

# **My maths is OK; I can do my job; why is that a problem?**

**How Perceptions of Adult Numeracy Influence Skills Policy in England**

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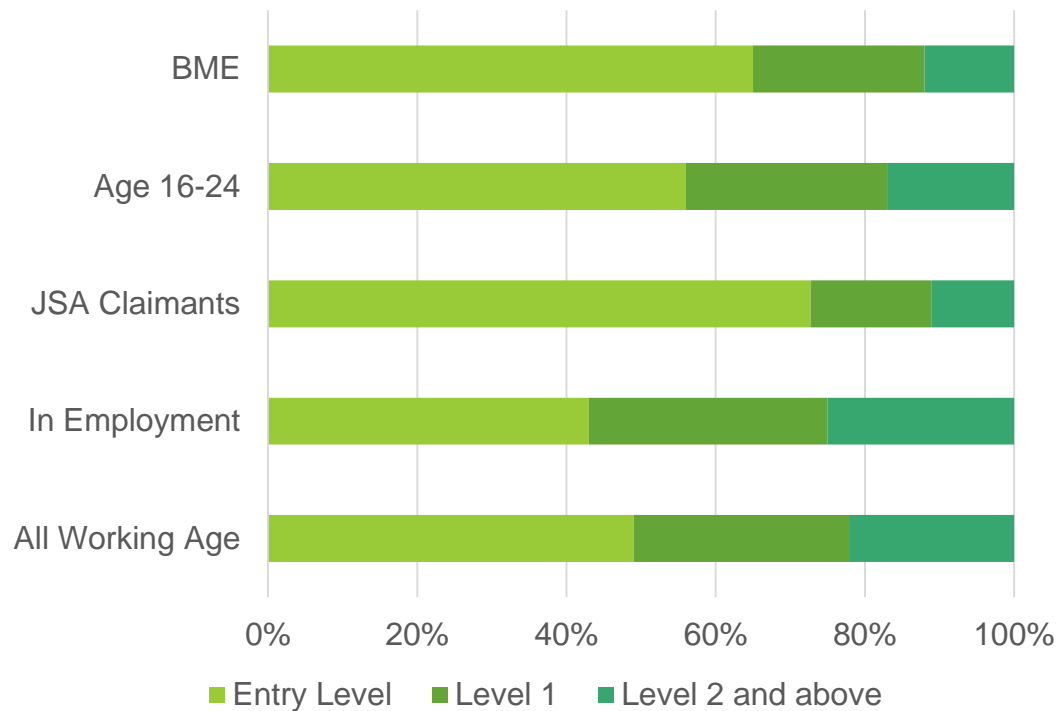
**Sheaf Valley Education**

# Numeracy in the UK policy environment

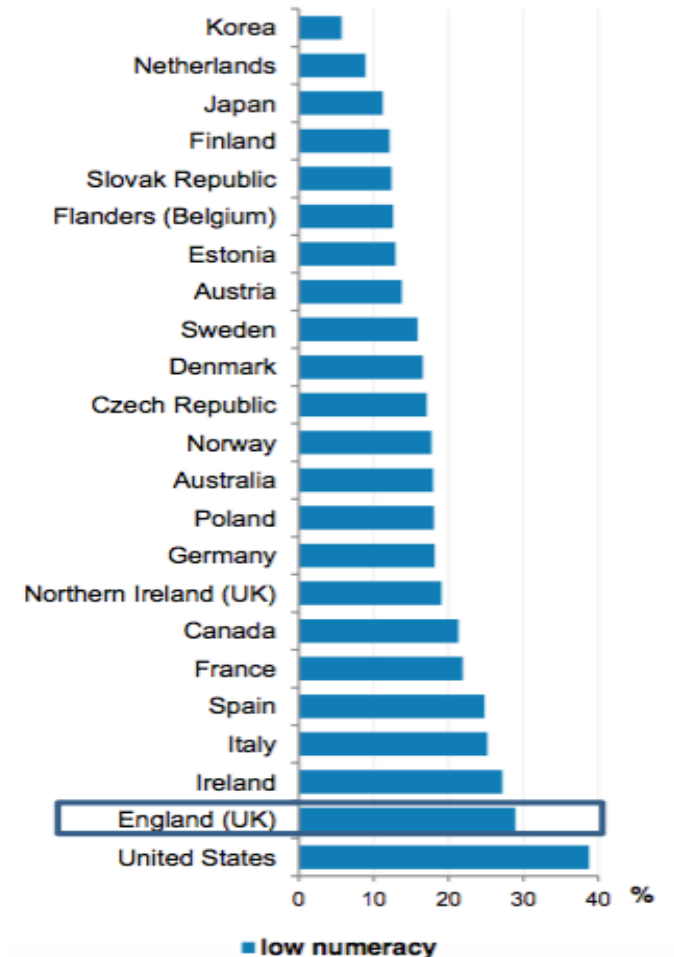
- Great majority of investment is from national government and devolved administrations: England, Scotland, Wales and NI.
- Big push on basic skills from 2001 to 2010 but no change to numeracy levels of the working population.
- Current strategy is to grow higher and intermediate skills through new technical routes and apprenticeships for labour market entrants and upskilling existing workers through employer training.
- Numeracy and literacy a continuing priority but significant cuts to adult education since 2010.
- Focus of policy in England is children and young people; not adults.
- Over half of expenditure on maths for adults goes to apprentices

# Adult numeracy levels are average but static; young peoples' are weak

Numeracy levels by characteristics %



Percentage of 16-19 year-olds with low numeracy (below level 2)



# Better numeracy feeds through to higher labour productivity

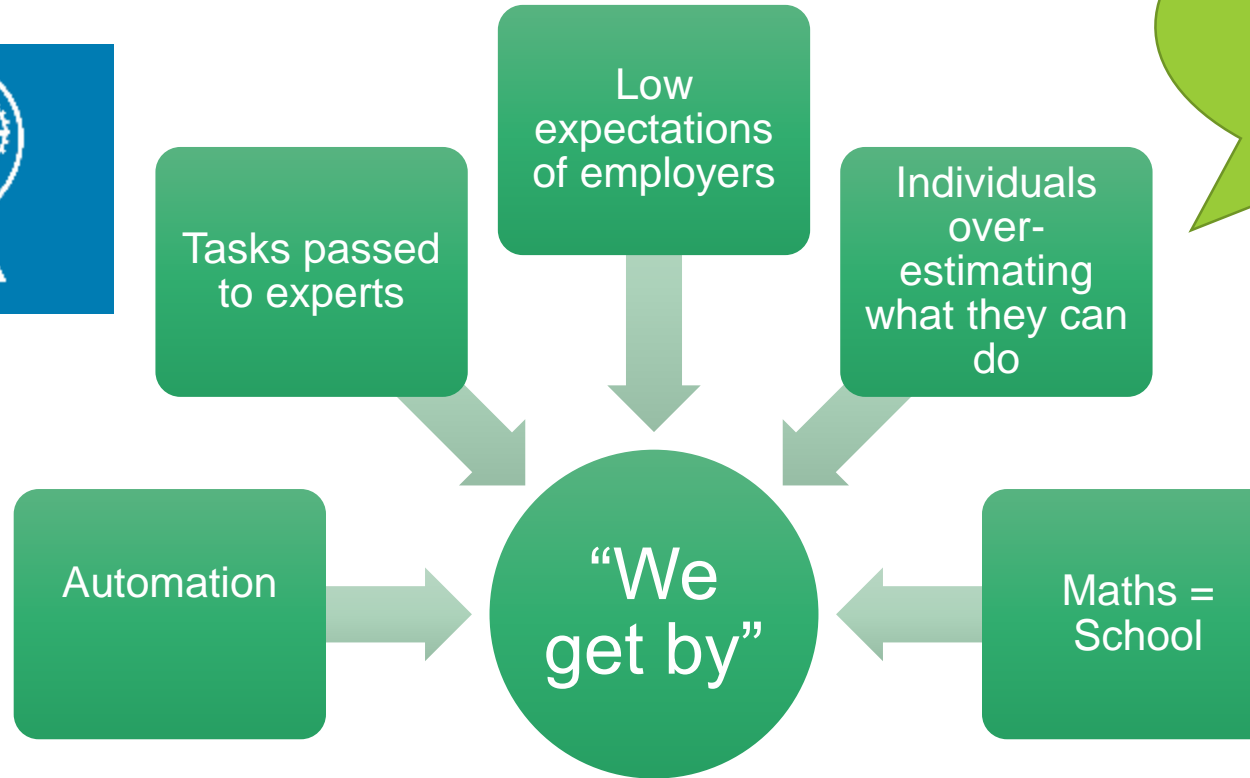
- Skills (labour composition) accounted for around 20% of total UK labour productivity growth from 2002-07 and continued to make a positive contribution from 2008-13 even during the recession.
- Skills play a key role in the effective use of technology – there is a complementary relationship between workforce education and the adoption of new technologies
- Better earnings and employment returns to maths (and English) qualifications than any others at the same level.

	Earnings	Employment	Benefits
All Below L2 of which	2%	0.5 ppt	-0.5
Entry Level Eng	5%	2 ppt	-0.5
Entry level Maths	3%	0 ppt	-0.5
L1 English	7%	2 ppt	-1
L1 Maths	6%	1 ppt	N/A
L1 Eng & Maths	12%	2 ppt	N/A
ESOL	6%	0 ppt	-0
Other L1	1%	0 ppt	-0.5
All Thin L2	1%	1 ppt	-1
L2 English	7%	2 ppt	-1
L2 Maths	4%	3 ppt	-1
L2 Eng & Maths	5%	1 ppt	-1
Other L2	1%	1 ppt	-0.5

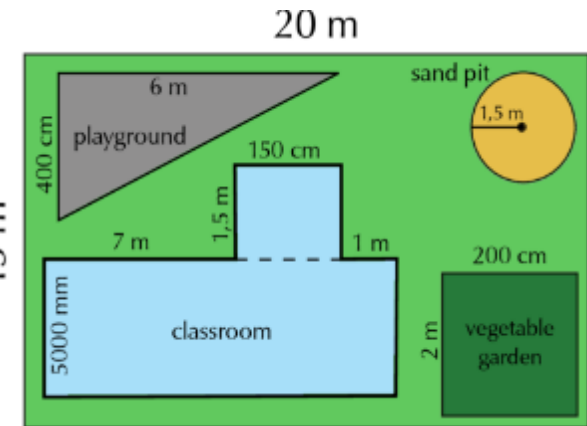
# Despite all this, little focus on adult numeracy as an issue. Why?

- Numeracy virtually always conjoined with literacy and digital skills despite these presenting different issues which require different solutions.
- Perception by policymakers raising the numeracy of school leavers by having them re-take qualifications is the priority.
- Little appetite for large scale interventions, partly because national government is devolving adult skills funding to city regions.
- Productivity analysis and skills survey results are quite theoretical and abstract. Politicians not experiencing pressure to act in the face of practical problems.
- Individuals and employers will not invest time and money into training unless they believe there will be some benefits to them.

# Poor numeracy is hidden and marginal



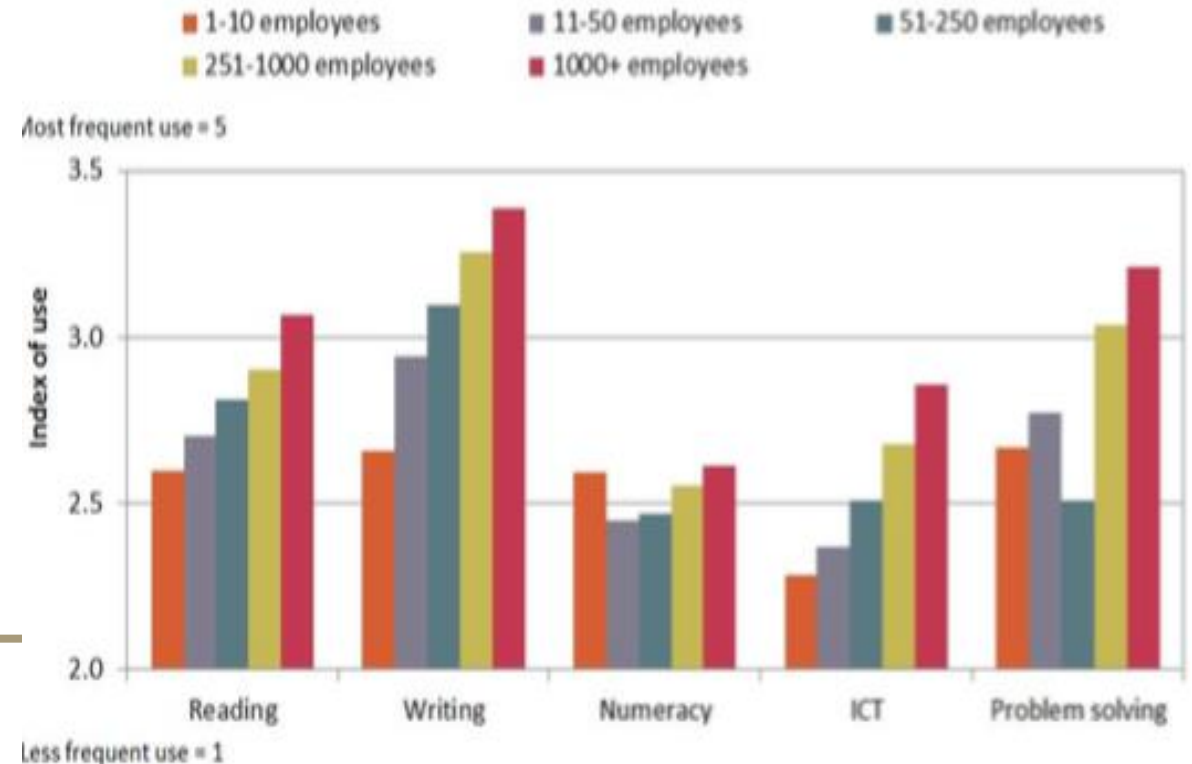
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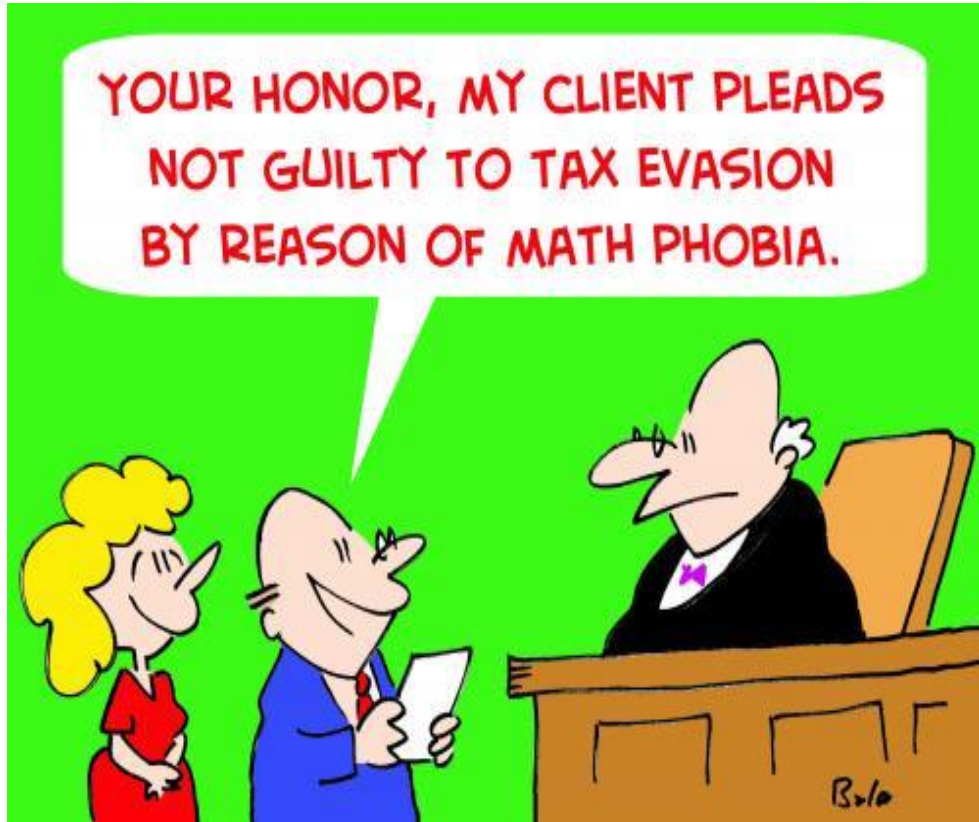
# Not a priority for employers

- Relatively low level of demand for qualifications by employers.
- Numeracy well down the skill shortage list.
- Maths (and English) seen as a signifier of general educational ability rather than skills and knowledge relating to specific jobs.
- Beyond a basic level, tasks requiring maths are often carried out by specialists.

Skills use at work, by proficiency level, by firm size (OECD average)



# Not a priority for individuals



- Many individuals with quite poor numeracy think they are good at maths (31% of people at EL2 or below claim to be good).
- The effects of poor numeracy are more likely to show themselves as a general lack of confidence and avoidance of certain tasks.
- Many people have no desire to re-connect with a subject they did not enjoy and feel that they failed at. The lower someone's skills, the less likely they are to participate in further training.



# Disconnect between maths and numeracy

$$e^y dy = (2x - 4) dx$$

$$\int e^y dy = \int (2x - 4) dx$$

$$e^y = x^2 - 4x + c$$

- Employers tend to have a narrow understanding of what numeracy is in relation to job roles and be unaware of how improving numeracy can benefit organisations.
- When people think of maths they think of the subject they studied at school. They don't think of solving practical problems using numbers and mathematical skills.

- The standard, most recognised, qualification is the GCSE which only partially tests functionality – it also provides a foundation for higher level study in the subject.



# What does this mean for policy?

## The challenge

- Just focusing on young people will take too long to make a substantial change to the numeracy of the workforce.
- Most individuals and employers won't take action because they are managing well enough and Government will struggle to persuade them.
- The need for upskilling and re-training likely to become more pressing which will bring poor numeracy into greater focus.

## The response

- Bear down on the "I can't do maths culture". Get the creators of vocational programmes to define what maths is necessary for their industries.
- Flexible offer so that relevant and accessible provision is there when people do need it.
- Target those with the lowest skills.
- Commission more research into the complexity of using numeracy in the workplace.

[www.sheafvalleyeducation.co.uk](http://www.sheafvalleyeducation.co.uk)

National Numeracy Blog