

# The latest international survey of adult skills: What does PIAAC mean for us in New Zealand?



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# PIAAC 'insiders' on PIAAC

<http://vimeo.com/79372616>

# Focus questions

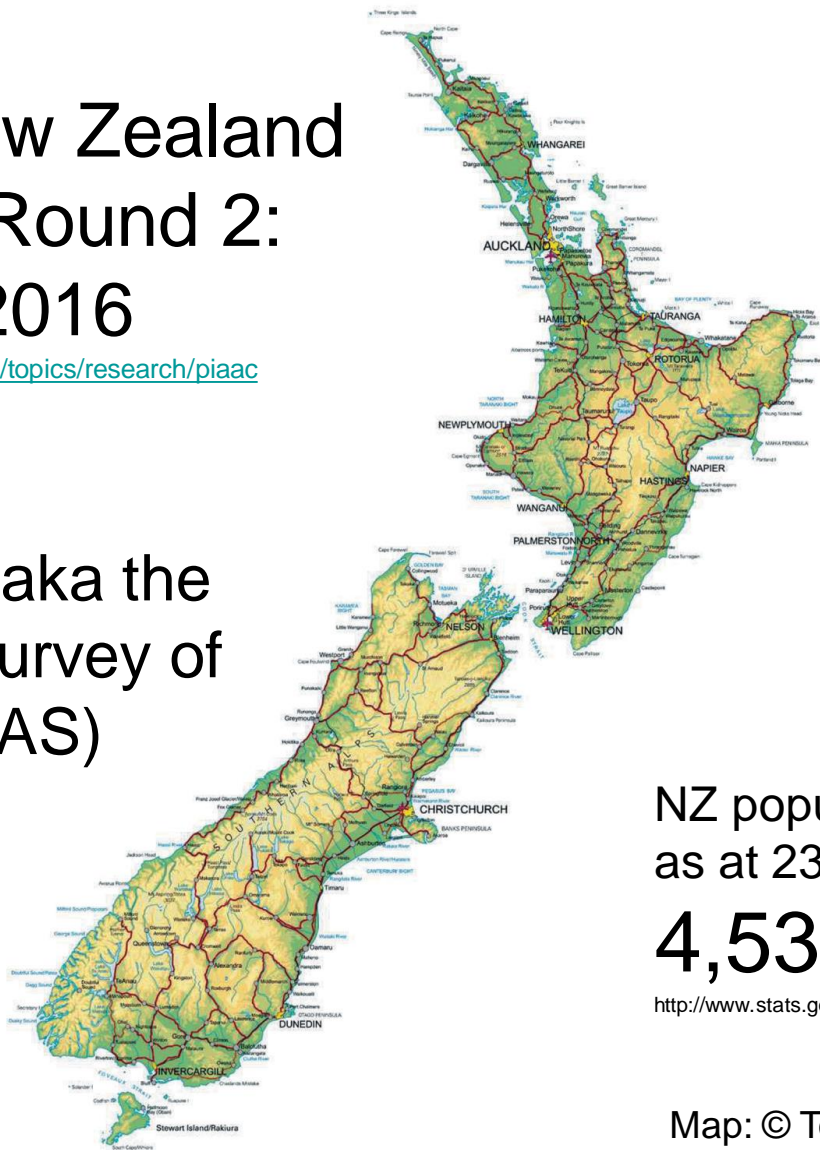
- What can PIAAC tell us – and what can it not tell us?
- What kinds of shifts in adults skills in the population might we expect to see since the ALL Survey reported in 2006?
- What might PIAAC mean for adult literacy and numeracy educators, learners and the general public?
- What are the implications of PIAAC for educators?

# Aotearoa New Zealand is in PIAAC Round 2: results due 2016

<http://www.educationcounts.govt.nz/topics/research/piaac>

## PIAAC in NZ - aka the International Survey of Adult Skills (ISAS)

<http://www.nrb.co.nz/ISAS.php>



THE UNIVERSITY OF WAIKATO



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LITERACY &  
NUMERACY  
FOR ADULTS

*Inspiring Potential*



MINISTRY OF EDUCATION

*Te Tāhuhu o te Mātauranga*

NZ population estimate  
as at 23 May 2014:

**4,534,095**

[http://www.stats.govt.nz/tools\\_and\\_services/population\\_clock.aspx](http://www.stats.govt.nz/tools_and_services/population_clock.aspx)

Map: © Tourism New Zealand

# PIAAC - OECD Programme for the International Assessment of Adult Competencies

- NZ in PIAAC Round 2 - aka International Survey of Adult Skills (ISAS)
- Assesses:
  - Literacy
  - Numeracy
  - Problem solving in technology-rich environments
- Interviews with representative sample of adults aged 16-65
- Background data on a wide range of information and activities and direct assessment of proficiency
- Builds on previous international surveys of adult skills (IALS & ALL) allowing comparison over 13-17 years
- Field trial April – September 2013
- Data collection: April – December 2014
- Results published May 2016

# PIAAC domains

- Literacy
- Numeracy
- Problem solving in technology-rich environments

# PIAAC: Literacy

- Literacy is defined as the ability to understand, evaluate, use and engage with written texts to participate in society, achieve one's goals, and develop one's knowledge and potential.
- Literacy encompasses a range of skills from the decoding of written words and sentences to the comprehension, interpretation, and evaluation of complex texts. It does not, however, involve the production of text (writing).
- Information on the skills of adults with low levels of proficiency is provided by an assessment of reading components that covers text vocabulary, sentence comprehension and passage fluency.

# PIAAC: Numeracy

- Numeracy is defined as the ability to access, use, interpret and communicate mathematical information and ideas in order to engage in and manage the mathematical demands of a range of situations in adult life.
- To this end, numeracy involves managing a situation or solving a problem in a real context, by responding to mathematical content and concepts represented in multiple ways.



# PIAAC: Problem solving in technology-rich environments

- Problem solving in technology-rich environments is defined as the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.
- The assessment focuses on the abilities to solve problems for personal, work and civic purposes by setting up appropriate goals and plans, and accessing and making use of information through computers and computer networks.

# PIAAC will also collect information on...

- Reading-related and numeracy-related activities
- Use of ICT at work and home
- Skills needed for work, e.g., collaborating with others and organising time
- Whether respondents' skills and qualifications match the requirements of their work

# Domains assessed in successive international surveys of adult skills

## **International Adult Literacy Survey – IALS, 1994-1998**

NZ data collected in 1996

- Prose literacy
- Document literacy
- Quantitative literacy

## **Adult Literacy and Lifeskills Survey – ALL, 2002-2006**

NZ was in ALL Wave 2, data collected in 2006

- Prose literacy
- Document literacy
- Numeracy
- Problem Solving

## **Programme for the International Assessment of Adult Competencies – PIAAC, 2011-.....**

NZ is in Round 2, data collected 2014, results due 2016

- Reading literacy
- Numeracy
- Problem solving in technology-rich environments

*NB: Quantitative literacy scores in IALS survey cannot be compared directly with numeracy scores in ALL*

# IALS in NZ: Key findings

- Distribution of literacy skills in NZ similar to Australia, USA, UK
- Approx. one in five New Zealanders highly effective in literacy
- NZers less good at doc. & quant. literacy than prose literacy
- Majority of Māori, Pasifika and other ethnic minority groups functioning below the level of competence in literacy required to effectively meet the demands of everyday life
- Labour force status and income were related to level of literacy
- Increased retention into the senior secondary school appeared to be associated with improving literacy levels
- Māori with tertiary qualifications had literacy profiles similar to those of tertiary educated European/Pākeha

<http://www.educationcounts.govt.nz/publications/literacy/5731>

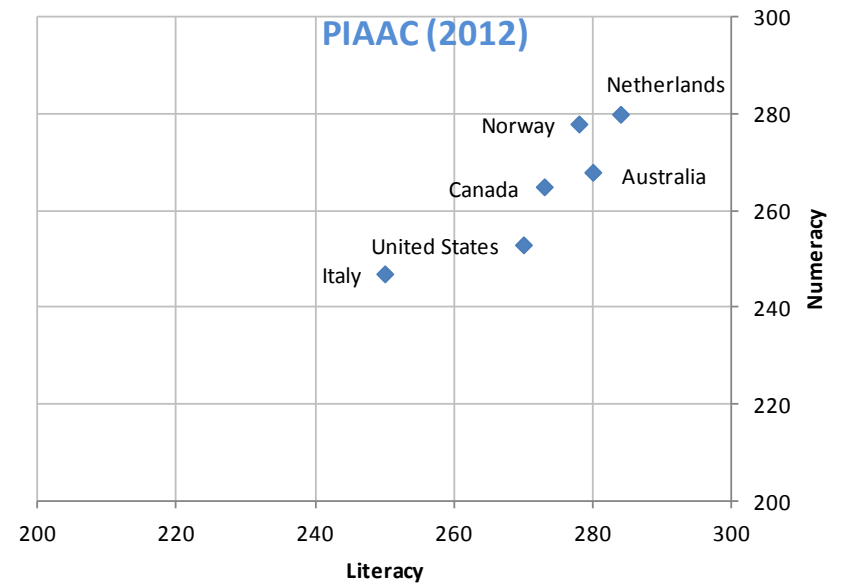
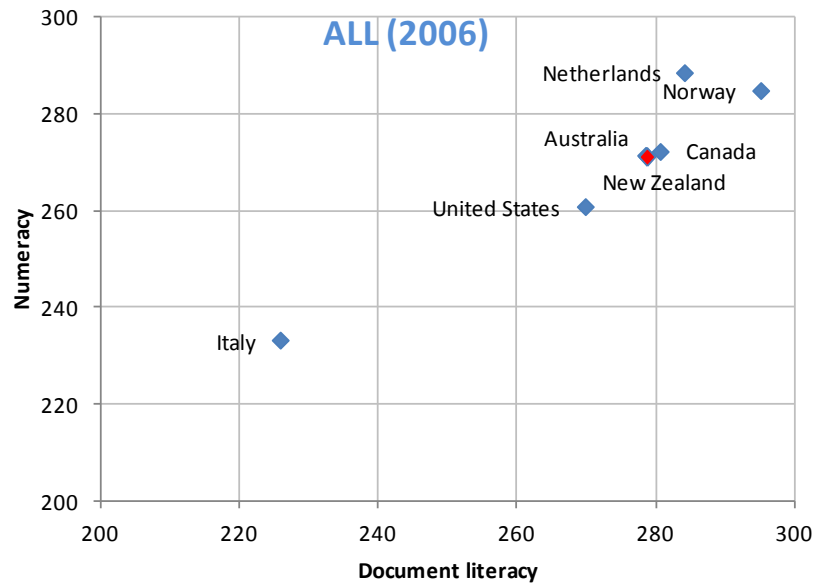
# ALL in NZ: Key findings

- 1996 to 2006: NZ proportion with very low literacy skills reduced substantially, but a proportion with low literacy skills persists (similar changes in Canada, USA and Australia)
- In NZ, improvement in document literacy skill more pronounced than in Canada, USA, Australia
- NZ adult population has large subpopulations with low numeracy and low problem-solving skills
- Canada, USA and Australia also have large sub-populations with low numeracy skills. In addition, Canada and Australia have large subpopulations with low problem-solving skills (problem-solving was not measured in USA)
- NZ adults with low document literacy skills are less likely to participate in any up-skilling activities than those with higher document literacy skills. However, participation in formal up-skilling does not appear to be affected by adults' document literacy skills
- The patterns of up-skilling in NZ differ from Canada and USA, where participation in formal up-skilling was greater amongst those with higher document literacy skills
- In NZ, established immigrants have higher literacy and numeracy skills than recent immigrants
- Established immigrants a larger proportion of the adult population than recent immigrants to NZ
- Canada, USA, recent immigrants have higher literacy and numeracy skills, overall, than established immigrants. There also, established immigrants make up a larger proportion of the adult population than recent immigrants
- NZ, immigrants (both recent and established) have higher levels of prose and numeracy skills than both recent and established immigrants in Canada and USA

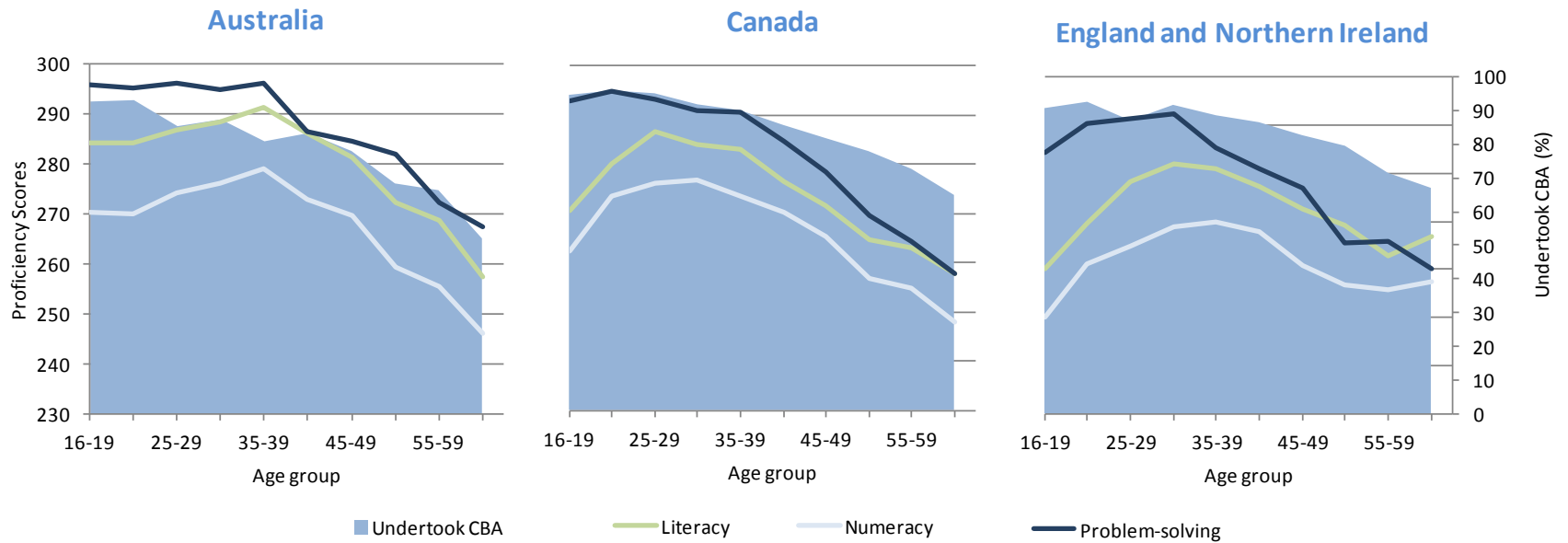
# What's new in PIAAC?

- Literacy as a single construct
  - ALL had prose and document literacy
- Problem-solving in a technology rich environment
- Reading components option
- Computer-adaptive assessment
- Extended background information, including;
  - Reading and numeracy related activities
  - Use of technology at work and home
  - Use of generic skills, such as team work and organisation
  - Match of skills and qualifications to work and job requirements

# ALL and PIAAC results

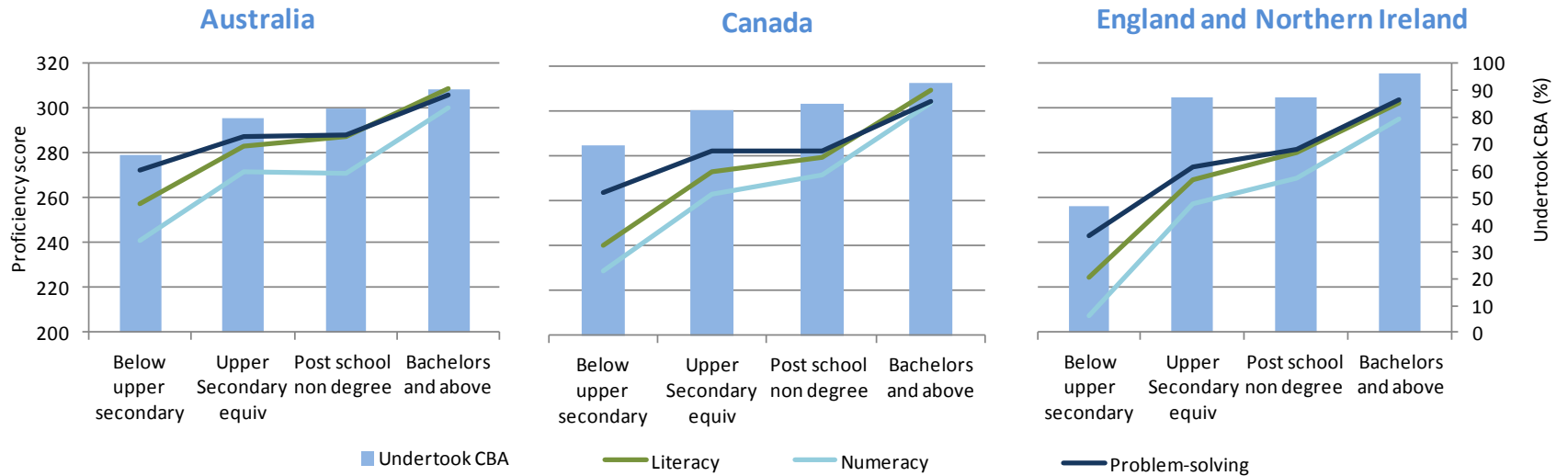


# Age

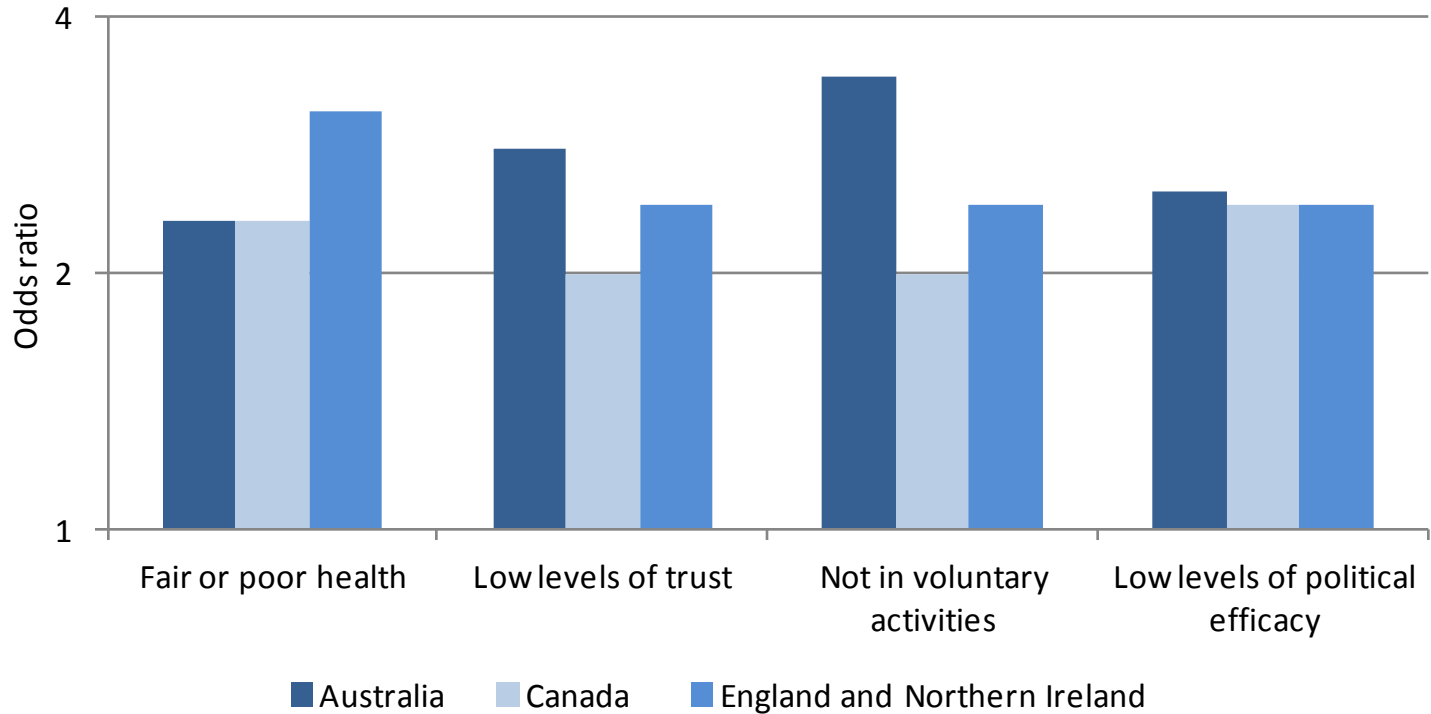




# Education

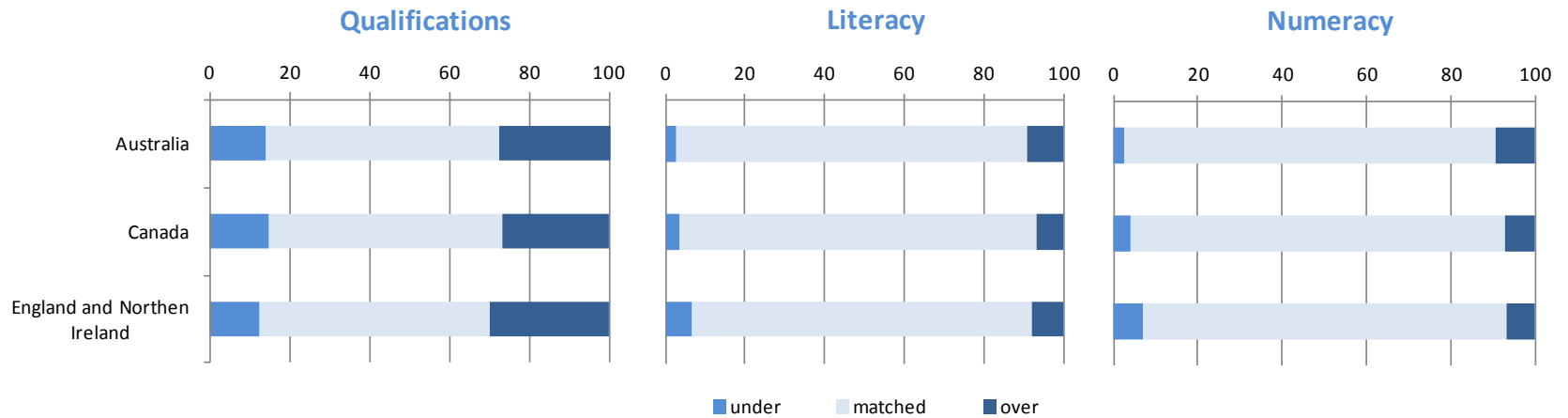


# Social outcomes

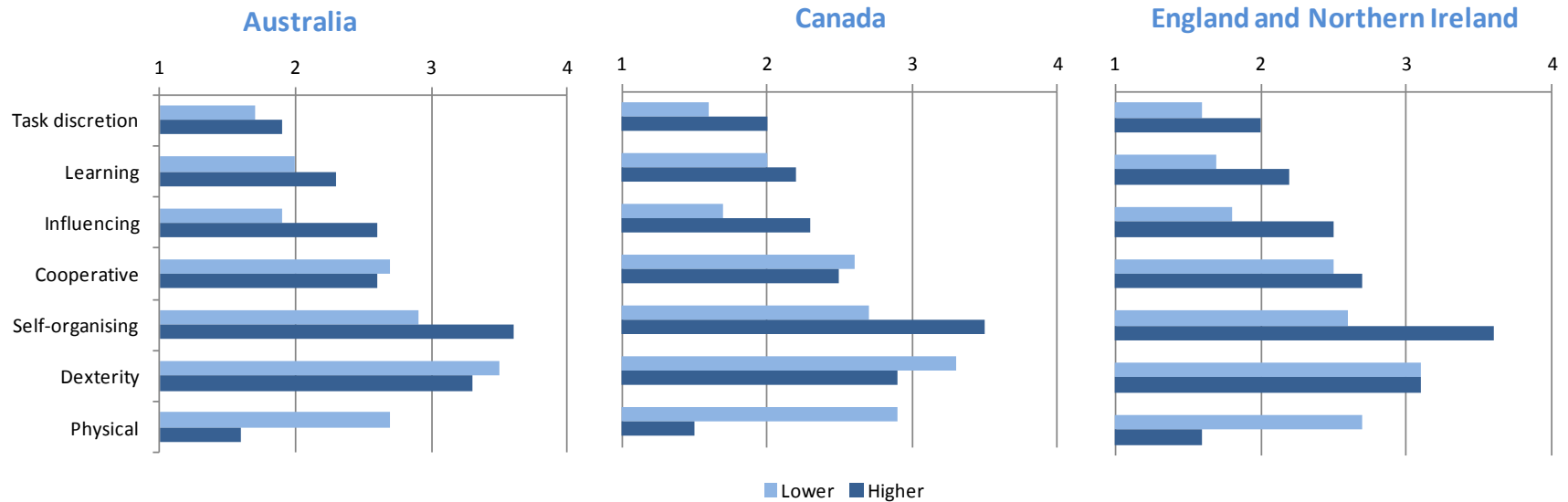


Likelihood of adults scoring at or below level 1 in literacy having a poor social outcome – compared to adults scoring at levels 4/5

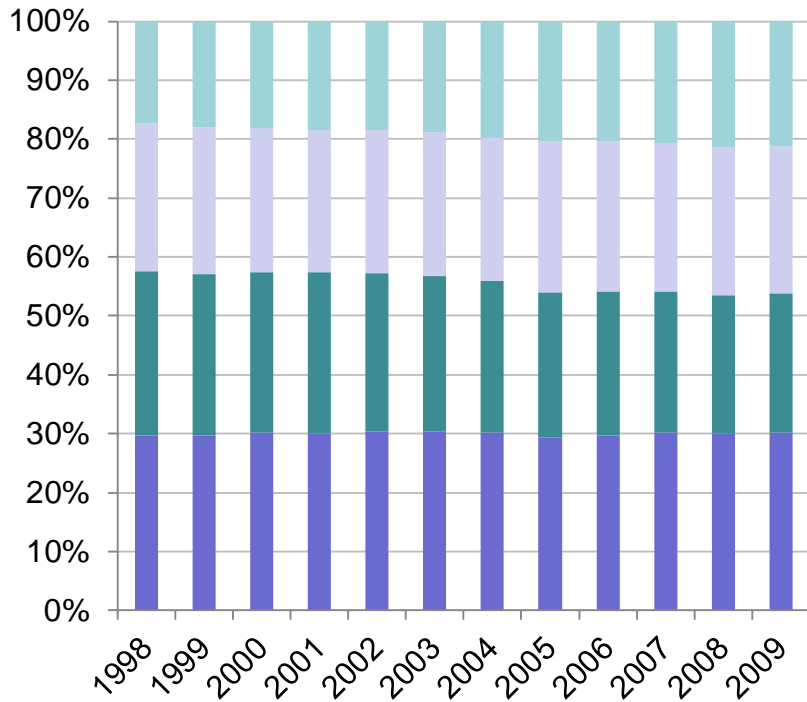
# Qualifications and skills match



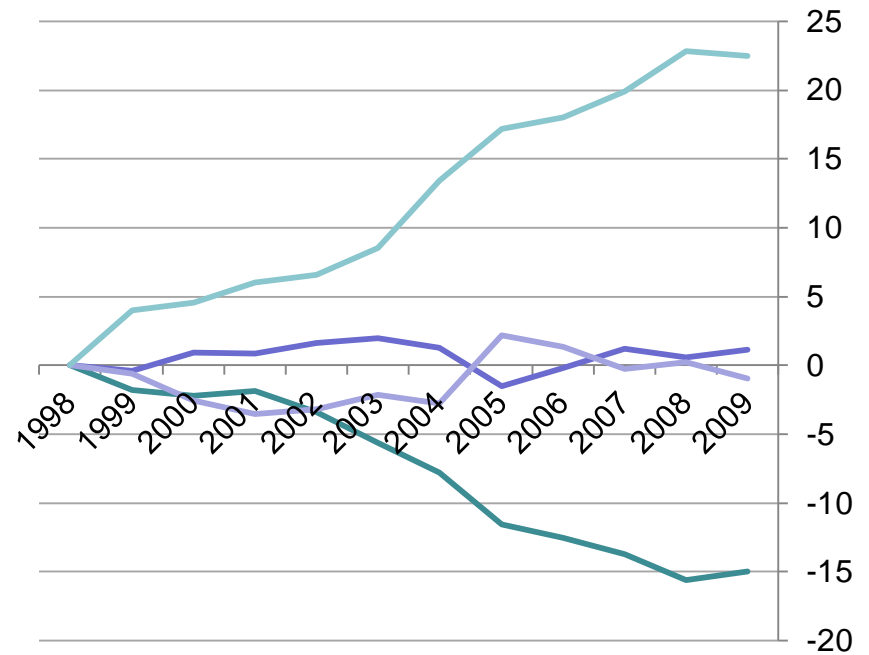
# Use of generic skills at work by educational attainment



# Occupational change



- Occupations with highest average scores
- Occupations with next to highest average scores
- Occupations with next to lowest average scores
- Occupations with lowest average scores



- Occupations with lowest average scores
- Occupations with next to lowest average scores
- Occupations with next to highest average scores
- Occupations with highest average scores

# Response to PIAAC from media and commentators

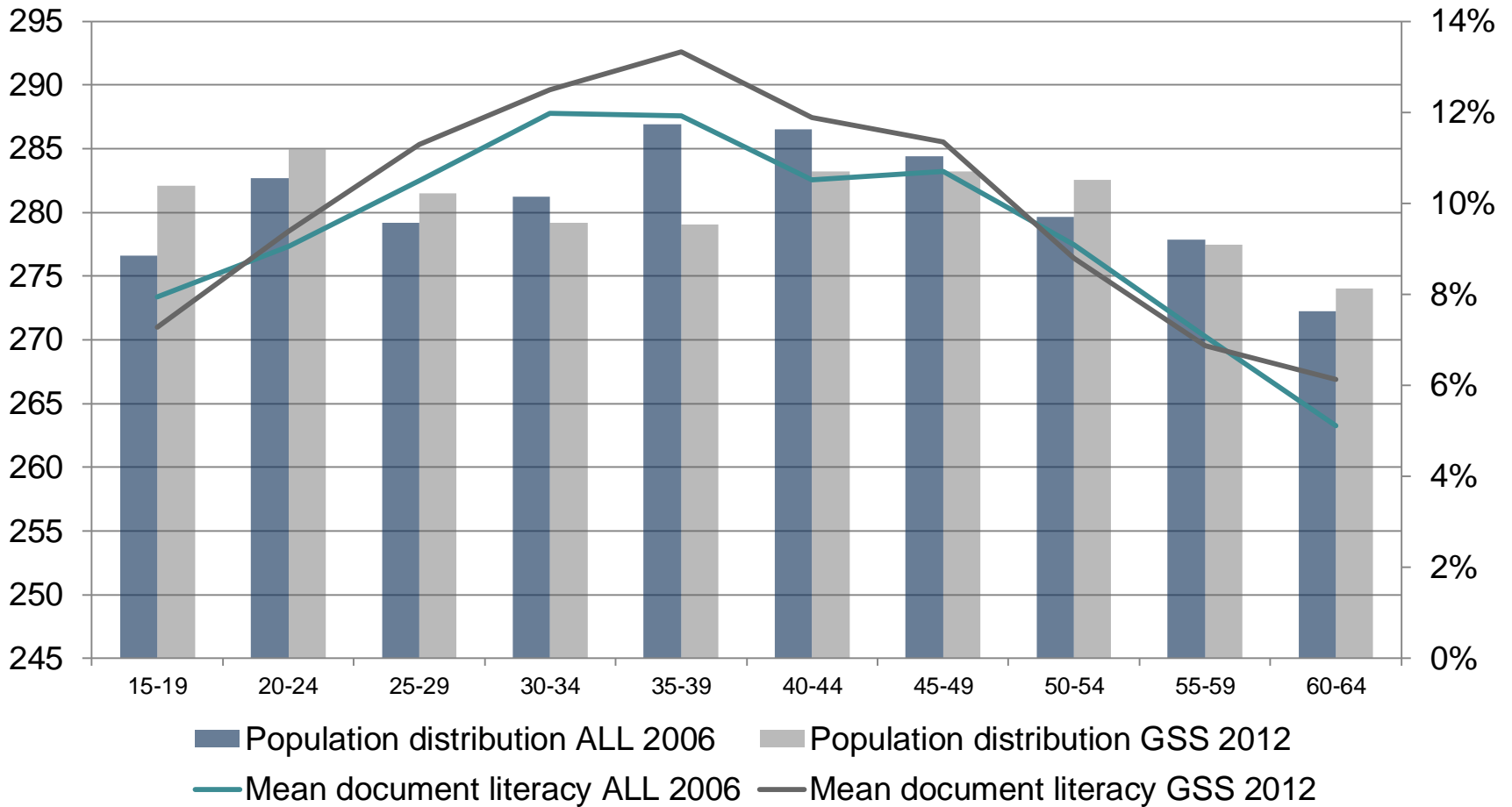
- Wide range of responses: muted and mixed in Canada, minimal in USA, alarmed in England and Northern Ireland where young people showed no greater skills than people over 55
- See: <http://www.centreforliteracy.qc.ca/news/early-analyses-responses-piaac>
- OECD early analysis of media reactions to PIAAC in different countries <http://oecdinsights.org/2013/10/10/how-the-world-reported-the-oecd-skills-survey/>
- Ralf St. Clair's Literacy and Learning Blog: <http://www.selkie.ca/literacylearning/>

# What will we in NZ be interested in learning from PIAAC?



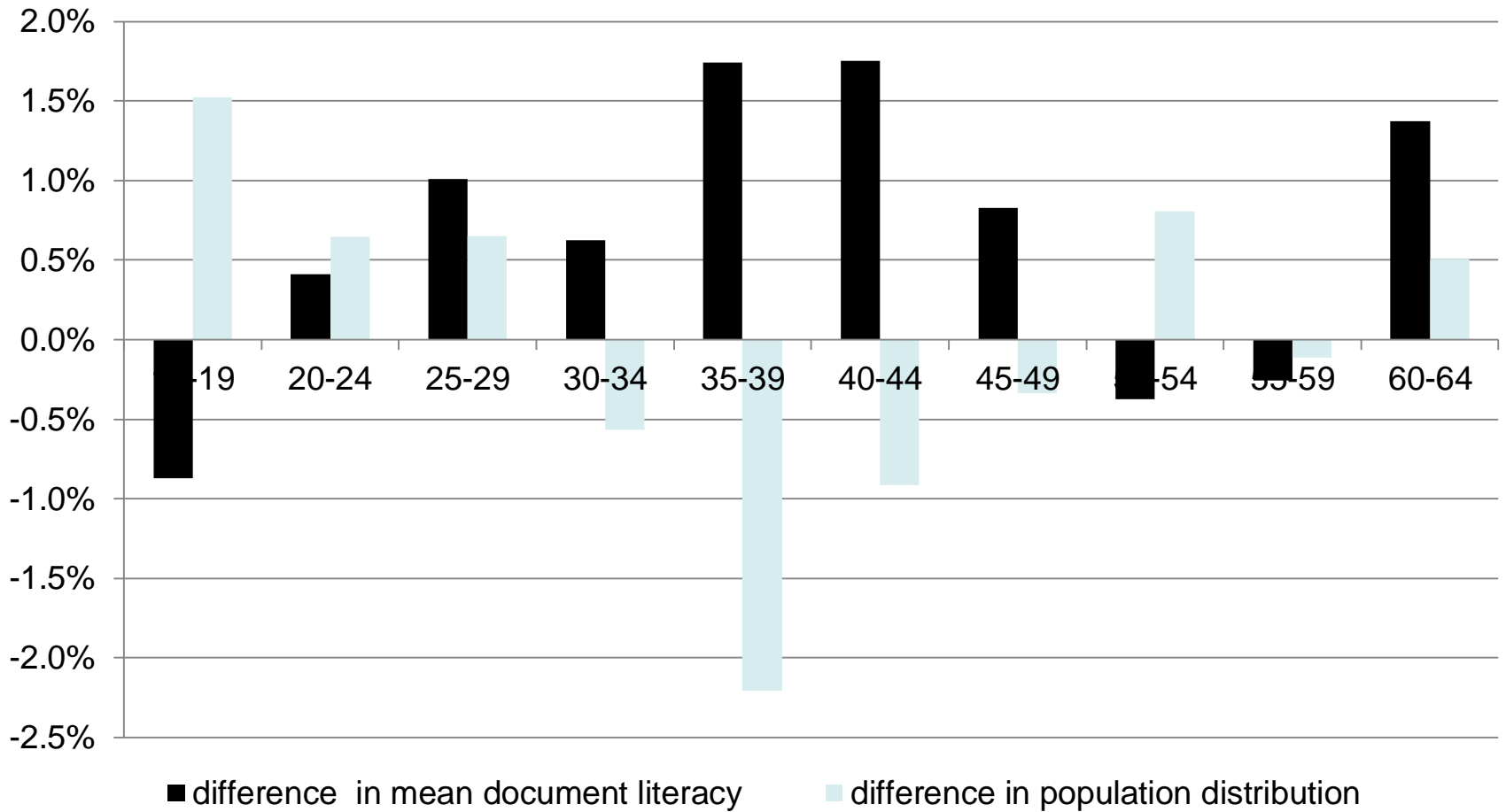
- Updating ALL data with new PIAAC data
- Use of technology and problem solving skills – new in PIAAC
  - Wider range of literacy and numeracy practices covered – at work and at home
  - Skills used in workplace, e.g., teamwork, etc.
  - Under/over qualification – evidence of labour market discrimination?

# Possible New Zealand results



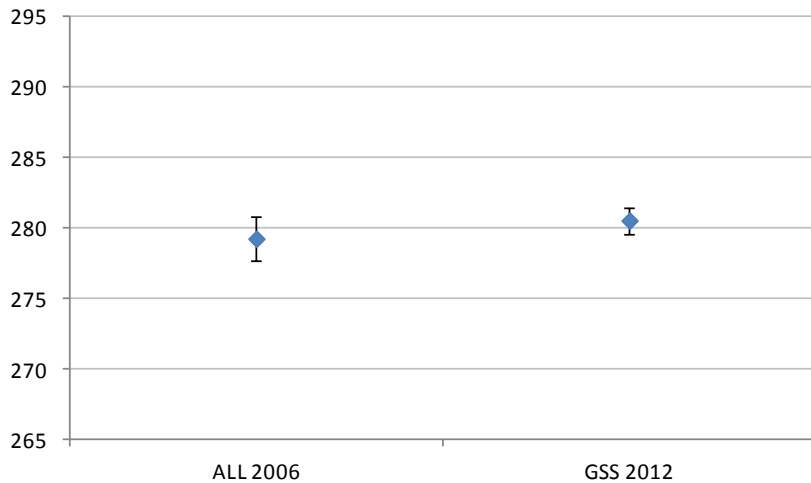


# Changes by age group

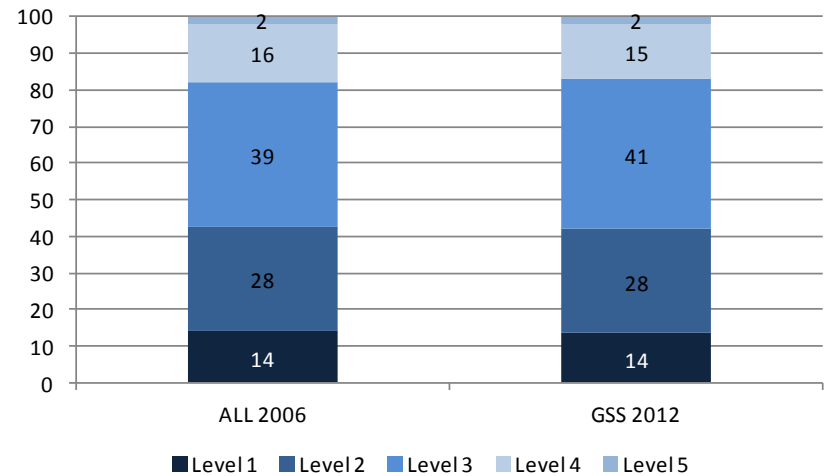


# Change in total population

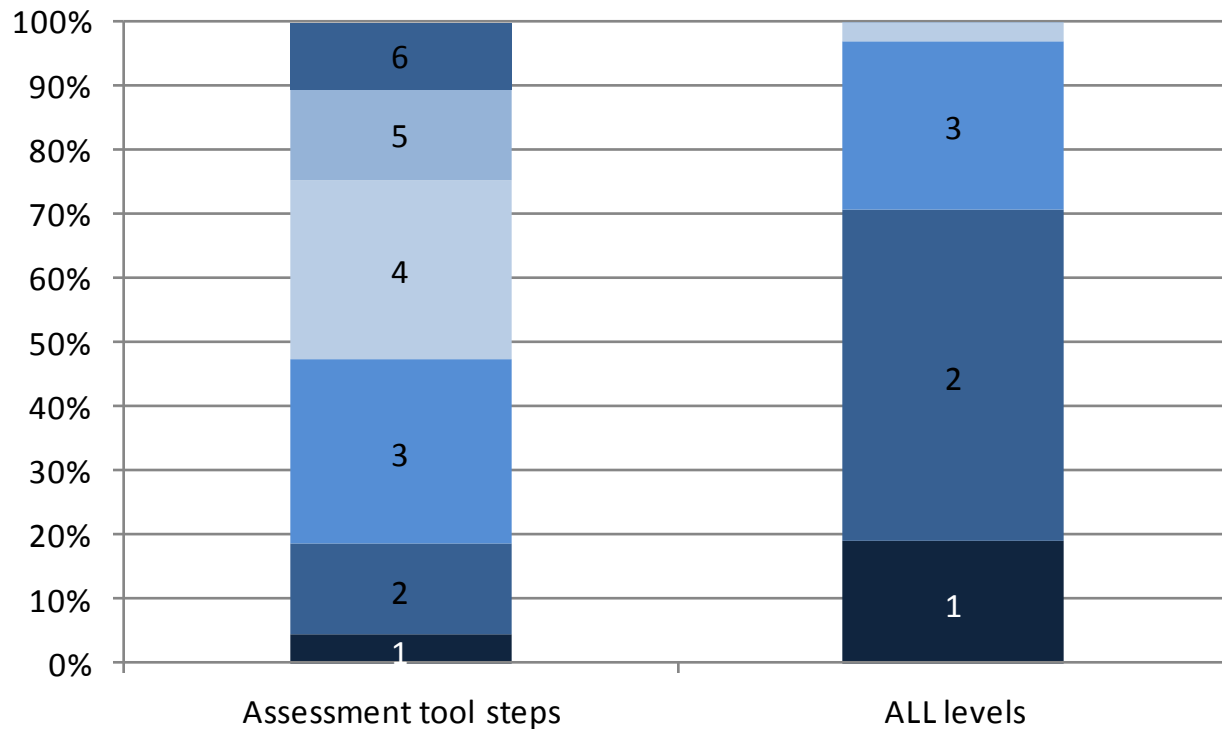
## Mean scores



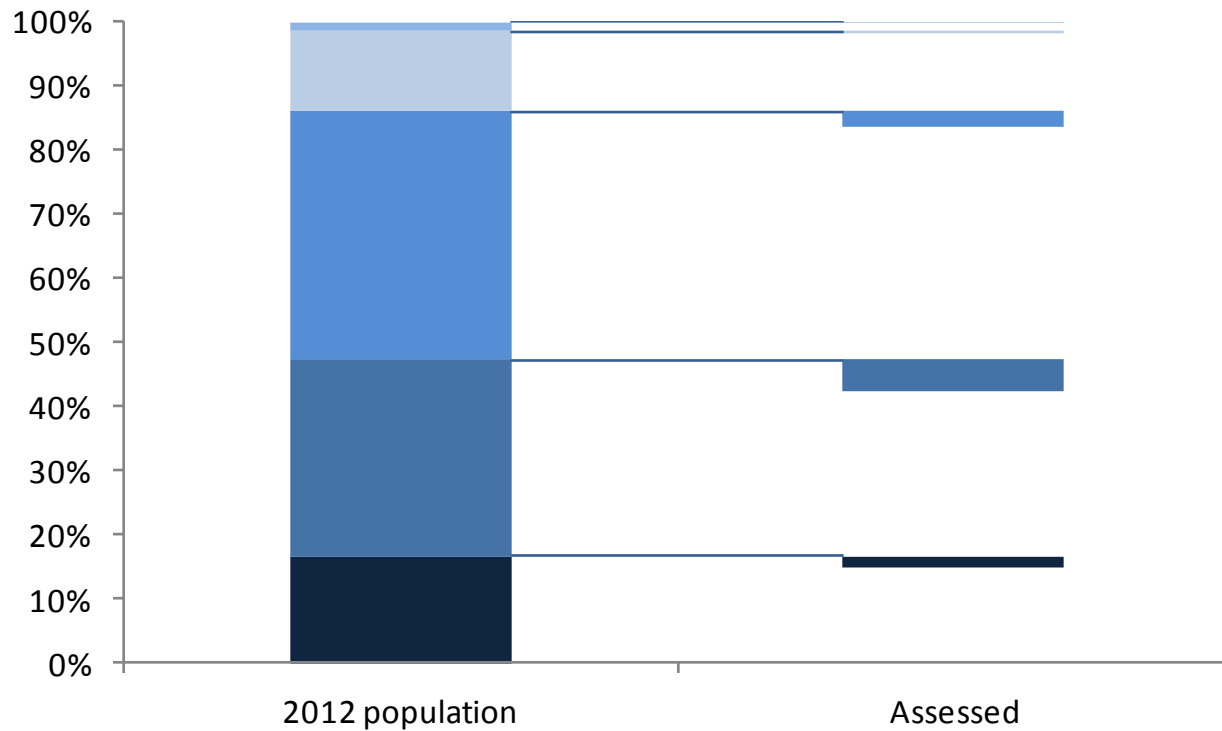
## Level distribution



# Distribution of assessed learners



# Learners as proportion of population



# Questions for you...

- What does PIAAC mean for me / my organization / my city?
- What can PIAAC tell me that I need to know (and what can it not tell me)?
- How can I use PIAAC data to improve my work (service / product/s, etc.)?
- What light do earlier surveys shed on issues relevant to my interests and how will PIAAC add to that information?

# What do we need? Communication!



...with: adult literacy and numeracy practitioners; media; policymakers; the public

- In partnership with organisations - build up a range of informed voices on PIAAC, e.g., business, trades unions, banking, economists, local government, etc.
- PIAAC is about skills deemed necessary for the economy
- Coordinate news release across government (OECD confidentiality strict!)
- Be positive about what can be done to improve the situation (whatever it is)
- Avoid undermining adult literacy and essential skills sector
- Investigate funding for research using PIAAC data: priority to work with international data to build understanding before NZ's data released
- NB: comparability of PIAAC with IALS and ALL uncertain. Round 1 results diverse and differences difficult to explain; OECD is doing more work on this

# Watch this space!

<http://www.educationcounts.govt.nz/topics/research/piaac>

<http://www.literacyandnumeracyforadults.com>

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

[http://nces.ed.gov/surveys/piaac/results/makeselections.as](http://nces.ed.gov/surveys/piaac/results/makeselections.aspx)

[px](http://nces.ed.gov/surveys/piaac/results/makeselections.aspx)

<http://www.centreforliteracy.qc.ca/node/1625>

<http://www.ets.org/c/22217/videos.html>