



Achieving Quality and Equity Education

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Barry McGaw is half-time Professorial Fellow and Director of the Melbourne Education Research Institute at the University of Melbourne and works half-time as a consultant through McGaw Group Pty Ltd. In the latter capacity, he is working with various professional groups, working with Delfin-Lend Lease Limited on the development of the education model that it uses in its community development projects and serving as one of the three Editors-in-Chief of the Third Edition of the *International Encyclopedia of Education* scheduled to be published by Pergamon in 2008.

Professor McGaw returned to Australia at the end of 2005 from Paris where he had been Director for Education at the Organisation for Economic Co-operation and Development (OECD). He had previously been Executive Director of the Australian Council for Educational Research (ACER) from 1985 to 1998 and Professor of Education at Murdoch University in Perth Western Australia from 1976 to 1984.

Professor McGaw is an educational psychologist. He completed a PhD in educational psychology and psychometrics at the University of Illinois and a BSc in chemistry, psychology and statistics and a BEd Hons in educational psychology at the University of Queensland.

He is a Fellow of the Academy of the Social Sciences in Australia, the Australian Psychological Society and the Australian College of Educators. He has been President of the Australian Association for Research in Education, the Australian Psychological Society, the Australian College of Educators and the International Association for Educational Assessment.

Professor McGaw received an Australian Centenary Medal in 2003 and was appointed an Officer in the Order of Australia in 2004. He has been honoured by the University of Illinois with a College of Education Distinguished Alumni Award in 2000 and with the university's International Alumni Award for Exceptional Achievement for 2005.

Outline

- Evidence on the quality of Australian education
- Evidence on the equity of Australian education
 - Impact of differences in social background of students
 - Impact of differences in social background of schools
 - Subject offerings in upper secondary school
- Potential for schools to build social capital
- Current practices and emerging possibilities for education to play a new role in building communities

First, a comment on quality...



Evidence on educational quality:
Performances of 15-year-olds in OECD's Programme for International Student Assessment (PISA).

The evidence on the quality of the outcomes of education systems is drawn from the OECD's Programme for International Student Assessment (PISA) for which details are available on www.pisa.oecd.org. Alternatively, a search using Google with 'pisa' as the search term will yield this website as the first item, ahead of the website for the Leaning Tower of Pisa!

PISA provides direct, internationally comparable evidence of the quality of national education systems with its assessments of the achievements of 15-year-olds. The population assessed is 15-year-olds in schools of any type but it excludes 15-year-olds who are not in school.

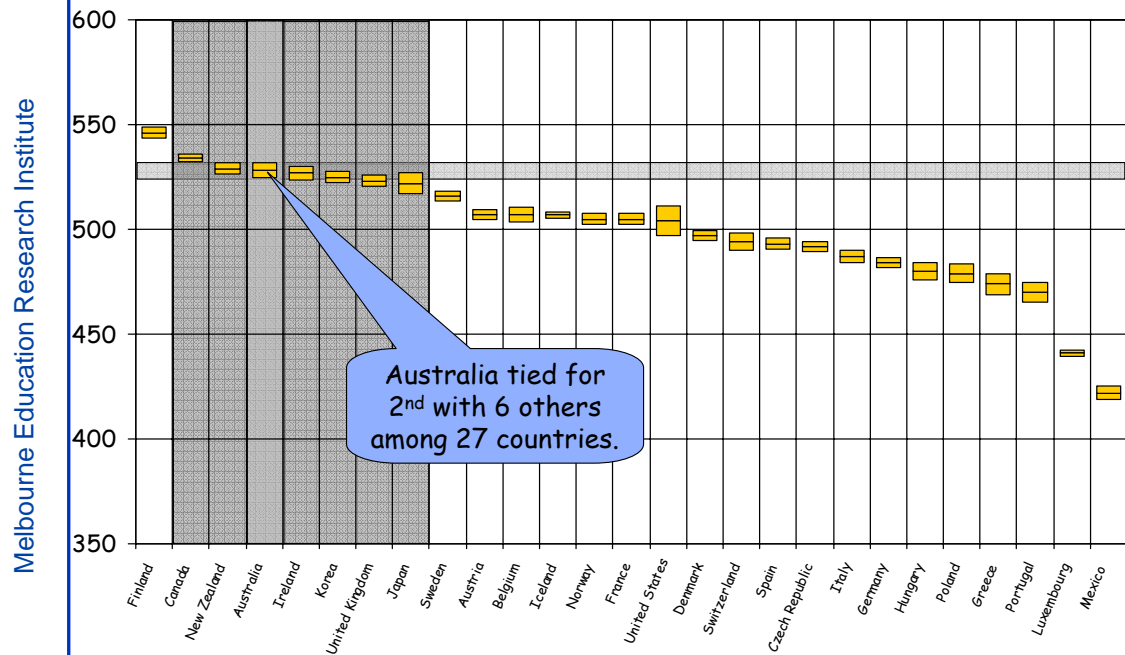
In PISA 2000, students were assessed in reading literacy, mathematics and science, with reading literacy as the main domain and mathematics and science as minor domains. In PISA 2003, mathematics was the main domain and reading and science minor domains together with problem solving which was an additional domain. In PISA 2006, the three original domains are being assessed, with science as the main domain.

PISA does not assess whether students have learned the specific content of their curricula but rather their capacity to use the knowledge and skills they have acquired. Both open-ended and multiple-choice questions are used. In the PISA 2003 mathematics assessments, for example, there were 85 items, 17 of them simple multiple choice, 11 complex multiple choice and 57 items that required students to construct their response. Sample items, illustrating the content and form of assessment, are provided on the PISA website, given above.

All assessment tasks are provided in both English and French and countries using other languages are required to produce two independent translations into their own language(s), one from the English and one from the French, and then to compare them in producing their final draft which is then independently checked by an external translator.

All potential assessment materials are first reviewed in all participating countries for *prima facie* evidence of cultural bias, with doubtful items being removed. All material that survives is then used in an internationally controlled trial in all participating countries a year before the actual PISA assessment. The performances of students on the trial material provide empirical evidence on whether tasks work consistently in all countries. Tasks that do not are removed from the pool of tasks from which those to be used in the final tests are selected.

Mean reading literacy results (PISA 2000)



OECD (2004), *Learning for tomorrow's world: First results from PISA 2003*, Table 2.5a, p.354.

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The figure above shows the mean performances of OECD countries in reading literacy in PISA 2000. Reading literacy assessed in PISA is the capacity to use, interpret and reflect on written material.

The line in the middle of the box for each country gives the mean performance of 15-year-olds in the country. The results reveal marked variations in performance levels among the 27 OECD countries – ranging from Finland, significantly better than all others at the top, to Mexico, significantly worse than all others at the bottom.

The size of a box reflects the precision with which a country's mean is estimated, the least precise in PISA 2000 being that for the United States. Where the boxes overlap on the vertical dimension, there is no significant difference between the means for the countries. (Further details are given in the PISA report, as indicated in the source information at the foot of the figure.)

Australia ranked in 4th place but its mean is not significantly different from those of Canada and New Zealand ranking above it or Ireland, Korea, the United Kingdom and Japan ranking below it. It is, therefore, appropriate to say that Australia ranked between 2nd and 8th or that Australia tied in 2nd place with six other countries.

Australian performance in OECD PISA

	Reading PISA 2000	Mathematics PISA 2003	Problem solving PISA 2003
Behind	Finland	Finland Korea Netherlands Japan Canada	Korea Finland Japan
Rank	2 nd	6 th	4 th
Tied with	Canada New Zealand Ireland Korea United Kingdom Japan	Belgium Switzerland New Zealand Czech Republic	New Zealand Canada Belgium

In summary:

In reading in PISA 2000, Australia ranked in 2nd place, behind Finland and tied with Canada, New Zealand, Ireland, Korea, the United Kingdom and Japan.

In mathematics in PISA 2003, Australia ranked 6th behind Finland, Korea, the Netherlands, Japan and Canada and tied with Belgium, Switzerland, New Zealand and the Czech Republic.

In problem solving in PISA 2003, Australia ranked in 4th place behind Korea, Finland and Japan and tied with New Zealand, Canada and Belgium.

Storyline so far...

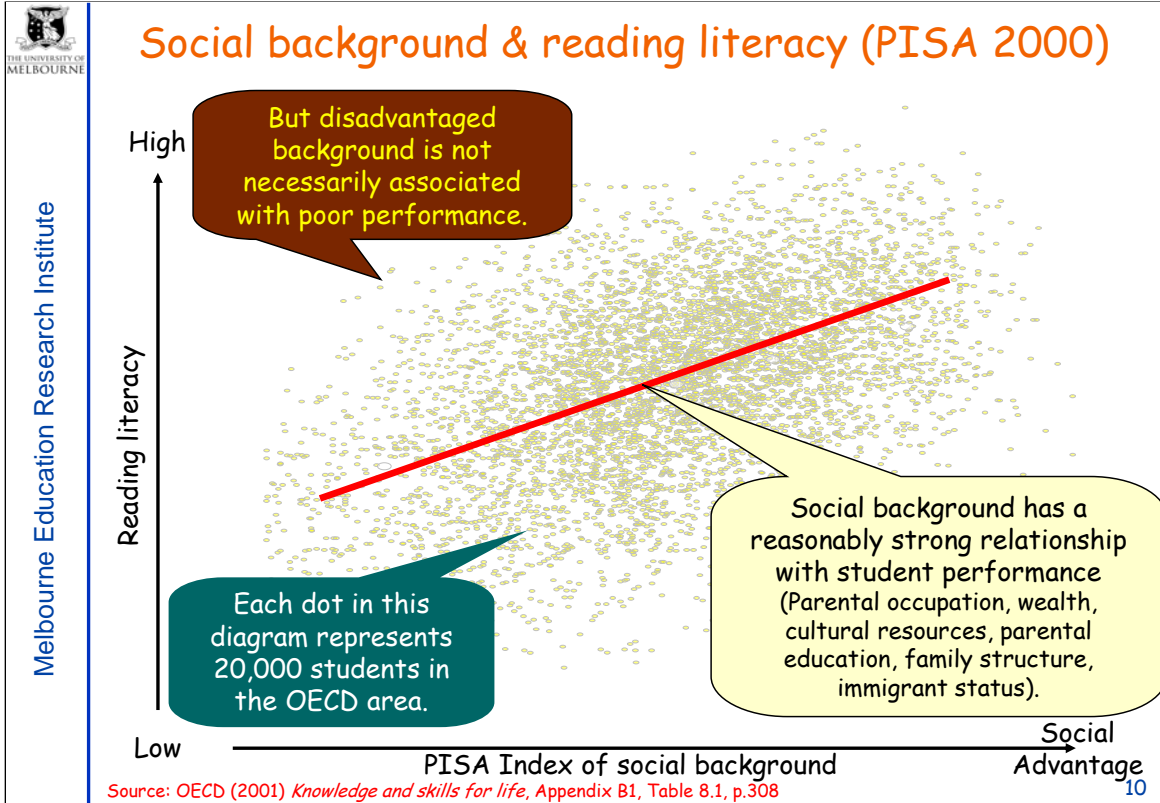
There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

Second, several comments on equity...

Average performances give only a partial picture of the quality of education systems. They do not give any indication of the equity with which education systems produce their student performances. PISA data speak to the question of equity as well as the question of quality.

Evidence on educational equity:
**Relationships between the achievements and social
backgrounds of 15-year-olds in OECD's PISA.**

An important indicator of the equity of educational achievements in a country is the strength of the relationship between students' achievements and their social background.



The 15-year-olds involved in PISA complete a questionnaire that collects information important for the interpretation and analysis of the results. Students are asked about characteristics, such as gender, economic and social background, and activities at home and school.

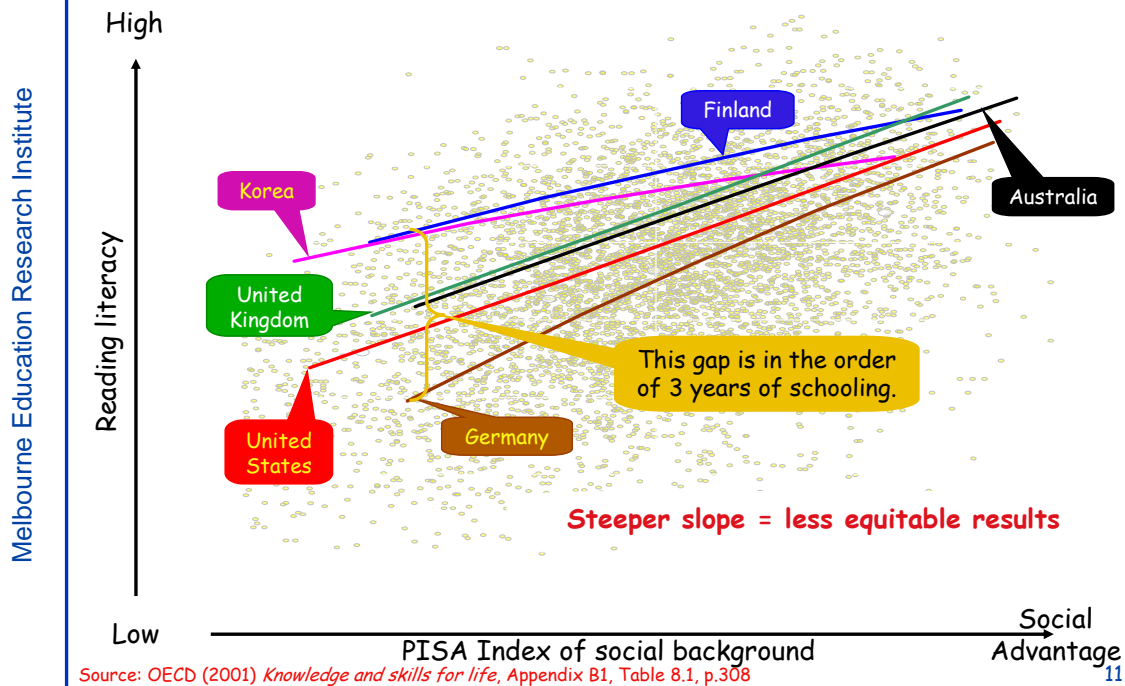
The information on economic and social background – parents’ education and occupation, cultural artefacts in the home – permit the construction of an index of social background that ranges from socially disadvantaged to socially advantaged. This scale is comparable across countries.

The relationship between social background and reading literacy in PISA 2000 is shown in the figure above in which the results of the 265,000 15-year-olds in the sample on both variables are plotted. The correlation is relatively high (around 0.45) indicating quite a strong relationship between the two variables. The slope of the regression line that summarises the relationship is quite steep, indicating that increased social advantage, in general, pays off with considerable increase in educational performance.

It can, nevertheless, be seen that there are many exceptions – socially advantaged individuals who do not perform well (towards the bottom-right of the graph) and students from disadvantaged backgrounds who perform well (towards the top-left of the graph).

This result has been long established in research in many individual countries and it can lead to a counsel of despair. If the relationship between social background and educational achievement is so strong, education can seem to be impotent, unable to make a difference. There is other research evidence that provides assurance that schools can make a difference to the life chances of their students but the PISA also provide additional insights because it is possible to compare regressions lines of the type above for individual countries.

Social background & reading literacy (PISA 2000)



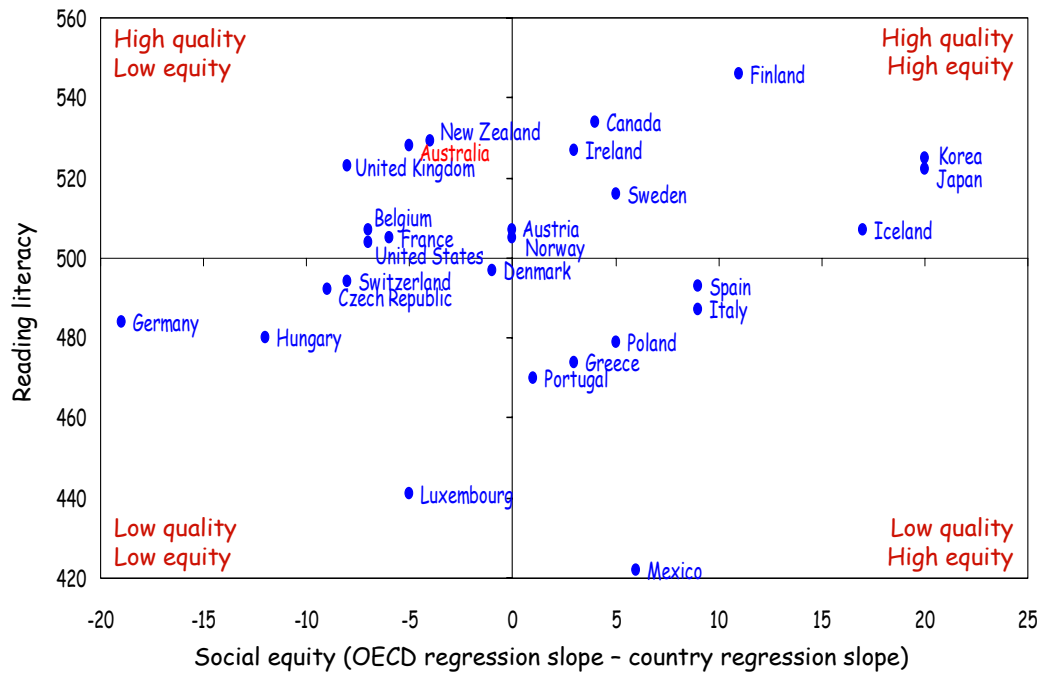
An examination of the relationship between social background and educational achievement country-by-country reveals marked differences among countries. The figure above shows the results for six countries. The lines for Finland and Korea are significantly less steep than the one for the OECD as a whole which was shown in the previous slide. Increased social advantage in these countries is associated with less increase in educational achievement than in the OECD as a whole. The results in these countries are more equitable than those of the OECD overall. Students differ in achievement but not in a way that is so substantially related to their social background.

The lines for the United Kingdom, Australia, the United States and Germany are all significantly steeper than the one for the OECD as a whole. In all of these countries, social background is more substantially related to educational achievement than in the OECD as a whole. Their results are inequitable in the sense that differences among students in their literacy levels reflect to a marked extent differences in their social background.

The differences between these five lines at the left-hand end are substantial. Socially disadvantaged students do very much worse in some of these countries (most notably Germany but also the US and the UK) than in the other two. The gap in educational achievement between socially disadvantaged students in Germany and similarly socially disadvantaged students in Finland and Korea represents around three years of schooling.

More detailed analysis of the German data shows the pattern to be strongly related to the organisation of schooling. From age 11, students are separated into vocational and academic schools of various types on the basis of the educational future judged to be most appropriate for them. Students from socially disadvantaged backgrounds generally end up in low-status vocational school and achieve poor educational results. Students from socially advantaged backgrounds are directed to high-status academic schools where they achieve high-quality results. The schooling system largely reproduces the existing social arrangements, conferring privilege where it already exists and denying it where it does not.

Social equity & reading literacy (PISA 2000)



Source: OECD (2001) *Knowledge and skills for life*, Table 2.3a, p.253.

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If lines for more countries were to be added to the figure on the previous slide, the pattern would become difficult to discern. The figure above provides a clearer picture in which the locations and slopes of the lines for all OECD countries are represented.

Mean performances of countries in reading literacy are represented on the vertical axis. The slope of the regression line for social equity on reading literacy is represented on the horizontal axis as the difference between the slope for the OECD as a whole and a country's own slope. This places to the left countries where the slope is steeper than in the OECD as a whole (that is, countries in which social background is most substantially related to educational achievement) and to the right countries where the slope is less steep than that for the OECD as a whole (that is, countries in which social background is least related to educational achievement).

Countries high on the page are high-quality and those to the far right are high-equity. The graph is divided into four quadrants on the basis of the OECD average on the two measures.

The presence of countries in the 'high-quality, high-equity' quadrant (top right) demonstrates that there is no necessary trade off between quality and equity. They show that it is possible to achieve both together. Korea, Japan, Finland and Canada are among them.

As already indicated in the previous slide, Australia is a 'high-quality, low-equity' country, with a high average performance but a relatively steep regression line. It is in the top-left quadrant along with the United Kingdom and New Zealand.

The United States is only average quality but it is low-equity. Germany, as a low-quality, low-equity country, is in the bottom-left quadrant along with a number of other countries that also begin to separate students into schools of different types as early as age 11-12.

Storyline so far...

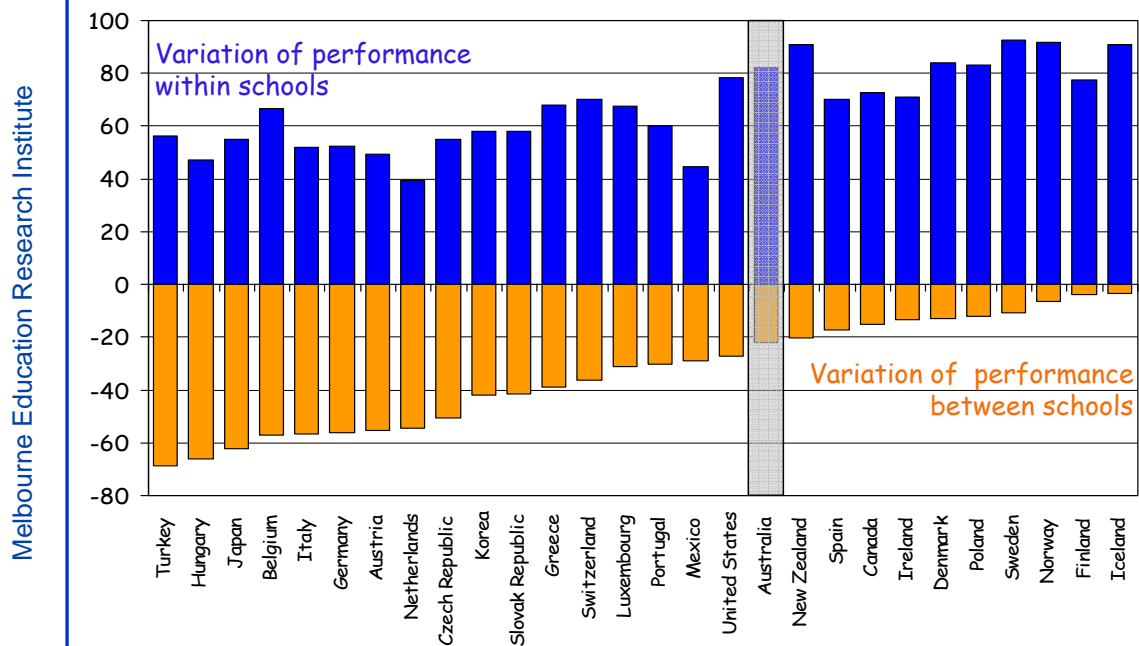
There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

Students' social backgrounds are more strongly related to achievement in Australia than in countries such as Canada, Finland and Korea.

Evidence on educational equity:
Sources of variation among students and schools in performances of 15-year-olds in OECD's PISA.

A further way in which to examine the equity of educational outcomes is to investigate the sources of variation in student performances.

Variation in mathematics performance



OECD (2004), *Learning for tomorrow's world*, Table 4.1a, p.383.

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The figure above divides the variation for each country into a component due to differences among students within schools, shown above the zero line, and a component due to differences between schools shown below that line.

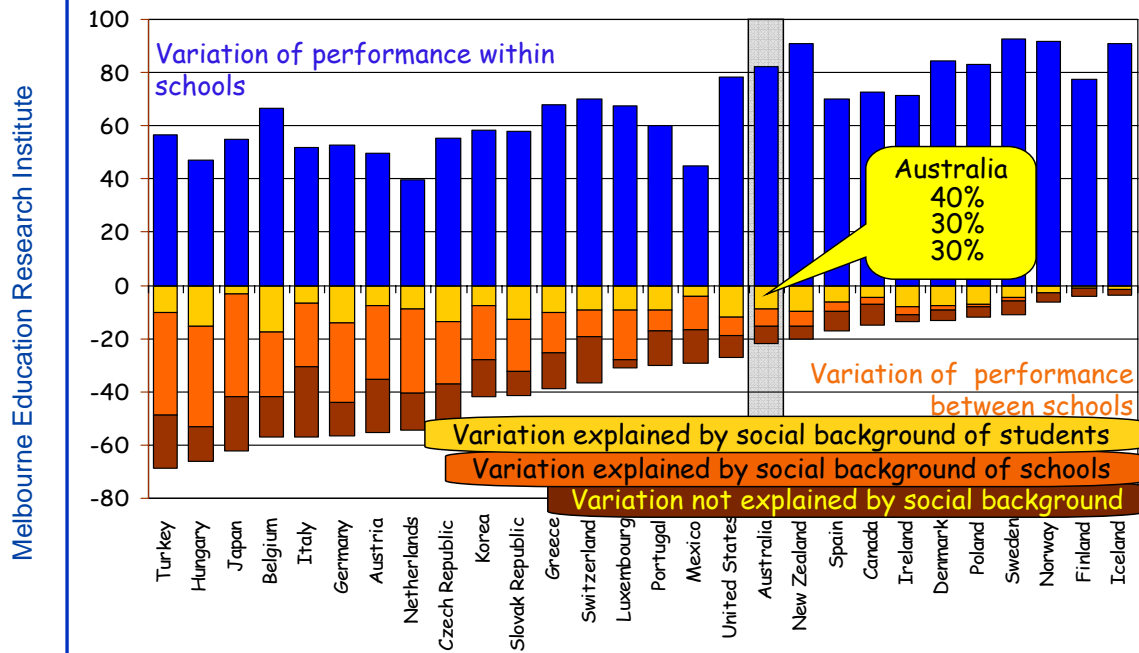
In Iceland, Finland and Norway there is very little variation in scores between schools. For parents in these countries, choice of school is not very important because there is so little difference among schools.

Among the countries in which there is a large component of variation between schools, there are some in which this occurs by design. In Hungary, Belgium and Germany, for example, students are sorted into schools of different types according to their school performance as early as age 12. The intention is to group similar students within schools differentiated by the extent of academic or vocational emphasis in their curriculum. This is intended to minimise variation within schools in order then to provide the curricula considered most appropriate for the differentiated student groups. It has the consequence of maximising the variation between schools.

In some other countries, the grouping of students is less deliberate but, nevertheless, results in substantial between-school variation. In Japan, for example, 53 per cent of the overall variation is between-schools. In Korea, 42 per cent is between schools. In Australia, 20 per cent is between schools.

For Poland, in PISA 2000, 63 per cent of the variation in reading was between-schools whereas in PISA 2003 in mathematics only 13 per cent was between schools. This remarkable difference was due to a reform in which early streaming of students into schools of different types was abandoned in favour of comprehensive schools for students up to the age at which PISA measures their performance. (Not only was the between-school variation reduced. Poland was the only country to improve its average performance significantly on all measures used in both PISA 2000 and PISA 2003. It did so largely by raising the achievement levels of its poorer performing students.)

Variation in mathematics performance



A further way in which to examine equity is to determine the extent to which the variation between schools can be explained in terms of differences in the social backgrounds of the students. This is done in the figure above, with the between-school variation subdivided into three components: (a) variation that can be accounted for in terms of the social backgrounds of the individual students in the schools; (b) variation that can be accounted for in terms of the average social background of the students in the schools; and (c) variation that cannot be accounted for in terms of the social backgrounds of the students.

The first indicates the impact of students' own social backgrounds on their educational outcomes, the second the impact of the company they keep in school. In Australia, 70 per cent of the variation between-schools can be accounted for in terms of differences between schools in the social background of their students – 40 per cent individual social background and 30 per cent the average social background of students in the schools.

Where differences in social background account for a large percentage of the between-school variation, this suggests that the educational arrangements in the country are inequitable. Where much of the account derives from the social background of other students in the school, it suggests that there is a benefit for advantaged students in keeping company with similarly advantaged students but a compounded disadvantage for disadvantaged students keeping company with others like themselves. That suggests an impossible policy conundrum for those who might want different groupings to ameliorate the influence of social background on disadvantaged students because it implies that reduction in disadvantage for them could only be won by a reduction in advantage for the advantaged. Additional analyses of the PISA 2000 data for Austria, however, offer a more encouraging conclusion. These analyses suggest that "that students with lower skills benefit more from being exposed to clever peers, whereas those with higher skills do not seem to be affected much. Social heterogeneity, moreover, has no big adverse effect on academic outcomes. These results imply considerable social gains of reducing stratification in educational settings" (Schneeweis & Winter-Ebmer, *Peer effects in Austrian schools*. Working Paper No. 0502, Department of Economics, Johannes Kepler University of Linz, Austria 2005, p.2).

Storyline so far...

There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

Students' social backgrounds are more strongly related to achievement in Australia than in countries such as Canada, Finland and Korea.

Schools differ little in some countries; where they do, much of the difference can be explained by the social backgrounds of individual students and those whose company they keep. The negative effects of poor company may be much greater than any positive effect of good company.

Evidence on educational equity:

Variation in subjects offered and studied in the post-compulsory years.

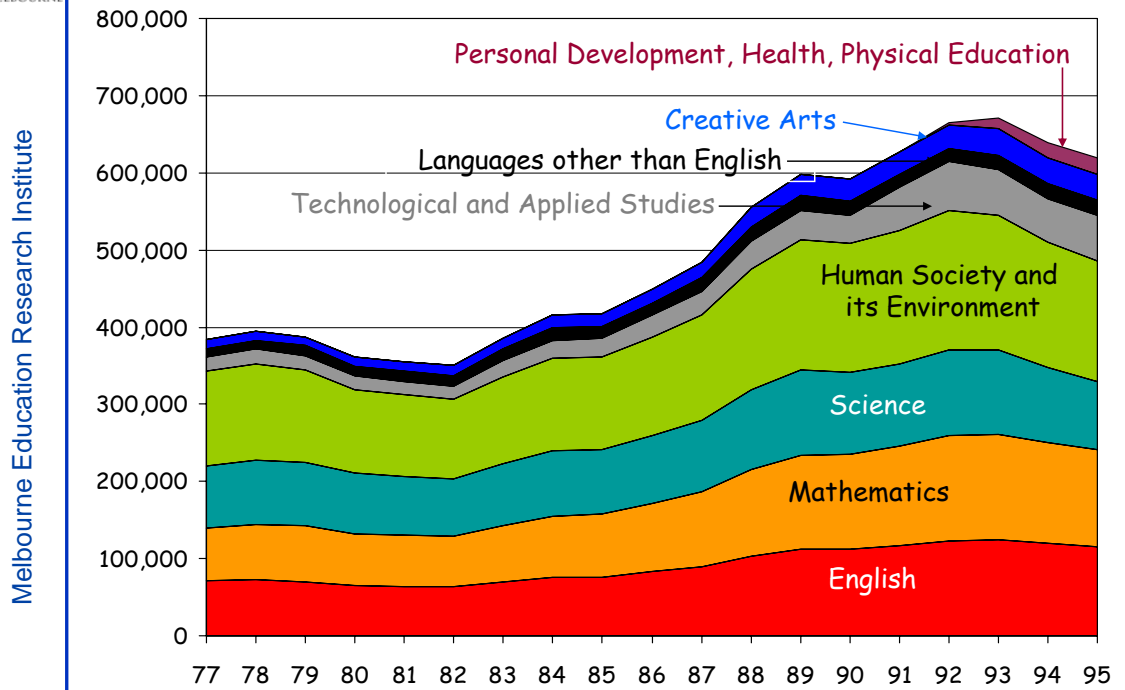
A further way in which to examine the equity of Australian education is to investigate the impact on individual students' subject choices in the post-compulsory years of schooling. I know that curriculum provisions for the upper secondary years are the subject of specific discussion in South Australia at present but, having no detailed knowledge of the proposals for the debate, I draw up a review of curriculum and assessment in the upper secondary years that I undertook in New South Wales almost a decade ago to illustrate important issues to be considered.

NSW HSC course changes: 1976-2000

- Enrolment growth
 - Subject range broadened
 - School-based courses introduced

As the student population in the upper secondary years has broadened in all Australian education systems, the range of subjects offered has been broadened and some school-based courses have often been introduced as well.

Types and numbers of units studied in NSW HSC



McGaw (1996), *Their future: Options for reform of the Higher School Certificate*, Figure 2.3, p.13.

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In pattern of enrolments in the New South Wales Higher School Certificate (HSC) over the period from 1977 and 1995 are shown in the figure above.

Enrolment levels, in course units of enrolment, are shown for the eight key learning areas used in the 1990s HSC. The four longstanding key learning areas, *English*, *Mathematics*, *Science* and *Human Society and its Environment*, dominate, though enrolments in *Technological and Applied Studies* and *Creative Arts*, in particular, grew from the late 1980s.

In *Human Society and its Environment*, the subjects originally included were Economics, Modern History, Ancient History and Geography. Other subjects added, to make accessible within secondary education studies held to be relevant to contemporary society, were Society and Culture (1986), Legal Studies (1990), Business Studies (1991), Aboriginal Studies (1992), Studies of Religion (1993) and Accounting (1995).

HSC course changes: 1976-2000

□ Enrolment growth

- Subject range broadened
- School-based courses introduced
- Hierarchy among courses
 - those used for entrance to higher education
 - relegation stream - general and school-based courses

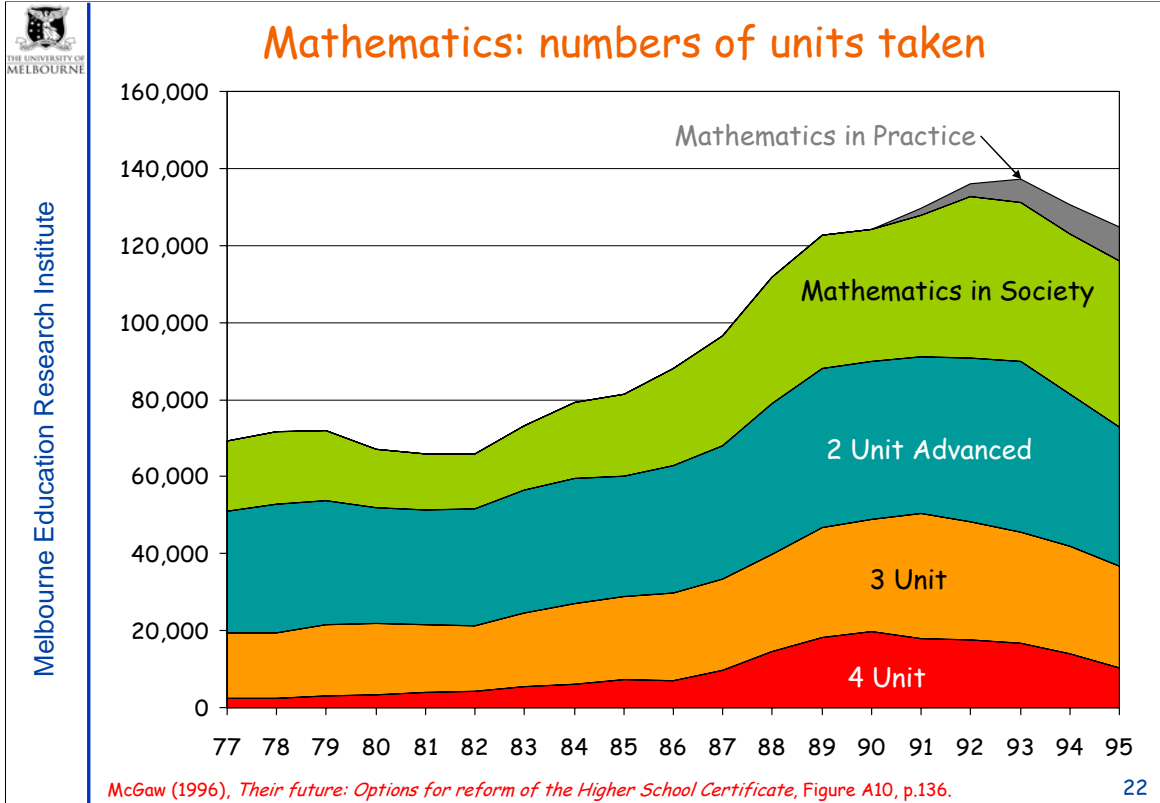
□ Differentiation of courses within subjects

- 4 Unit (Maths, Science)
- 3 Unit
- 2 Unit Advanced
- 2 Unit General: more than one in English, Maths, Science

The new offerings, intended to provide a better fit to the interests and competencies of presumed new types of students now staying on to upper secondary education, often created much more limited pathways for students than the traditional subjects. They became part of a relegation stream.

Universities were often reluctant to consider them for university entrance decisions. Sometimes the argument was made that the new subjects involved disciplines better taught at university on the basis of a more structured and narrowly focused upper secondary curriculum. Secondary education, however, is not only a preparation for tertiary study. Even students intending to go on to tertiary education will study subjects in the upper secondary years that they do not intend to study further.

There was a further important feature of the adjustment of the NSW Higher School Certificate to accommodate a broadening student body. From 1977, most HSC subjects had been differentiated into offerings at different levels. The standard offering was a high-level 3 unit course, an advanced 2-unit course that consisted of two-thirds of the 3-unit course, and a general 2-unit course. In Mathematics and Science there were also 4-unit courses, more demanding than the 3-unit. In English, Mathematics and Science, new less-demanding, 2-unit courses were introduced below the 2-unit General courses: Contemporary English, Mathematics in Practice and Science for Life.

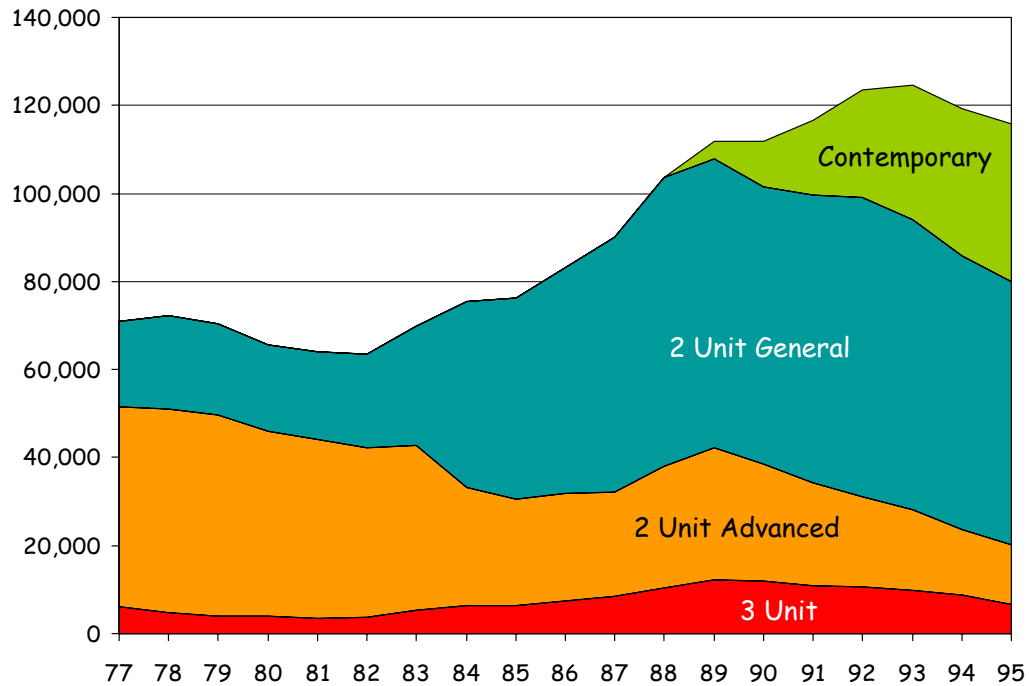


Enrolment levels in Mathematics, in course units of enrolment, are shown in the figure above.

The 4-unit and 3-unit Mathematics courses provided for students wanting to commit more time to the study of mathematics and to do so at an advanced level. The two 2-unit Advanced course also provided for students who might need mathematics as a basis for further study. There was initially a 2-unit General course that offered mathematics for students requiring neither specialist mathematics nor a base for further study in fields drawing on mathematics. This course replaced by Mathematics in Society in 1982 and a further more basic 2-unit course, Mathematics in Practice, was introduced in 1991.

While enrolments in the more advanced 4-unit and 3-unit mathematics courses declined from around 1990, they remained about one third above the initial level of enrolments in 1977. These trends reveal that, as overall enrolments grew in the 1980s, the broadening Year 11-12 cohort did not opt exclusively for the lower level mathematics courses. The more advanced courses also attracted a share of the growing student numbers.

Numbers of English units studied in NSW HSC



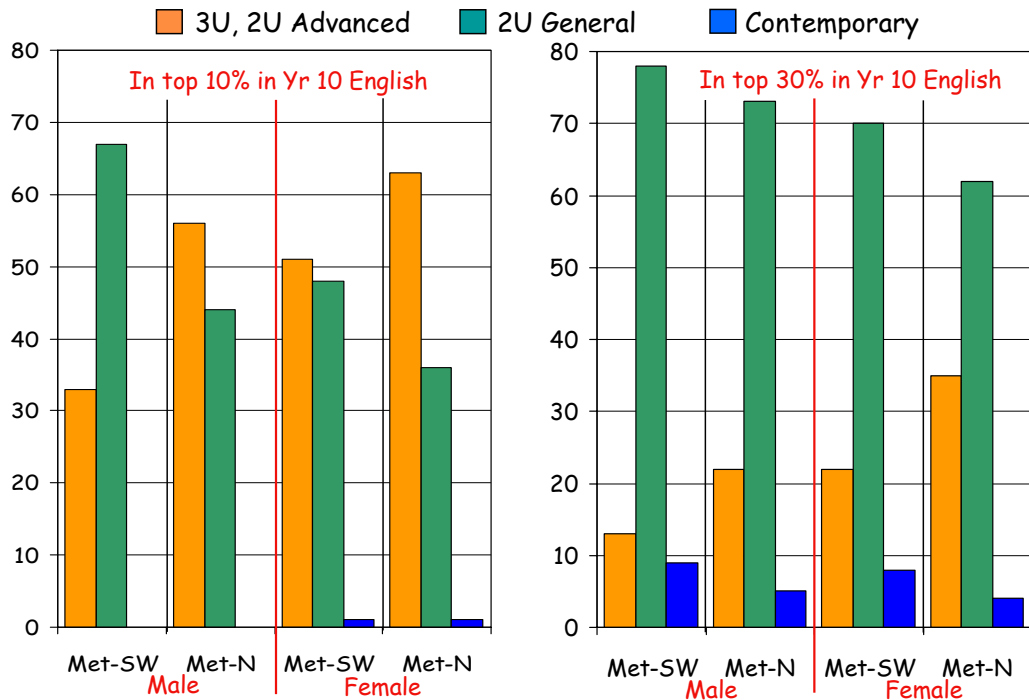
McGaw (1996), *Their future: Options for reform of the Higher School Certificate*, Figure A7, p.134.

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Enrolment levels in English, in course units of enrolment, are shown in the figure above.

As the retention rate to Year 12 rose, it might have been expected that the numbers of students enrolled in the more demanding 3-unit and 2-unit Advanced courses would hold constant, with those in the 2-unit General and then the Contemporary English courses rising to accommodate the broader intake of students. In fact, enrolments in the more demanding courses dropped in absolute terms and those in the less demanding courses grew. (It should be noted that one influence on students' course choices was the perceived impact of the scaling of results in the calculation of university entrance scores, in particular the way in which high scores in less demanding courses were seen to be scaled up.)

HSC English course choices: government schools



Source: McGaw, B. (1997) *Shaping their future*, Table 19, p.44

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Much of the diversity in curriculum offerings applied only for the State as a whole. It was not a reality for individual students.

In NSW in the mid-1990s there were State-wide examinations in English in Year 10 so it is possible to investigate the Year 11-12 course selections of students in relation to Year 10 performance.

The two figures above show the HSC English course selections in government schools in two different regions of Sydney by male and female students with the same level of performance in Year 10 English.

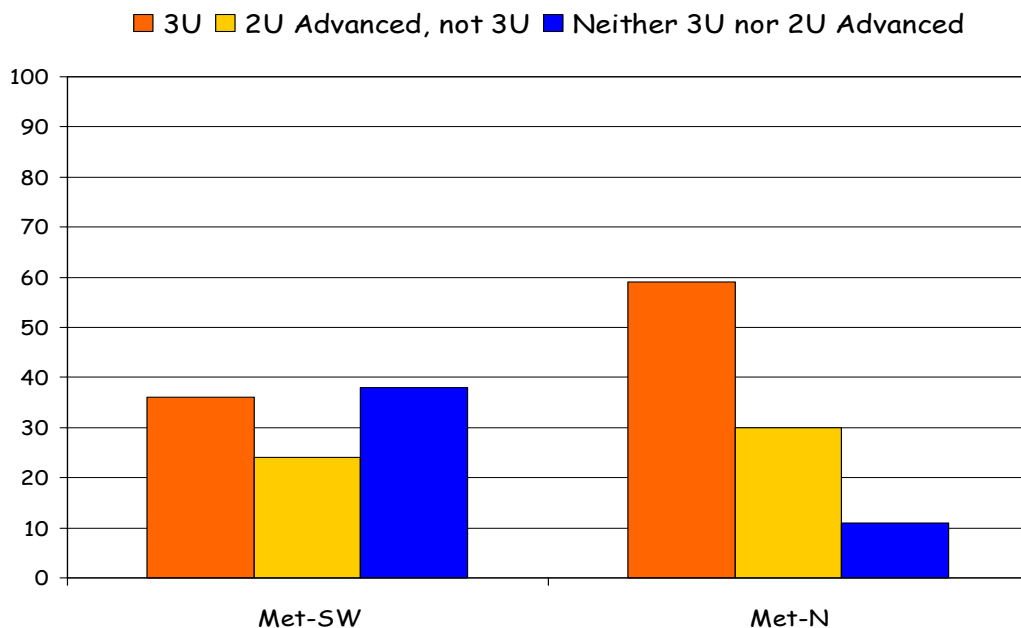
The left-hand panel shows the selections for students in the top 10 per cent in Year 10. Students in Metropolitan Southwest, a lower socio-economic region, were more likely than those in Metropolitan North, a higher socio-economic region, to enrol in the less demanding 2-unit General course and less likely to enrol in either of the more demanding 3-unit or 2-unit Advanced courses.

As shown in the right-hand panel, a similar pattern occurs with students in the top 30 per cent in Year 10 English except that, for this broader group, there is a higher likelihood of students in the Southwest opting down to Contemporary English.

These differences between the two regions apply to both male and female students but there are significant gender differences as well. Males in both regions are likely to enrol in less demanding English courses than females from the same region, despite having equivalent performances in English at the School Certificate.

The important conclusion, however, is that course choice reflects the socio-economic characteristics of the students more than their prior level of achievement in the subject.

HSC English course offerings: govt schools



Source: McGaw, B. (1997) *Shaping their future*, Table 20, p.45

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The differences between the regions are reflected in, and perhaps largely created by, the courses that the schools actually choose to offer. The details on courses offered by the government, non-selective high schools in the Metropolitan Southwest and Metropolitan North regions are shown in the figure above.

Less than 40 per cent of these schools in Metropolitan Southwest offer the 3-unit course, while almost 60 per cent of the schools in Metropolitan North do. In Metropolitan Southwest, 38 per cent of the schools restrict their offerings to Contemporary English and the 2-unit General course while only 11 per cent of those in Metropolitan North do.

The clear message of the figure above and the one in the previous slide is that expectations, and not only prior performance or capacity, determine course enrolments. Where students are encouraged to enrol in less demanding courses than are actually appropriate for them they are denied the challenge to intellectual development that can come from more demanding courses.

The questions then become how much differentiation is necessary to accommodate real differences among students and how little could be coped with to ensure that all students are challenged to intellectual growth in their final years of schooling. The answer need not be the same for all subjects. Since all students enrol in English and a very high proportion of students enrol in Mathematics, there may be more need in both of those subjects to cater for student diversity. The strongly sequential and cumulative nature of learning in Mathematics also adds to the diversity among students by the time they reach the end of Year 10.

Differentiation of the curriculum is introduced with the best of motives – in Germany, for students at age 11 into schools and curricula of different types and in the upper secondary years by subject choice constrained by school offerings – but there are always risks that it will generate inequitable outcomes. The high performing students in Year 10 in south-west Sydney had less opportunity to build on their earlier success than their counterparts in the northern suburbs because their course selections were restricted.

Storyline so far...

There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

Students' social backgrounds are more strongly related to achievement in Australia than in countries such as Canada, Finland and Korea.

Schools differ little in some countries; where they do, much of the difference can be explained by the social backgrounds of individual students and those whose company they keep. The negative effects of poor company may be much greater than any positive effect of good company.

Subject diversity in post-compulsory years can increase inequity through constrained offerings and marked differences in pathways.

Third, some comments on the potential for education to build social cohesion.



The story so far has paid considerable attention to equity in educational outcomes on the grounds that it can contribute substantially to social cohesion. Educational inequity in the sense considered here involves a relatively strong relationship between educational outcomes and social background, with the implication that the education system is consistently conferring privilege on those who already have it and denying it to those who do not.

In all countries, the socially privileged do have an advantage educationally. The reasons, no doubt, lie in a complex mix of genetic and environmental factors. If it were the same in all countries, we might conclude that there is an inevitability about this that no education system might challenge. It is, however, not the same in all countries as the analyses have shown. Some countries do effectively ameliorate the impact of social background to a greater extent than others. They include countries that might be thought to be relatively homogeneous but also Canada, which is rather like Australia in its social mix.

I turn now to consideration of more direct ways in which education systems might contribute to the development of social cohesion.

Notion of social capital

□ Physical capital

- physical tools that enhance productivity
- from a screwdriver to a factory

□ Human capital

- human capacities that enhance productivity
- 'number of years of education' is the standard indicator
- direct measures of knowledge and skills are better

□ Social capital

- social networks (and norms of reciprocity and trust) that enhance productivity
- can enhance the development of human capital

When the OECD convened the chief executives of the national education ministries for the first time in February 2003, they were invited first to nominate the major policy issues with which they expected to deal over the following 3-5 years. They identified continuing work on issues of quality and efficiency which had already been elevated in OECD's work program on education with the implementation of PISA. They added, however, work on the contribution that education might make to the development of social cohesion.

In many OECD countries, the education systems had long been engaged in dealing with increasingly diverse student cohorts as a consequence of demographic changes produced by immigration but that was more reactive than the position that the chief executives had in mind.

The OECD Directorate for Education, through its Centre for Educational Research and Innovation, had already undertaken work on social capital in which it had reviewed evidence on the impact of social capital on human well-being, in health and education as well as on economic development (*The Well-being of Nations*, Paris: OECD, 2001). One of the consultants for this work was Robert Putnam whose work on social capital had become well-known and influential following the publication of his book *Bowling Alone: The Collapse and Revival of American Community*, New York: Simon & Schuster, 2000.

Social capital is defined as "networks and norms of reciprocity and trust". It is important to the effective functioning of societies and the well-being of individuals. Just as physical capital and human capital can enhance productivity, so can social capital.

The typical measure of human capital is only a rough proxy. It is 'number of years of education' but one thing the PISA results show is that the same number of years of education does not produce, on average, the same level of knowledge and skills in all countries. While direct measures of knowledge and skills would be better indicators of human capital than years of education, it is important to note that even this rough proxy has been robust enough to establish the importance of human capital to a range of economic and other outcomes.

In the case of social capital, only rough proxies have so far been used yet they too have been sufficiently robust to establish important relationships with economic and other social outcomes of the type summarised in *The Well-being of Nations*.

Benefits of social capital

- Social networks have value
 - Networks have direct value to network members
 - Networks have 'externalities'
 - e.g. strong neighbourhood network can deter crime for all
- Empirical evidence of impact of social capital
 - Positive
 - lower crime rates, better public health & administration...
 - more efficient capital and labour markets
 - better educational performance
 - Negative
 - but that is possible as for all forms of capital
- Forms of social capital
 - Bonding: links between people similar in class, ethnicity...
 - Bridging: links that cut across social groups

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The social networks that underpin social capital have direct value to network members but can also confer benefits on others who are not members. In that sense, they have 'externalities'. As a simple example, strong neighbourhood networks that deter crime benefit all who live in the neighbourhood, whether or not they are members of the networks.

There is now good empirical evidence on the positive impact that social capital can have. High levels of social capital can lead to lower crime rates, improved child welfare, better public health, better public administration, reduced political corruption, more efficient capital and labour markets and better educational performance. There can be negative effects also when networks provide benefits for members at the cost of those not in the networks. One could point to the Mafia as a group with high social capital that has such a negative effect on others. But physical capital (e.g. guns, communication networks) and human capital (e.g. clever lawyers and financial advisers) can also have negative impact in the hand of a group such as the Mafia.

At least two forms of social capital can be usefully distinguished:

- bonding social capital: ties with a given social or ethnic group
- bridging social capital: ties between groups.

These two forms of social capital are not independent or in opposition. "Dutch researchers, for example, have found that the Turkish immigrants who are most actively involved in broader Dutch society are precisely those who are also most actively involved in the life of the Turkish community itself. Bonding, in short, can be a prelude to bridging, rather than precluding bridging" (Putnam, R. (2004) *Education, diversity, social cohesion and "social capital"*, Paper presented to an OECD Education Ministers Forum on Education and Social Cohesion and available among the documents from that meeting, accessible via the link to background documents on the website: www.oecd.org/edumin2004.)

Schools and social capital

- Few common experiences in modern societies
 - Clubs and other community and social organisations have declined in scope and influence
 - School is said to remain the one common experience
- It is schooling, not school, that is common
 - Schools typically divide - by gender, faith, social background, wealth, geography
 - Schools can readily build bonding social capital
 - Can schools build bridging social capital?
- What might we expect of Australian schools?
 - They clearly divide, and do so increasingly.
 - Do they reinforce divisions?
 - What is the impact of the govt/non-govt division?

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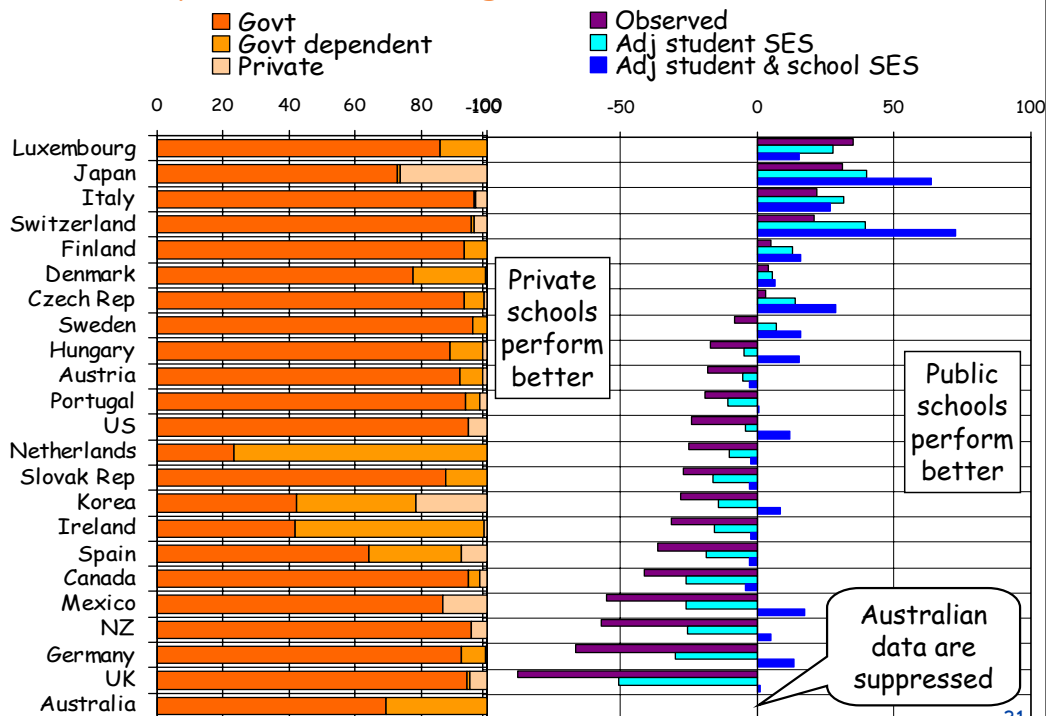
It is often claimed that many of the experiences that used to be shared by young people growing up are no longer available. Various clubs and other social organisations of which young people, and sometimes their families, were members have either substantially declined or disappeared altogether

In this context, it is then often said that school is the one common experience building shared understandings. In fact, it is schooling, not school, that is the common experience. Schools frequently divide on the basis of gender, faith, social background, wealth, geography and so on. Schools are, therefore, well placed to build bonding social capital within their constituencies but the important question is whether they can build bridging social capital.

From an Australian perspective, we can note that our schools clearly divide each cohort of students on all of the dimensions just mentioned. We need to ask whether their practices reinforce the divisions or whether they work in any way effectively to bridge them.

Given the growth of the non-government sector, we need specifically to consider whether that development, in the name of choice and, with government funding, in the name of fiscal fairness, has positive or negative effects on education outcomes and on bridging social capital and, ultimately, social cohesion.

Public & private schooling in the OECD (PISA 2003)



Enrolment data for public and private schooling in OECD countries are provided in OECD's annual publication, *Education at a Glance*. In these data, as shown in the left-hand panel in the figure above, three categories of schools are distinguished:

- Government schools (funded and managed by government agencies)
- Government dependent schools (private managed but with some government finances)
- Private (privately managed and fully privately funded).

In the Netherlands, there are no fully private schools but almost 80 per cent of students attend government-dependent private schools. These schools receive full public funding on the same basis as government schools and do not charge fees in addition. They thus differentiate themselves from the public sector and from each other on the basis of values, faith-commitment, or pedagogy but not resources. In the United States, there are no government-dependent schools (except for a few private schools accepting students with public vouchers). Schools are either publicly funded and run or privately funded and run. In Australia, there are only a small number of private schools. Virtually all schools are either government or government-dependent.

The right-hand panel above shows the difference between PISA 2003 mathematics means scores for government and other schools. When the difference is positive, government schools have a higher mean, as in Luxembourg, Japan, Italy, Switzerland, Finland, Denmark and the Czech Republic (the dark purple bars). Once differences between the school systems in the social backgrounds of their students and the schools have been taken into account, there is no remaining significant overall superiority of non-government schooling in any country (the dark blue bars). The observed superiority of non-government schools in the base data appears to be due to the students they enrol rather than what they do as schools.

Whether this is the case in Australia is unknown since the information distinguishing government and non-government schools in the Australia database is suppressed before it is submitted for international analysis. That practice should be changed.

Storyline so far...

There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

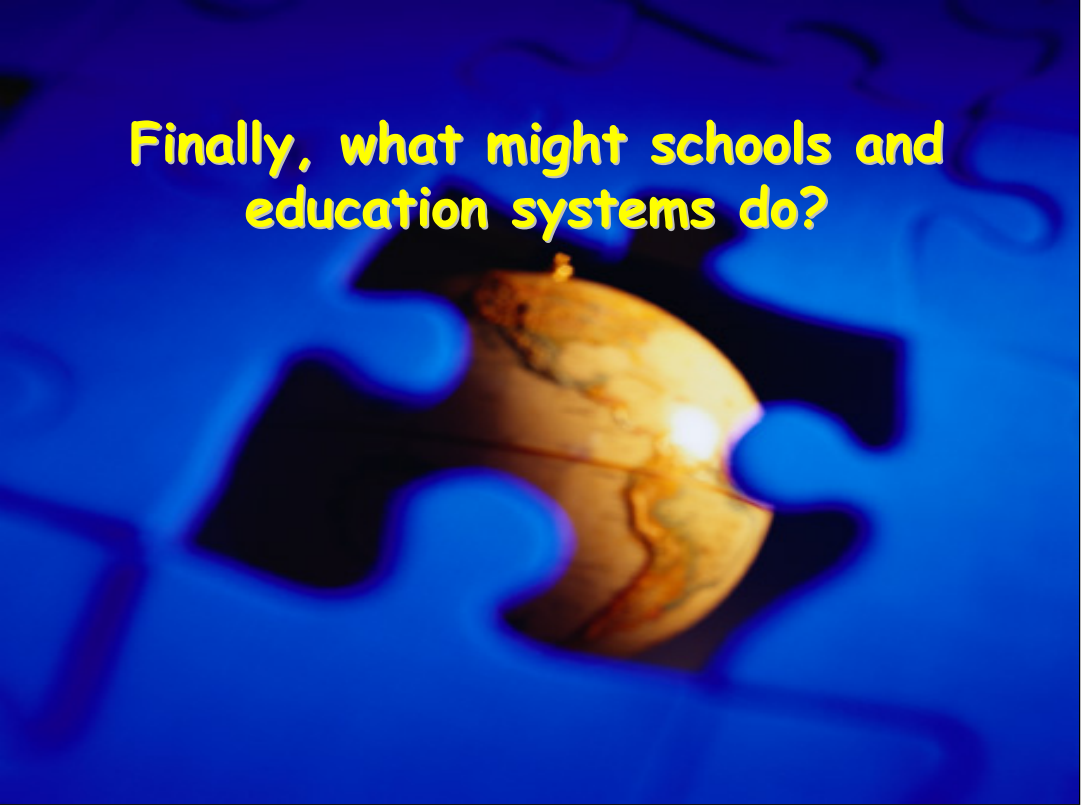
Students' social backgrounds are more strongly related to achievement in Australia than in countries such as Canada, Finland and Korea.

Schools differ little in some countries; where they do, much of the difference can be explained by the social backgrounds of individual students and those whose company they keep. The negative effects of poor company may be much greater than any positive effect of good company. Subject diversity in post-compulsory years can increase inequity

Subject diversity in post-compulsory years can increase inequity through constrained offerings and marked differences in pathway.

Social cohesion depends on building bridging social capital but what roles can schools play in building it?

**Finally, what might schools and
education systems do?**



Can we have it all - differentiation and cohesion?

- Co-location of public and private schools
 - Sharing physical resources
 - Sharing specialist teaching - e.g. languages, technology
 - Sharing extra-curricular activities - e.g. musical events
- Start with services not facilities
 - Considering learning needs of whole community
 - Taking lifelong learning beyond rhetoric & doing it locally
- Connecting with learning beyond schools
 - Co-location of primary school, university and city facility
 - Assistance in finding work
 - Co-location with training facilities
- Familiarity does not necessarily breed respect

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While we do not know the real effects of the differentiation of the Australian education system, it is now well-established. Can we organise schools which are differentiated and collaborating?

Co-location of government and non-government schools is one strategy. An example from the late 1980s in South Australia, is Golden Grove where there are three secondary schools, on one site: government, Catholic and joint Anglican/Uniting Church. They share a library, senior science facilities and home economics and manual arts facilities. They offer different specialist courses, including in languages other than English which they timetable at the same time. Students can move between schools for their courses and have a wider range of choice than any one school could provide. Funds change hands but the net flows are not large. There is one choir and one annual musical production for the three schools together.

There is now growing experience with this kind of co-location but not much systematic evidence about its impact on social capital or, indeed, social cohesion.

The learning needs of all in a community and not only those of school-age could be taken into account. In Caroline Springs in Victoria, when it was discovered that there were already more than 100 home-based businesses, a former office and sales facility was converted to provide space for meetings with clients or other business owners, virtual office services and training courses offered by the University of Ballarat. In Mawson Lakes in South Australia, a government primary school, a Lutheran secondary school and a campus of the University of South Australia are essentially jointly located around the newly constructed Mawson Centre. The university is a majority owner of the Centre but the primary school and the City of Salisbury are joint minority owners. The Centre houses the primary school principal, the university Pro Vice-Chancellor and the city manager for the community and the school uses its elaborately equipped lecture theatre for its assemblies and other activities. The school and community libraries and their staff are integrated in a single facility in the Centre. The school principal has the formal, but not official title, Director of Learning for the Mawson Community, and seeks to play a role in meeting the needs of all learners, not just those of school age. The Lutheran secondary school cooperates with the university in a range of activities for its students.

In NSW, a job assistance centre has been established in one community and co-location of some schooling with training providers is being considered.

Emerging developments

- Delfin Lend Lease - new education services model
 - Delfin staff
 - McGaw with Allan Fels, Hugh Mackay, Rob Hunt
- Issues
 - Scope
 - Governance
 - Sustainability
- Opportunities
 - COAG agenda for human capital development
 - Victorian proposals for new co-operation on government funding
 - Brown-fields re-development more mainstream than new developments

I have used Delfin Lend Lease examples in the foregoing since I know them best. I have been back in Australia only for six months and have only a limited overall picture at this stage. I am currently engaged by Delfin Lend Lease as a consultant for 3-4 days per month to help with the further development of the education model for their communities. I have chosen to do that because I think their developments offer an interesting and potentially very valuable, on-the-ground strategy for enhancing social capital and, through attention to the learning needs of people of all ages in the communities, also for enhancing human capital generally. They have established an eminent persons panel to work with me and it includes Allan Fels, former head of the Australian Competition and Consumer Commission and now Dean of the Australian and New Zealand School of Government, Hugh Mackay the social analyst and author and Rob Hunt, Group Managing Director of Bendigo Bank because of his extensive experience with community banking.

Among the issues to be addressed, scope is relatively straightforward in principle, if not practice. It is that the needs of all learners should be addressed. Governance is more complicated. Community bank boards provide only a partial model. In banking government is essentially only a regulator. In education, it is regulator, partial funder of private providers and a provider. An important question is how a community might govern its education providers. Sustainability is also an issue if we expect collaborative arrangements to persist beyond the involvement of the founders. The bases of ongoing collaboration need to be well defined and documented in ways that bind participants while providing for sufficient flexibility to change as needs change.

New opportunities on a much larger scale are now emerging. In February 2006, the Council of Australian Governments (COAG) acknowledged that its 'human capital agenda ... represents an ambitious partnership' and agreed that the next step would be 'to translate the broad reform agenda agreed to ... into clear measurable outcome and concrete actions'. More collaboration between different levels of governments was envisaged.

We could be moving into exciting times. I am pleased to have come back to Australia at a time when I might share in them.

Storyline so far...

There are marked performance differences among countries. Australia is a relatively high performer, on average, among OECD countries.

Students' social backgrounds are more strongly related to achievement in Australia than in countries such as Canada, Finland and Korea.

Schools differ little in some countries; where they do, much of the difference can be explained by the social backgrounds of individual students and those whose company they keep. The negative effects of poor company may be much greater than any positive effect of good company. Subject diversity in post-compulsory years can increase inequity

Subject diversity in post-compulsory years can increase inequity through constrained offerings and marked differences in pathway.

Social cohesion depends on building bridging social capital but what roles can schools play in building it?

Could co-location and other forms of collaboration between schools in different sectors and other public and private providers help to build bridging social capital and to increase the cohesiveness of communities? 36

Thank-you

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