by central government education departments. Gonand et al (2007) highlight potential problems associated with using national indicators to describe education systems in federally governed countries such as Australia. However, the results do provide a number of summary indicators of the efficiency of resource allocation in relation to achieved educational outcomes in Australia. In terms of institutional frameworks that might be conducive to optimal educational outcomes, for example the extent to which parents can choose schools for their children, the degree of decentralisation in education policymaking, and managerial autonomy at the school level, Gonand et al (2007) give Australia a positive assessment in comparison with most other OECD countries. In terms of the relationship between these institutional frameworks and actual outcomes as measured by PISA, Sutherland et al (2007) also appear to place Australia's performance in the upper half of OECD countries, although they do not explicitly comment on results for any countries. Limited international information available therefore suggests (tentatively) that in terms of efficient use of resources, Australia may be doing better than the international average.

Analyses that focus on education funding in Australia nonetheless give cause for concern. Debates within Australia have focused on two issues: the distribution of Australian (federal) government and state government resources across the three main primary and secondary education sectors (public schools, Catholic schools, and independent or private schools); and the relative opacity of educational finance statistics. Both issues may be related.

Regarding the first issue, McMorrow (2008a: Table 8) shows that on a per-pupil basis, total public funding of independent schools in Australia increased by about 70 per cent in real terms between 1996 and 2006, while funding of

Catholic schools increased by about 50 per cent, and funding of public schools increased by 30 per cent. Students in independent schools tend to perform well academically, in part because independent schools take on more students from high socio-economic backgrounds, and fewer students with developmental problems or special needs (Dowling 2007). Taking both public and private sources of funding into account, independent schools by 2006 had considerable advantages over both Catholic and public schools in terms of average expenditure per student and student-teacher ratios. Rorris (2008) states that in the period 2002–2005, Catholic and independent schools on average benefited from about 2–3 times more capital investment than public schools. McMorro (2008a) argues that public policy decisions during the years of the Howard government promoted this allocative inequality. Policies proposed by the Rudd government, elected in November 2007, will shift the balance somewhat back towards public schools, with a particular emphasis on funding for schools with high proportions of students from indigenous and lower socio-economic backgrounds (McMorro 2008b).

To date, there has been little systematic information on the relative performance of the three sectors in primary and secondary education, or whether disparities in educational outcomes between the sectors have grown in concert with disparities in resource inputs. For example, although PISA is carried out in representative schools in the three sectors, none of the PISA reports include analysis of results by sector. It is not clear at this stage whether results from new national school tests that were first implemented last year, which all schools must participate in if they are to receive any government resources (McMorro 2008b), will be separately available for each of the different sectors. This lack of analysis may be related to the second issue of concern raised above — the opacity of educational financial statistics in Australia:

Australian governments spend over \$30 billion on primary and secondary schools each year. Yet the process of school funding, including the way in which amounts are calculated, distributed and reported upon, is unavailable not only to the wider public but to some extent even to those working in education. Although Australia's total spending on schools is small by international standards (given the size of its population), it is significant enough to warrant a more transparent process. (Dowling 2007: 1)

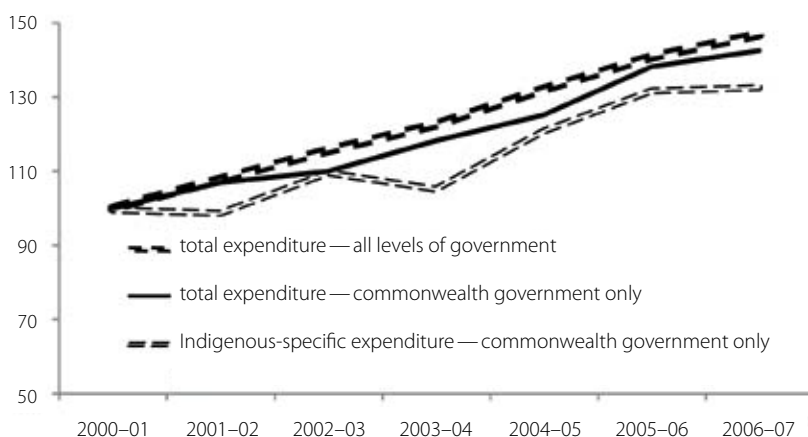
Given the complexity of educational funding and investment in Australia, transparency is by no means easy to achieve, as a critique of government education funding by Cobbold (2003) shows. McMorro (2008b: 8) adds that differences among commonwealth and the different states '... in assumptions and presentations: calendar and financial years; constant and current prices; and opaqueness around assumptions for student enrolments, participation' etc. obfuscates funding comparisons between the sectors and over time.

Moreover, it is not only available statistics on relative funding of the three sectors that give cause for concern. Figure 3 shows aggregate data on trends in commonwealth and state expenditure on school education between 2000–01



and 2006–07, and on trends in expenditure on education that is specifically aimed at indigenous school students. The data show that while overall and indigenous-specific expenditure did increase over the period, the rate of increase appears to have been greater for overall expenditure. This graph presents a partial picture. Notably, it does not include information on state-level expenditure aimed at indigenous students, and it gives no information on the share of total expenditure going to indigenous students. But there are no data available at present that would allow this information gap to be filled (Gardiner-Garden and Park 2007).

**Figure 3: Trends in Total and Indigenous-Specific Public Expenditure on Education (2000–01=100)**



Source: Author's calculations based on Gardiner-Garden and Park (2007); ABS (2008), Tables 1 and 2.

## 5 Discussion

According to the first of the three criteria drawn up in this article, the right of Australian children to reach their fullest potential in the area of education is arguably realised in most instances. Australian children perform well in internationally comparable tests, and the average gap between the best and the worst performing students is lower in Australia than in most other countries. The education system has therefore worked well since 2000 if judged in accordance with Rawls' (1971) 'difference principle'. On the other hand, if attention is shifted to disparities between particular groups in accordance with Walzer's (1983) conceptualisation of 'complex equality', then the Australian school education system appears to perform less well, with significant differences in outcomes between students from different socio-economic backgrounds, between indigenous and non-indigenous students, and between students from metropolitan and remote areas. These disparities are noted by the Committee on the Rights of the Child, the UN body which monitors countries' implementation of the Convention on the Rights of the Child. The Committee states that the Australian government should:

[t]ake all necessary measures to ensure that articles 28 and 29 of the Convention are fully implemented, in particular with regard to children belonging to the most vulnerable groups (i.e. indigenous children, homeless children, children living in remote areas, children with disabilities, etc.). (Committee on the Rights of the Child, 2005 paragraph 61(a))

The current Australian government acknowledges this challenge, and has set itself the goal in particular of raising educational levels of indigenous children towards those of the non-indigenous population. Moreover, as noted above, it has committed significant funds towards schools with high proportions of children with low socio-economic backgrounds, partially reversing the flow of funds towards more privileged independent schools that took place between 1996 and 2007.

Australian governments have arguably held themselves accountable in terms of reaching the average educational achievement targets. In addition to participating in international surveys such as PISA and TIMSS, state and commonwealth governments will from this year publish a range of statistics on school attendance and dropout, student-teacher ratios, and student academic performance at years 3, 5, 7 and 9 (MCEETYA 2008b). In terms of outcomes, Australian education statistics have the potential to be models of their kind, allowing meaningful comparisons to be made across different groups in Australia, and across comparator countries. Practitioners in other areas of child rights and development (for example, in early child development, or child protection) could learn much from the data collection and analysis methods in educational research, in particular the international comparability of findings. This is not to understate the real challenges associated with publication of 'league tables' of results for individual schools which is currently under debate in Australia, and which may at best offer a vary partial picture of any given school's efficacy in supporting children's development to their fullest potential.

However, as Sen's (1992, 1999) capability approach makes explicit, accountability in terms of outcomes needs to be matched with accountability in terms of resource inputs. On this point, the accountability of the Australian education system appears to fall short, since there does not appear to be a simple system for estimating the total amount of support accruing to a given student, or a given school. Angus (2007: 112) argues that the starting point for sorting out school funding problems 'is the commitment by both levels of government to provide comprehensive information about individual school resource allocations, information that is placed in the public arena and verified by a small expert body authorised by governments though independent of them'. Without this information, state and commonwealth governments' commitment to 'develop fully the talents and capacities of all students', and their obligation to protect and provide for children's rights under Article 29 of the Convention, cannot be adequately monitored. If 'league tables' of student outcomes are to be published, then 'league tables' of resources available to schools (including public and private current and capital expenditure as well

as other indicators of quality of education and parental resources) need to be published alongside them.

The demand for greater transparency in education funding is somewhat controversial. It is not simply a technical matter of adding up funding from diverse sources and harmonising the different accounting systems used by the commonwealth and state governments (although these problems should not perhaps be underestimated), but also a matter of political sensitivity, with the attached risk of funding being subject to increased political horse-trading. Nonetheless, the advantages of greater transparency are likely to outweigh the disadvantages. In particular, transparency will generate public debate on the aims of education, the importance of children's rights, and equity in educational outcomes. The role of government in this debate will be to state not only its vision of equity (it has done this on several issues, including indigenous education), but also to clearly show where the resources to achieve this vision will come from.

## 6 Conclusion

This article argues that while Australia is doing well in comparison with other countries in terms of helping all children realise their fullest potential in terms of education, it could do better (Finland offers a model here). More importantly, much needs to be done in reducing disparities between particular groups, most notably between indigenous and non-indigenous Australians. This is widely acknowledged, and commonwealth and state governments are committed to eliminating this gap. However, if disparities are to be effectively tackled, then resource allocations to students need to be more closely monitored. At present it is not possible to do this. This represents not only a weakness in educational administration and planning, but also a failure in terms of the human rights principle of accountability. We cannot be certain a child is reaching her fullest potential if we do not know the resources that are supporting her achievement.

This simple point leaves aside a number of other important issues in the assessment of Australian children's realisation of their fullest potential. First, as the recent *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008a) implicitly acknowledges, formal education is just one area of a child's development, and should not be accorded primacy over other areas of development, including social and moral development. The focus of this article on education is based on the practical reason that tools are available for measuring outcomes in this area. Governments need to develop a holistic approach, and could usefully initiate a public debate on the allocation of resources between different aspects of the child's development, and how progress in these different aspects can be monitored—to some extent, this is already happening (see Australian Institute of Health and Welfare 2005; Australian Research Alliance on Children and Youth 2008). Second, PISA is not the only means of measuring educational achievement. As noted above, there are several other national and international surveys of student performance in different subject areas, and at different ages. Australia does not perform as well in all of these studies as it does in PISA (Masters 2005), and differences between surveys is

a valid topic for consideration in terms of children's rights (UNICEF 2002). Third, whether the rights area of interest is social development or academic learning, children themselves have the right to participate in determining the meaning of development for them, and the indicators used to measure them. The issue of children's participation has not been discussed in this article.

Finally, this article has looked at academic achievement among 15 year olds. Behind every individual's test score in PISA is a history of cumulative advantage or disadvantage that has had an important influence on their progress to date. An important question from the rights perspective is whether (and how) duty bearers are responsible, not only for ensuring that disadvantage is reduced for future generations of students, but also for reducing the gap between the most and least disadvantaged in the current generation of 15 year olds. This question has obvious implications for the allocation of resources between children and for the realisation of their right to development.

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