

ACTLA Inquiry:

The Educational Achievement Gap in the ACT

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Summary

1. Education in the ACT is high quality
2. Education in the ACT is low equity
3. Research on factors contributing to student achievement gaps (ACT and beyond)
4. Socioeconomic data on the ACT
5. UC initiatives
6. Recommendations

1. Education in the ACT is high quality

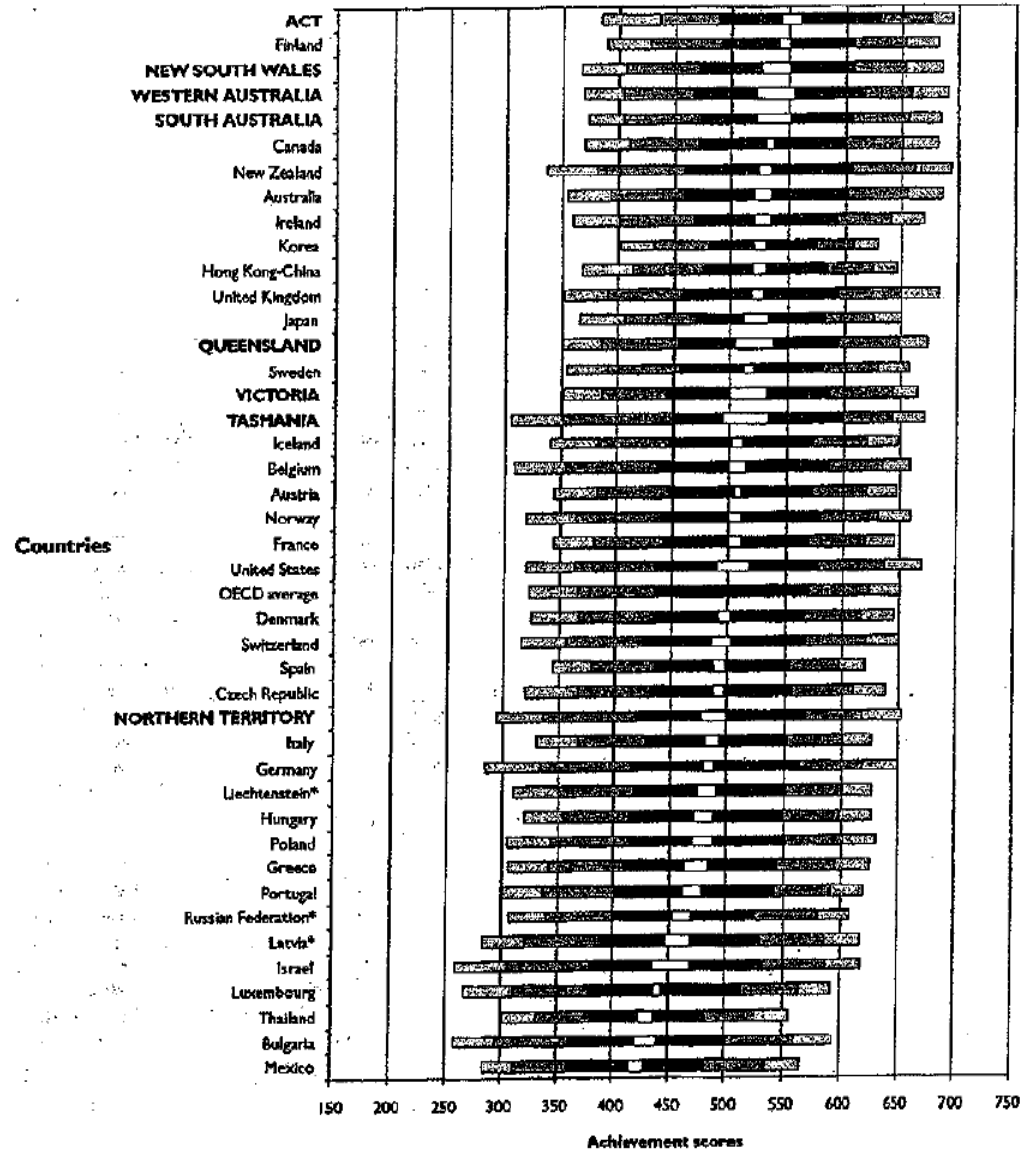
However achievement levels have declined from 2000-2006 relative to other jurisdictions:

Why?



PISA data

National
performance in
reading literacy in
PISA 2000



Source: Marks and Cresswell, 2005, p.143, cited in John P. Keeves and David D. Curtis,
'Research and national debate on Australian schooling', *International Education Journal*,
2006, 7(6), 801-813.

PISA 2006, Reading literacy p 165

Student performance in reading literacy by state

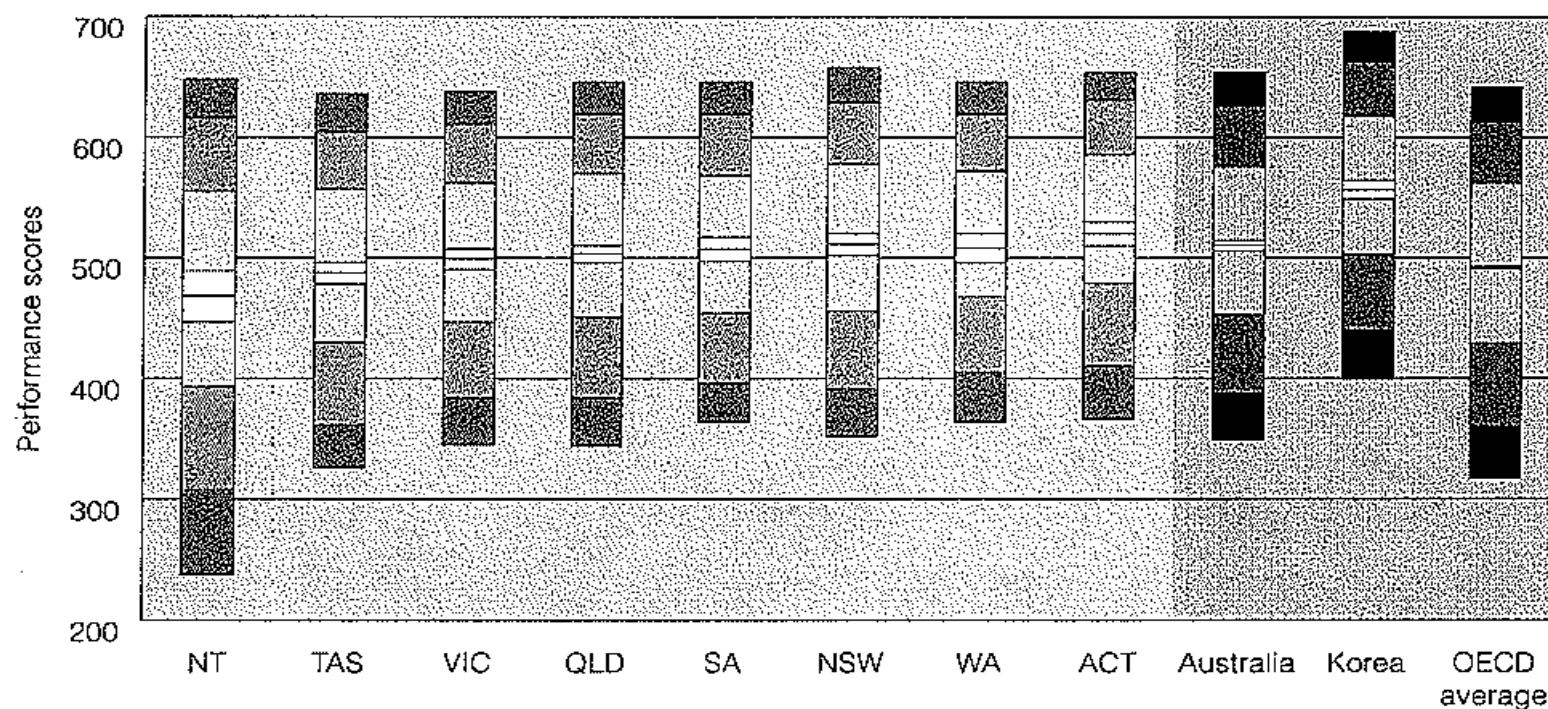


Figure 5.5 Student performance in reading literacy by state

Sue Thomson and Lisa de Bortoli, 'The Performance of Students in the Australian Capital Territory on PISA: Report to the ACT Department of Education and Training', ACER (February 2008)

PISA 2006, Scientific literacy p 70

Student performance in scientific literacy by state

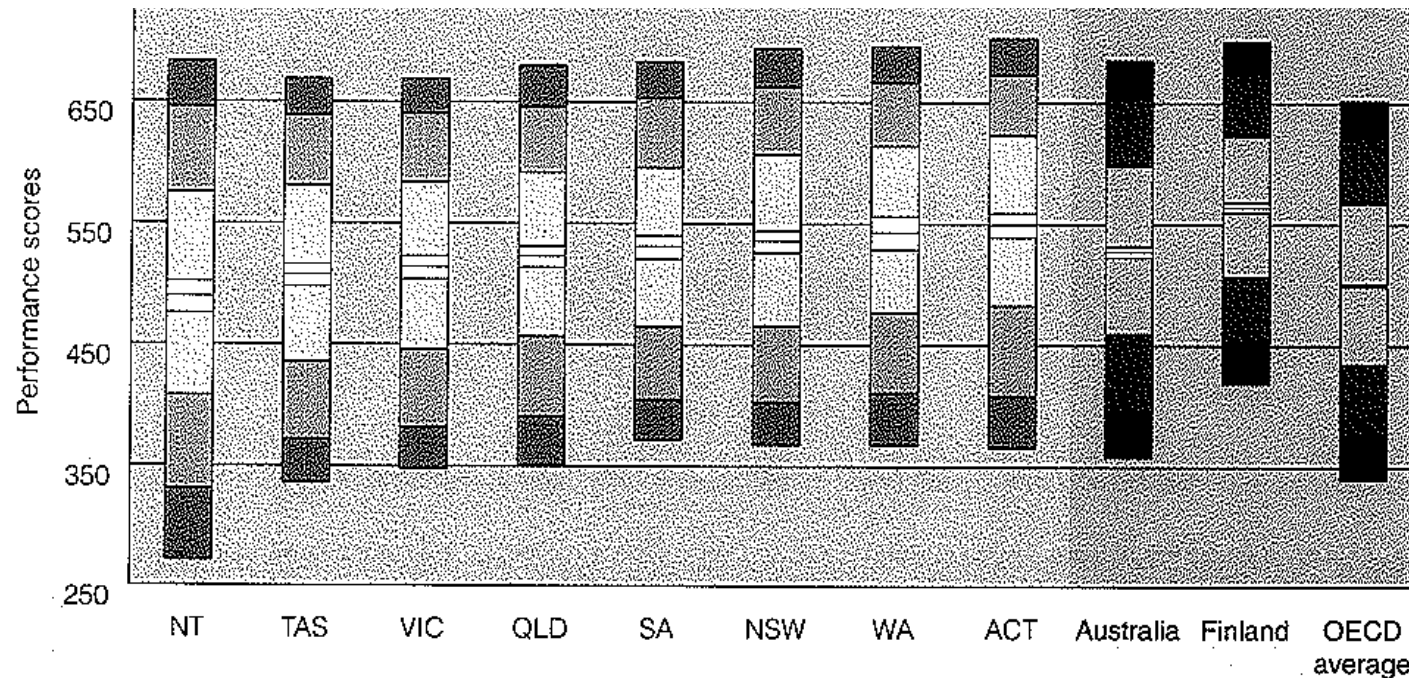


Figure 3.5 Student performance in scientific literacy by state

Sue Thomson and Lisa de Bortoli, 'The Performance of Students in the Australian Capital Territory on PISA: Report to the ACT Department of Education and Training', ACER (February 2008)

PISA 2006, Mathematical literacy ^{p202}

Student performance in mathematical literacy by state

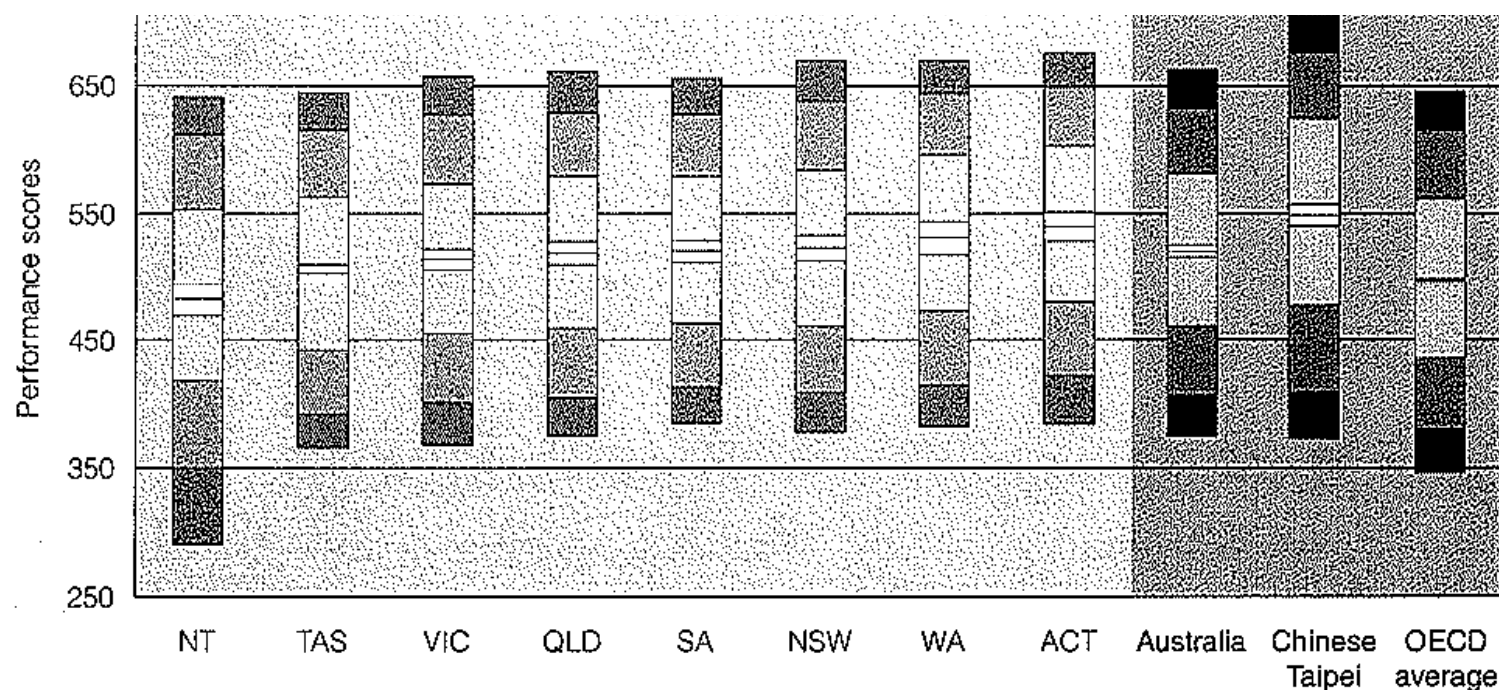


Figure 6.6 Student performance in mathematical literacy by state

Sue Thomson and Lisa de Bortoli, 'The Performance of Students in the Australian Capital Territory on PISA: Report to the ACT Department of Education and Training', ACER (February 2008)

2. Education in the ACT is low equity

Meaning compared with other non-Australian jurisdictions there is a larger spread of results or a larger gap.



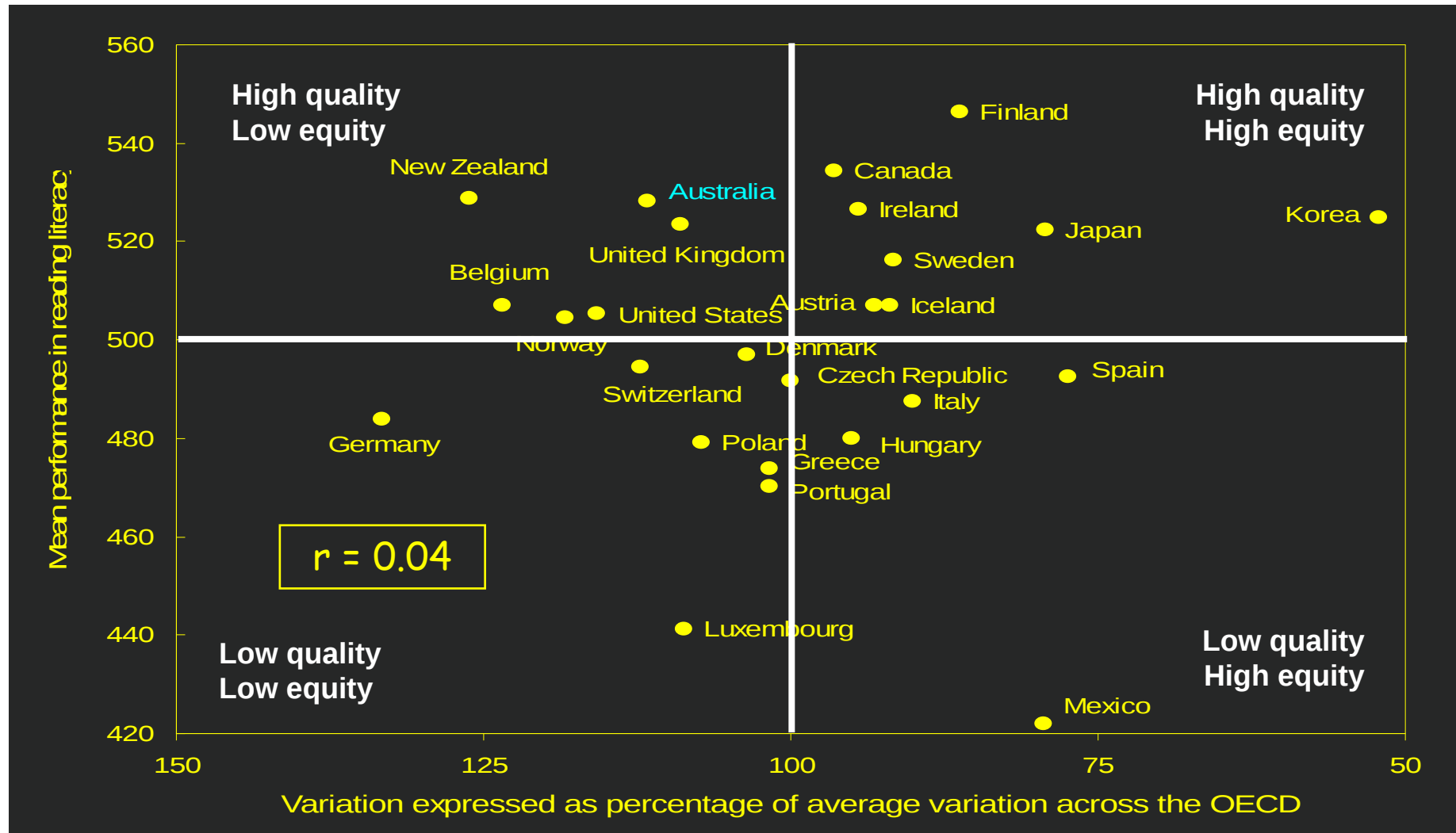
Performance in scientific literacy and the impact of socio-economic background



Source: Sue Thomson and Lisa de Bortoli, 'The Performance of Students in the Australian Capital Territory on PISA: Report to the ACT Department of Education and Training', ACER (February 2008), p. 31.

- The ACT has a higher 'above average impact of socio-economic background' than for Australia as a whole in Scientific Literacy (Thomson and de Bortoli 2008)
- Australia as a whole is considered high achieving and low equity in international terms (OECD PISA 2006)

Relationship between mean and spread



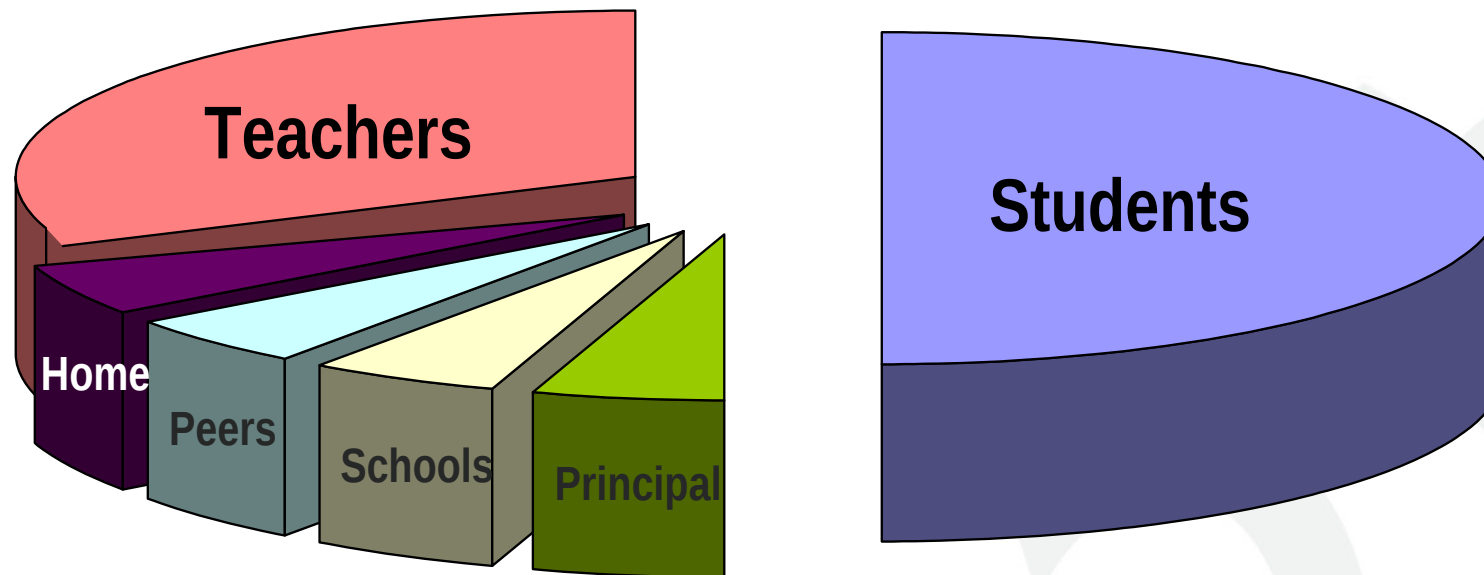
Source: Source: OECD (2001) *Knowledge and skills for life*, Appendix B1, Table 2.3a, p.253, Table 2.4, p.257.

What is the cause of the gaps in ACT results?

- ACT research on gaps in achievement
- Australian research on gaps in achievement
- International research on gaps in achievement

Identifying what matters (Hattie 2007)

Percentage of Achievement Variance



Source: Hattie (2007) GET

Relative effect sizes?

- Which factors impact on student achievement and what is the relative effect of each factor?
- ACT DET submission - the teacher accounts for about 30% of the achievement variance ('therefore the quality of the teacher is the most important issue')
- What about the other 70% of variance?
- What can be done about the non-teacher factors?

Some recent ACT research on student achievement

Collaborative research project between ACT DET and UC:

- Project analyses the impact of a range of factors on student achievement.
- Researchers Dr Anne Daly and Dr Louise Watson are tracking student performance from Kindergarten to Yr 5.
- Project looks at **individual** and **school level** effects on performance in national tests.

Preliminary Findings (Daly and Watson 2009)

*Collaborative research project between ACT DET
and UC on student achievement:*

- A student's performance by the end of kindergarten is the strongest predictor of their subsequent level of attainment in Yr 5.
- Attending a school with a low average SES was found to have a negative impact on students' improvement during the kindergarten year scores compared to attending a school with a high average SES.

Preliminary Findings (Daly and Watson 2009)

*Collaborative research project between ACT DET
and UC on student achievement:*

- Hence - schooling practices are not able to make an intervention in the achievement gaps that exist in K and continue to yr 5.

Some recent Australian research

- Considine and Zappala (2002 LSAY- ACER)
- McGaw re PISA
- McConaghy et al (2008 NSW Rural Teacher Education Project with NSW DET)

Considine and Zappala (2002)

- Sample of over Australian 3000 students from financially disadvantaged backgrounds.
- Estimated the extent of socioeconomic, family, individual and contextual factors on school education performance.
- Results obtained using *binomial logistic regression techniques*.

G. Considine & G. Zappalà, 'The influence of social and economic disadvantage in the academic performance of school students in Australia', *Journal of Sociology*, 38(2), 2002, pp.129-148.

Considine and Zappala (2002)

Significant	Not significant
• gender • unexplained absences • parental education attainment • housing type • ethnicity	• family structure • main source of family income • geographical location

Professor Barry McGaw (2007)

In Australia, 68 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*
- *28 per cent the average social background of students in the schools.*

Differences among Australian schools are much more influenced by whom they enrol than by what they do.

Source: McGaw (2007) ASPA Conference

NSW Rural Teacher Education Project (2008)

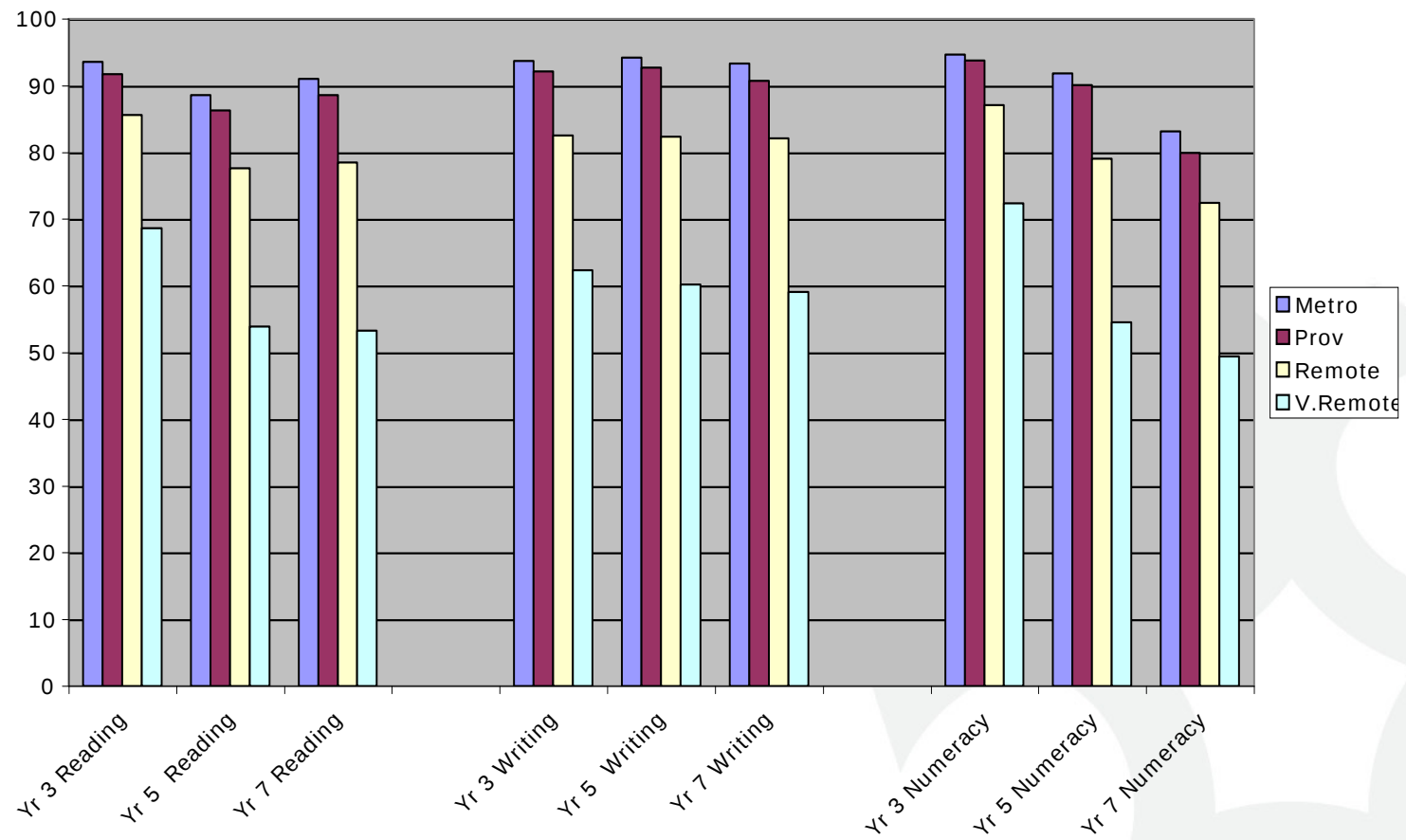
In rural NSW, disadvantage is linked more to complex within-region stratifications rather than to straight-line distance from metropolitan areas.

Some rural communities are affected more than others, and some members of rural communities are affected more than others.

Educational attainment is linked to a complex dynamic of social, economic, geographical and educational factors

Cathryn McConaghy et al. Place, Poverty and Student Outcomes. In W. Green ed. *Spaces and Places. The NSW Rural Teacher Education Project*. CIS. Wagga Wagga 2008, 183-221.

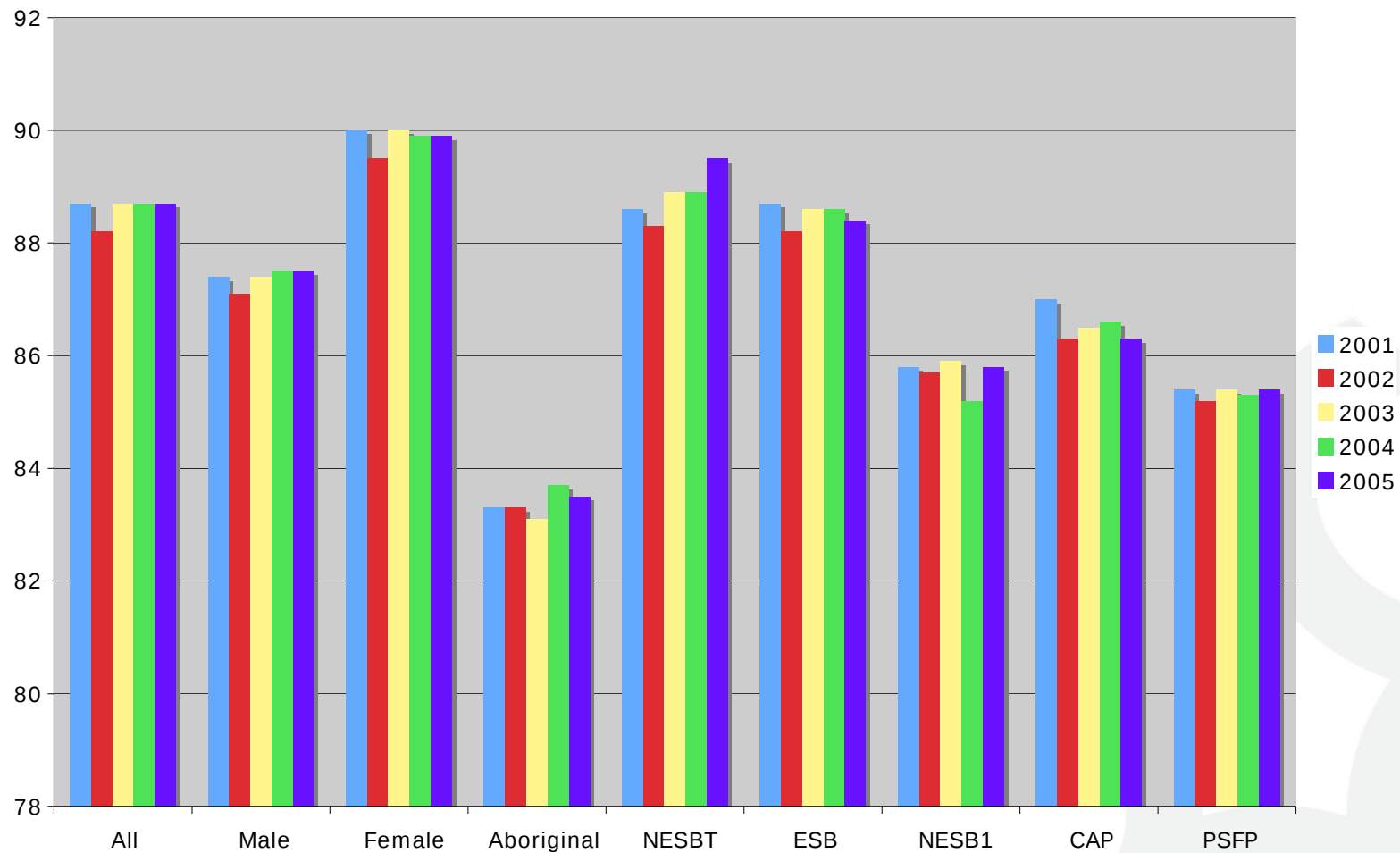
NSW Students % Achieving National Benchmarks



Annual Reporting on Gaps in Achievement

- NSW DET collects and publishes data on student achievement by equity group
- ACT DET publishes means of student achievement

NSW ELLa (Yr 7 Literacy) means by equity group



NSW Rural Teacher Education Project (2008)

The 'SSASSO' model

- Schooling outcomes at three levels of spatial organisation are analysed: state, regional and local School Education area.
- Student outcomes are then correlated with schooling data and sociological data.

**Table 4: Summary of Sociological Correlations with Lower BST Scores in
New England Region**

Significant Correlation	No Significant Correlation
Low attendance	Remoteness factors- school location, distance from regional centres, low population density
Low computer usage at home	Size of school
Indigeneity	Teacher entitlement
Low internet usage at home	Student enrolment
High socio-economic disadvantage indicator (ABS) and Year 5 scores	Average taxable income
Type of school (primary score lower than central)	CAP status
Non-PSFP	% of 0-9 year old computer usage at home
Higher than average teacher appointments and Year 3 scores	Unemployment rates of location
	Income support levels in location
	Population change 1996-2001
	Location in particular SEA

Cathryn McConaghy et al. Place, Poverty and Student Outcomes. In W. Green ed. *Spaces and Places. The NSW Rural Teacher Education Project*. CIS. Wagga Wagga 2008, 183-221.

Jo Sparkes, 'Schools, Education and Social Exclusion', London School of Economics (1999)

- It is evident that combinations of social disadvantage powerfully affect school performance with up to 75% of school variation in 16 year old attainment at GCSE associated with pupil intake factors.

The Economic Impact of the Achievement Gap in America's Schools (McKinsey & Co 2009)

- Avoidable shortfalls in academic achievement impose heavy and often tragic consequences, via lower earnings, poorer health, and higher rates of incarceration.
- lagging achievement at fourth grade appears to be a powerful predictor of rates of high school and college graduation, as well as lifetime earnings.
- closing the gap in USA to that of Finland and Korea, GDP in 2008 could have been \$1.3 trillion to \$2.3 trillion higher (9 to 16 percent of GDP).

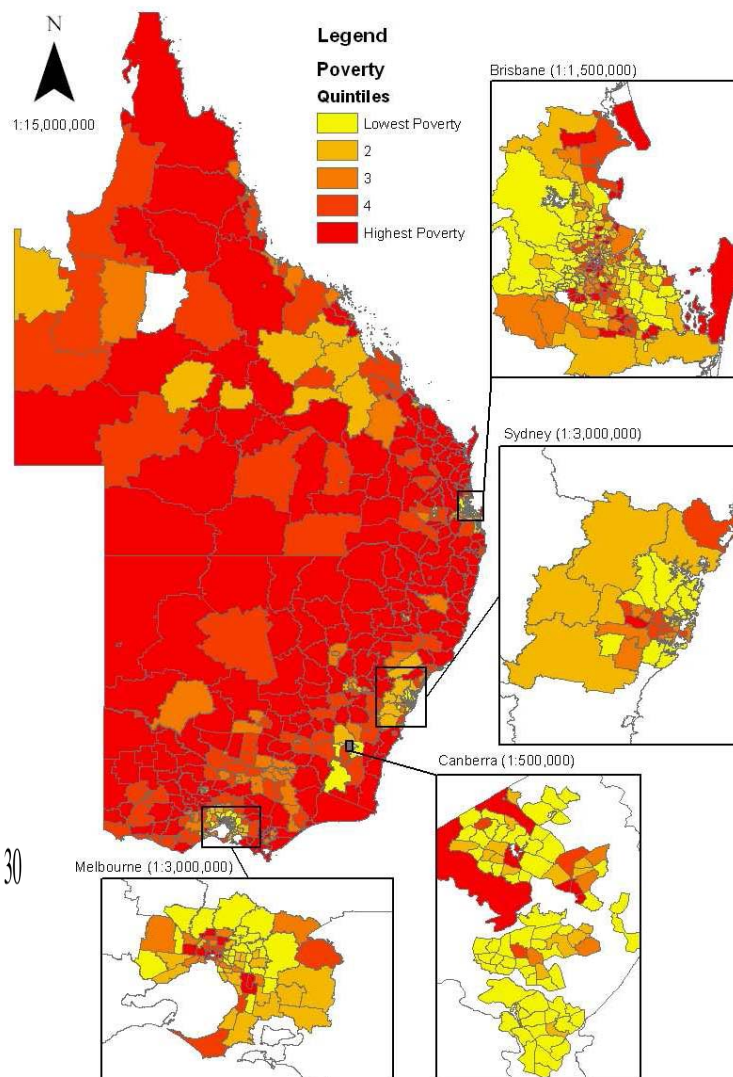
Types of research needed

- Multivariate analysis of factors impacting on student achievement variance
- Which factors have what effect on student achievement in what location/s?
- Different factors (schooling and socio-economic) effect boys than effect girls
- McConaghy 2008 - NSW rural areas: boys low scores and declining town population; girls low scores and high teacher turnover

Socioeconomic data for the ACT



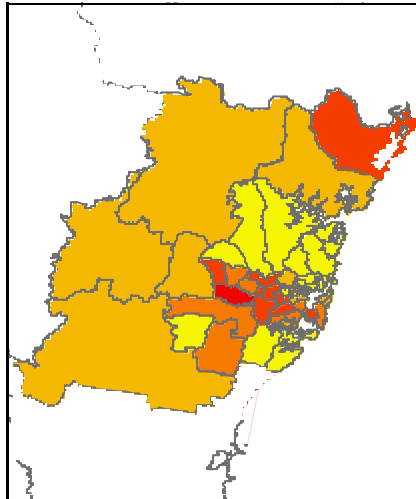
Poverty



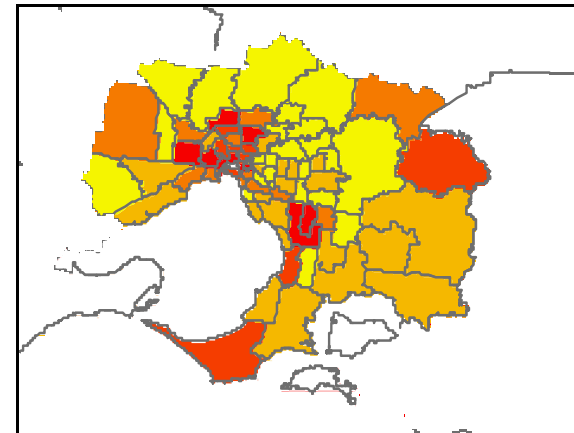
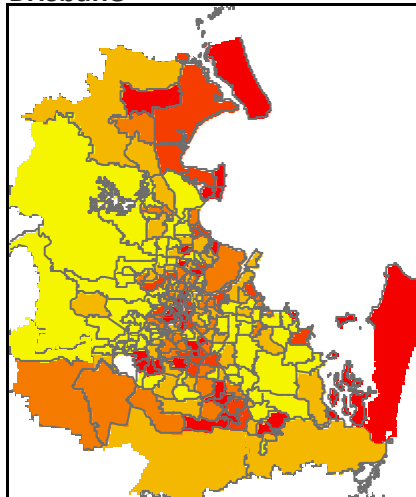
Robert Tanton, Ann Harding and Justine McNamara, *Urban and Rural Estimates of Poverty*, Paper Prepared for the State of Australian Cities Conference, Adelaide, 28- 30 November 2007.

Poverty

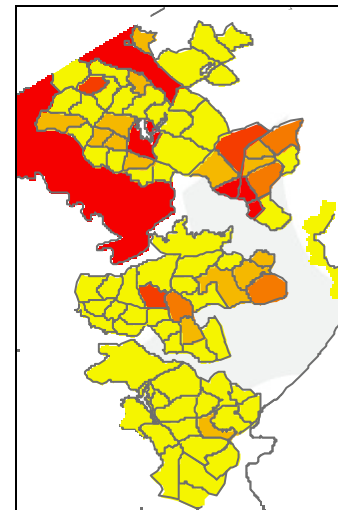
Sydney



Brisbane



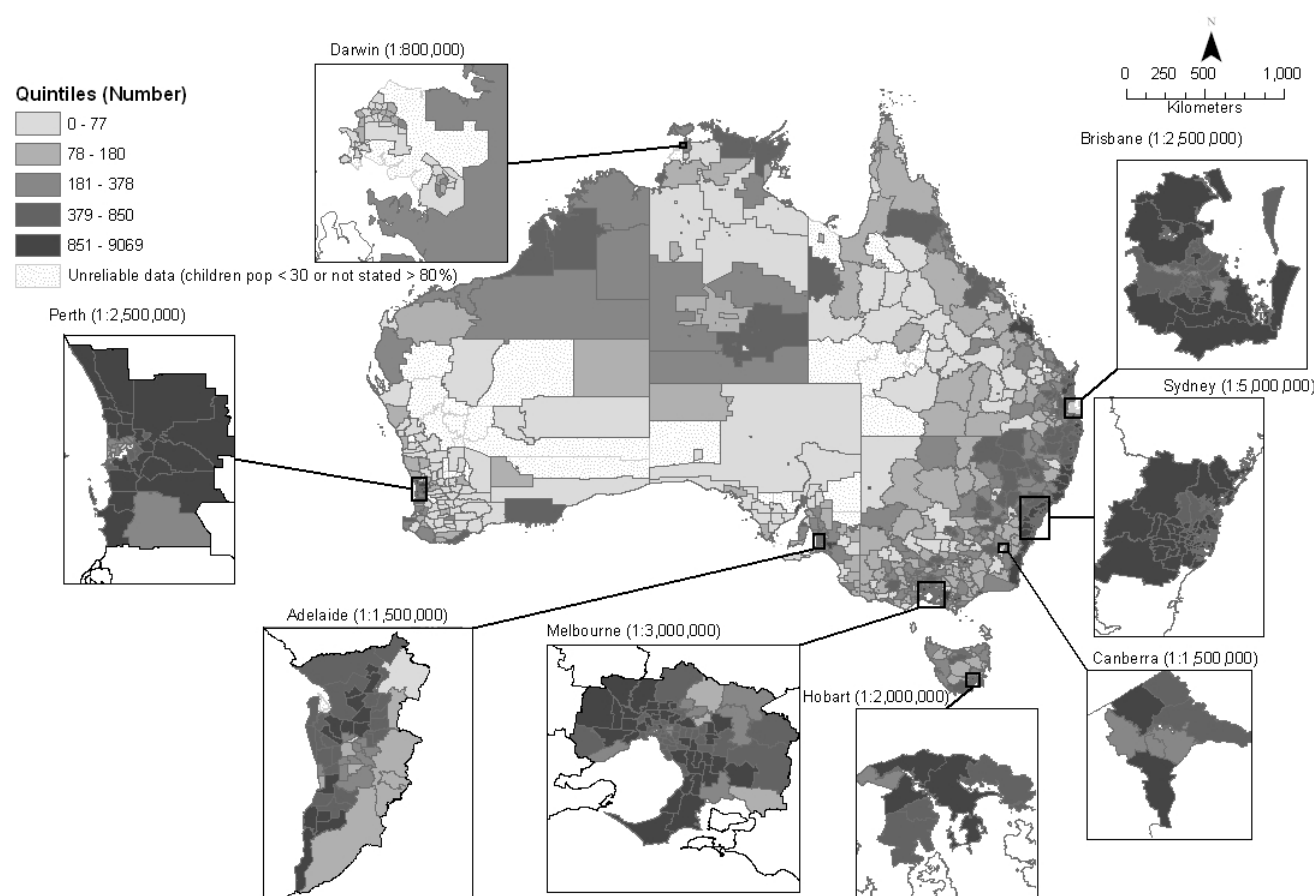
Canberra



Number of Children in Jobless Families

- The proportion of children living in jobless households is widely regarded as one of the most important social indicators.
- Earlier research has shown that it is linked to poorer outcomes later in life and to child poverty (NATSEM).

NATSEM, The Number of Children in Jobless Families, 2006



Notes: Brisbane has been aggregated to wards and Canberra to Statistical Sub-Divisions to allow comparison with other Australia SLAs

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Responses to ACT educational achievement gaps

- 2008 established the Centre for Research on Education, Poverty and Social Inclusion (CREPSI)
 - Multivariate analyses of educational achievement
 - The social determinants of educational achievement
 - Index of Educational Disadvantage
 - Reconnecting education and social policy
- Academic advisors to ACT National Partnerships
 - Low SES schools
 - Literacy and Numeracy

Teacher Education at UC

- on-going review of the quality of teacher education programs
- ACT Teacher Quality Institute
- New courses in collaboration with ANU (Science, Maths and Asian Languages)
- 5 year initial qualification in 2010- The Master of Teaching
- Closer partnerships with ACT schools in the preparation of teachers
- Postgraduate courses for teacher professional development in Leadership, Early Childhood and Special Education
- School Centres of Teacher Education Excellence
- InSPIRE Centre for development of new technologies in education

Recommendations

- ACT analysis of data (an MOA exists between DET and UC to analyse student achievement data).
- Identify social determinants of educational under-achievement in the ACT.
- Identify what schooling practices and social programs narrow the gaps.

Recommendations

- Connect educational, social and economic policy for the ACT.
- ACT DET to report on differentials in educational achievement
- Develop Australian (ACT) models of social inclusion and exclusion.