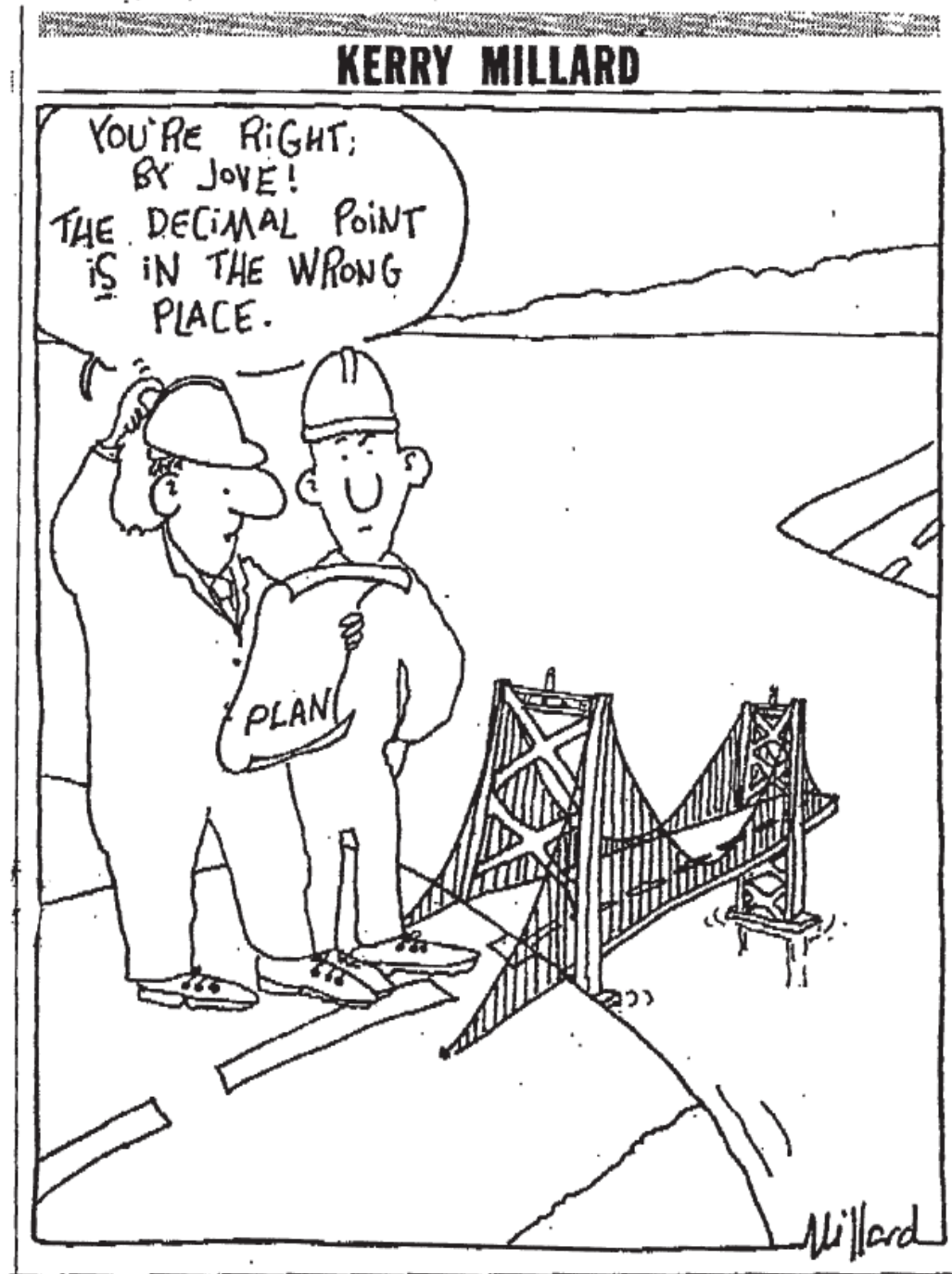


Don't forget the numeracy in LLN

Dave Tout, ACER: David.Tout@acer.edu.au

Why is numeracy/ maths vital?



Numeracy skills

No. and proportion with skill levels: below level 1, L1 or L2 (Ages 15-74)

ALLS (2006) updated

Literacy scale		Numeracy scale	
No.	%	No.	%
6,932,300	45.9%	7,720,500	51.1%

PIAAC (2011/12)

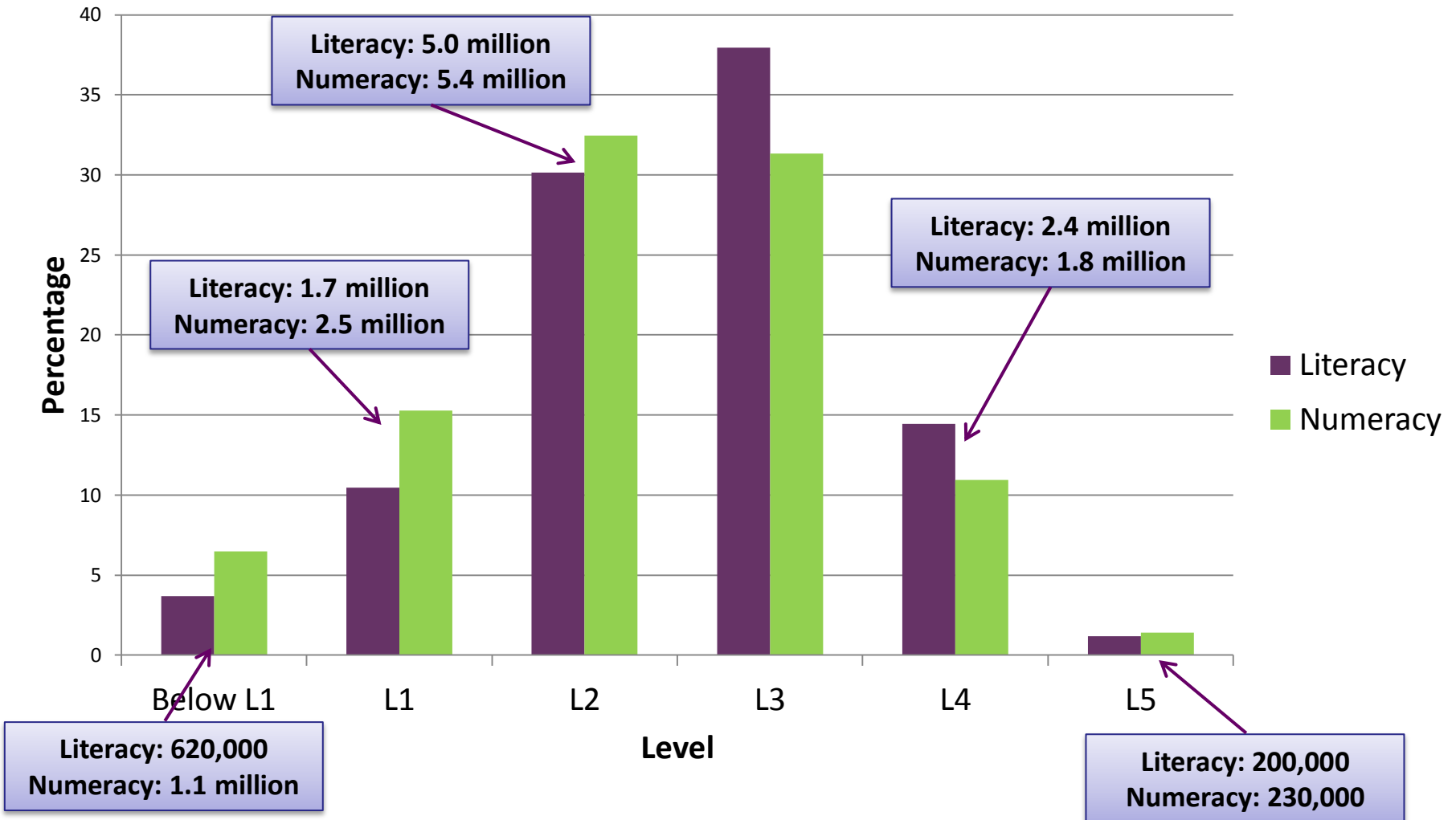
	Literacy		Numeracy	
	No.	%	No.	%
Total	7,397,100	44.3%	9,054,700	54.2%
Employed	4,302,900	38.8%	5,416,700	48.9%

Mean ALLS and PIAAC score for ages 16-64 year olds

Literacy Mean score		Numeracy Mean score	
ALLS	PIAAC	ALLS	PIAAC
277	280	272	268

PIAAC results

Performance by Level (15-74 yrs)

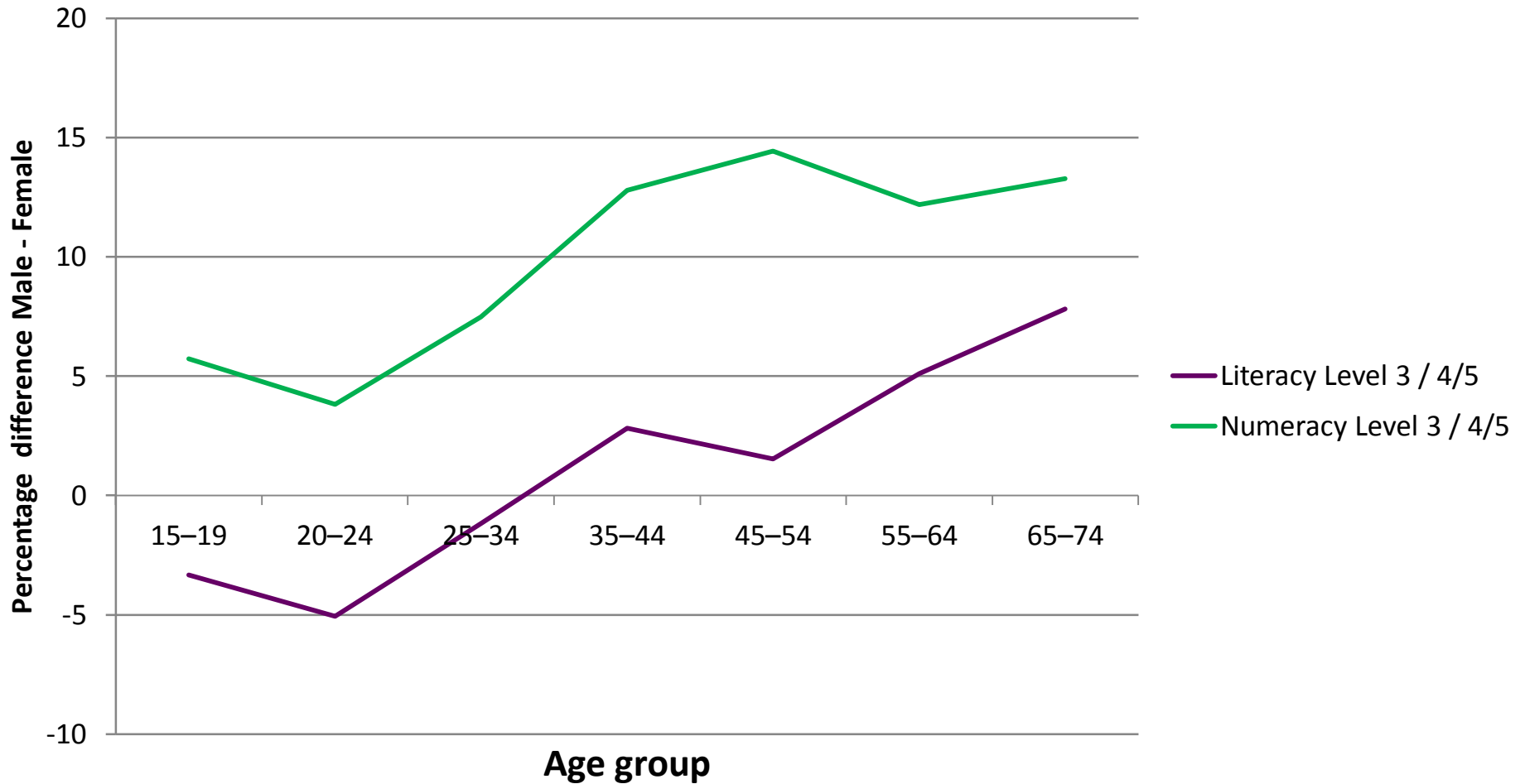


Proportions of persons in Literacy and Numeracy in PIAAC. Total Australian population aged 15-74 years.

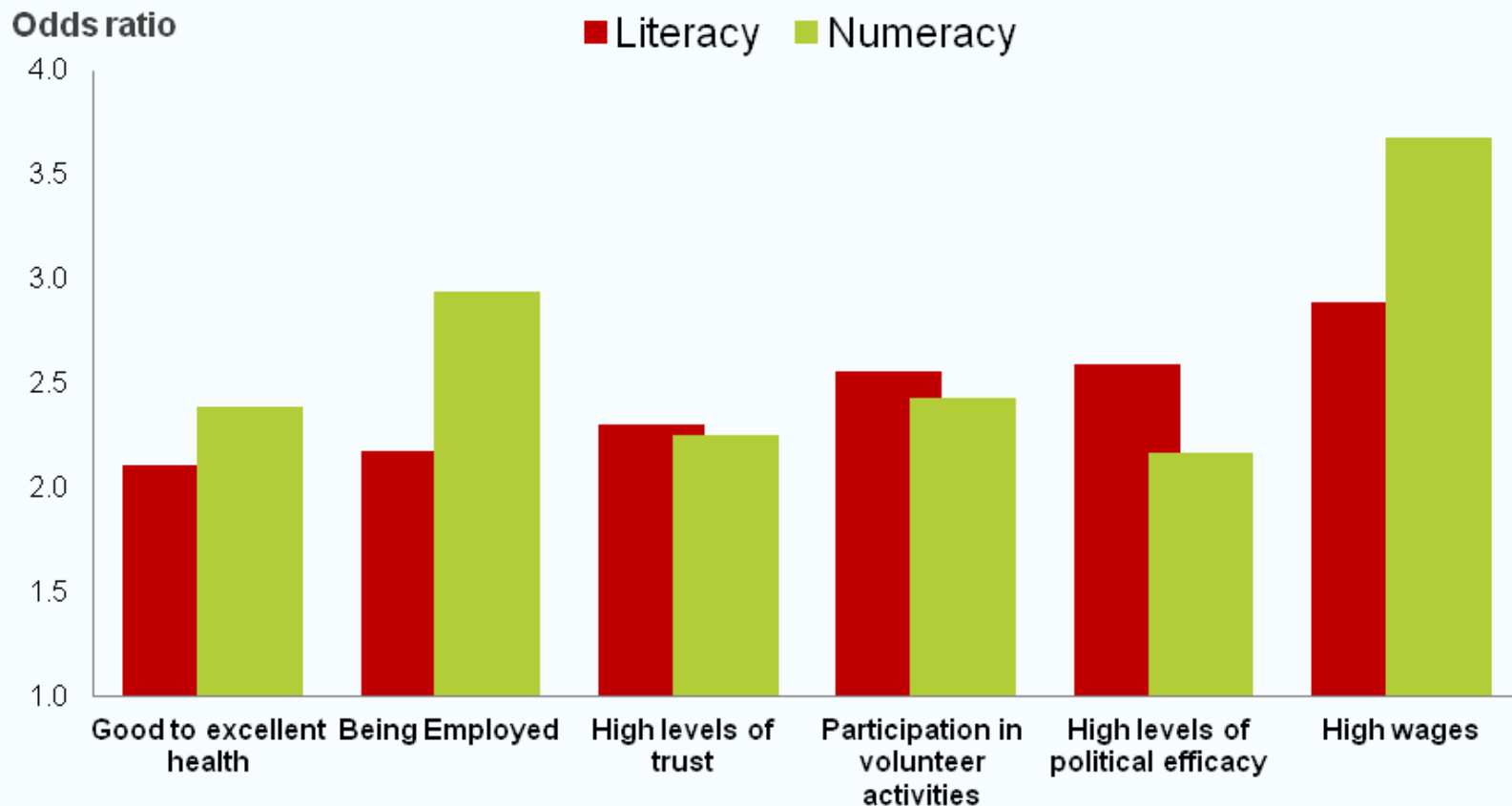
PIAAC results



Gender difference: %Males-%Females at levels 3/4/5 by Age group



PIAAC results



As an example of the analytic potential of PIAAC this graph shows that adults with high proficiencies in literacy and in numeracy are much more likely, compared to those with lower skills, to report good health, to be employed, to have higher earnings, and to have positive social dispositions and take part in community life. And that **numeracy** appears to be a more potent predictor of social and economic outcomes such as **health, employment, and high salary**, compared with literacy.

Other research



- Some research is indicating numeracy can play a more important role than literacy in both human and social capital terms.
- Another example is the Bynner and Parsons research from the UK that indicates that for women, while the impact of low literacy and low numeracy is substantial, low numeracy has the greatest negative effect, even when it is combined with competent literacy. ... Poor numeracy skills make it difficult to function effectively in all areas of modern life, particularly for women.
(Bynner & Parsons, 2005, p. 7)

Teaching numeracy

- Teach in context – connect to the real world – use real texts and real situations – use relevant and interesting topics and themes (the world is rich in maths) to engage students
- Use a problem solving, investigative, open-ended approach (can utilise the value of the internet)
- Use different strategies and activities – cater for different learning styles – support and encourage students' ways of doing
- Encourage team work
- Make the maths skills explicit – teach how to excavate them from the text/context

Teaching numeracy

- Scaffold and model – support the learners
- Assess appropriately using the above approaches – use technology: blogs, digital photos, movies & stories, webpages, posters, project materials and outcomes, journals & diaries
- Use individual, small and whole group activities
- Connect language and maths – talk maths - crucial
- Build confidence – have fun and success!
- Throw out text books!

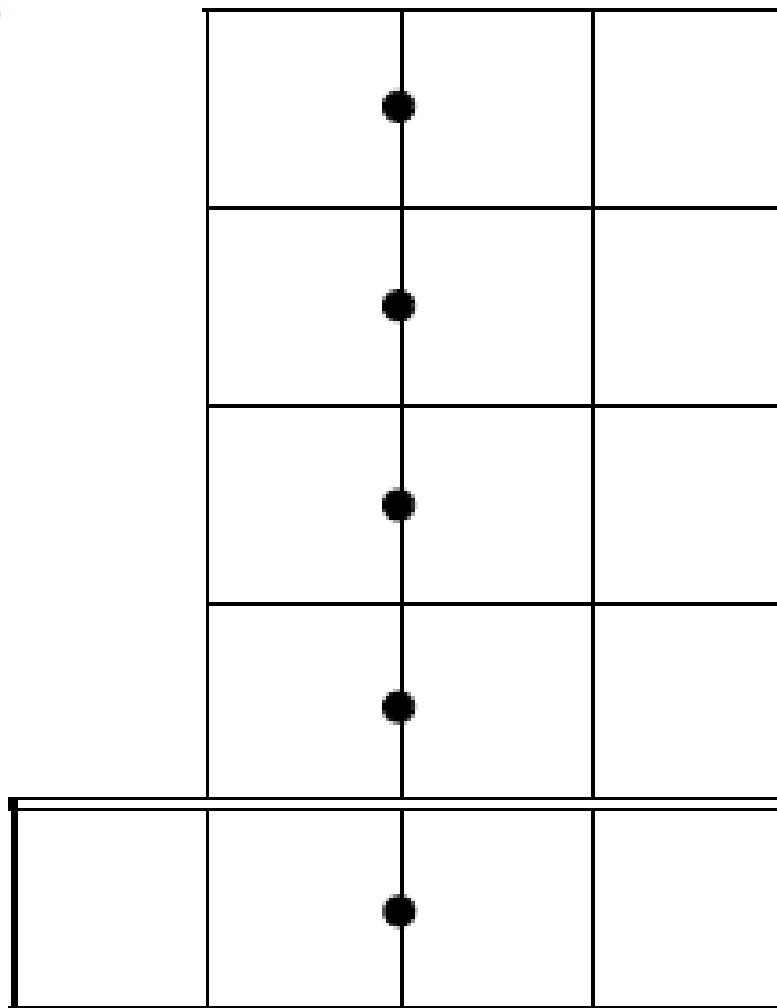
Fun and games

DG2. Triple digit 1

				Row 1
				Row 2
				Row 3
				Row 4
				TOTAL

Fun and games

DG6. Decimal digits



Using real life materials

What questions could you ask using these cards?

- For different levels?
- For different content areas/learning outcomes?



0 200842 504621

OLIVES


PRICE/kg	USE BY
\$ 19.60	07.11.10
NET WT kg	TOTAL PRICE
0.415	\$ 8.13



0 200765 505354

TASTY CHEESE


PRICE/kg	USE BY
\$ 9.90	09.12.10
NET WT kg	TOTAL PRICE
0.525	\$ 5.20



0 200851 404676

LEG HAM

PRICE/kg	USE BY
\$ 14.85	12.11.10
NET WT kg	TOTAL PRICE
0.451	\$ 6.70



0 200400 405304

DRIED TOMATOES

PRICE/kg	USE BY
\$ 17.99	11.12.10
NET WT kg	TOTAL PRICE
0.531	\$ 9.55

Co-operative logic problems



Co-operative logic problems:

- encourages maths talk
- encourages sharing of knowledge and understanding
- enables the teacher to observe the skills and knowledge of students
- supports problem solving skills and teamwork too
- Fun too!

Further Resources



For a list of resources and a pdf of handouts email Dave on:

David.Tout@acer.edu.au

Resources list: [Some numeracy references and materials DaveT.pdf](#)

Further PIAAC information



For the details of the Australian results go to the ABS website at:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4228.0Main+Features12011-12?OpenDocument>

PIAAC conference videos:

<http://vimeo.com/user21847172/videos/page:1/sort:date>

<http://vimeo.com/79372616>

The OECD website for PIAAC is: <http://www.oecd.org/site/piaac/>

The various reports are available from here:

<http://www.oecd.org/site/piaac/publications.htm>

The International Data Explorer where you can play with some of the international data is available here:

<http://piaacdataexplorer.oecd.org/ide/idepiaac/>

The pdf of the Canadian report is available from here:

<http://www.statcan.gc.ca/pub/89-555-x/89-555-x2013001-eng.pdf>

Questions?

