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Improving Education: A triumph of hope over experience Revisited Three Years On

Robert Coe

The Telegraph Festival of Education, Wellington College, 24 June 2016

A triumph of hope over experience

- Experience
 - Have educational standards really risen?
 - School improvement: Isn't it time there was some?
 - Can we identify effective schools and teachers?
 - Is 'evidence-based' practice and policy the answer?
- Hope
 - So what should we do (that hasn't failed yet)?

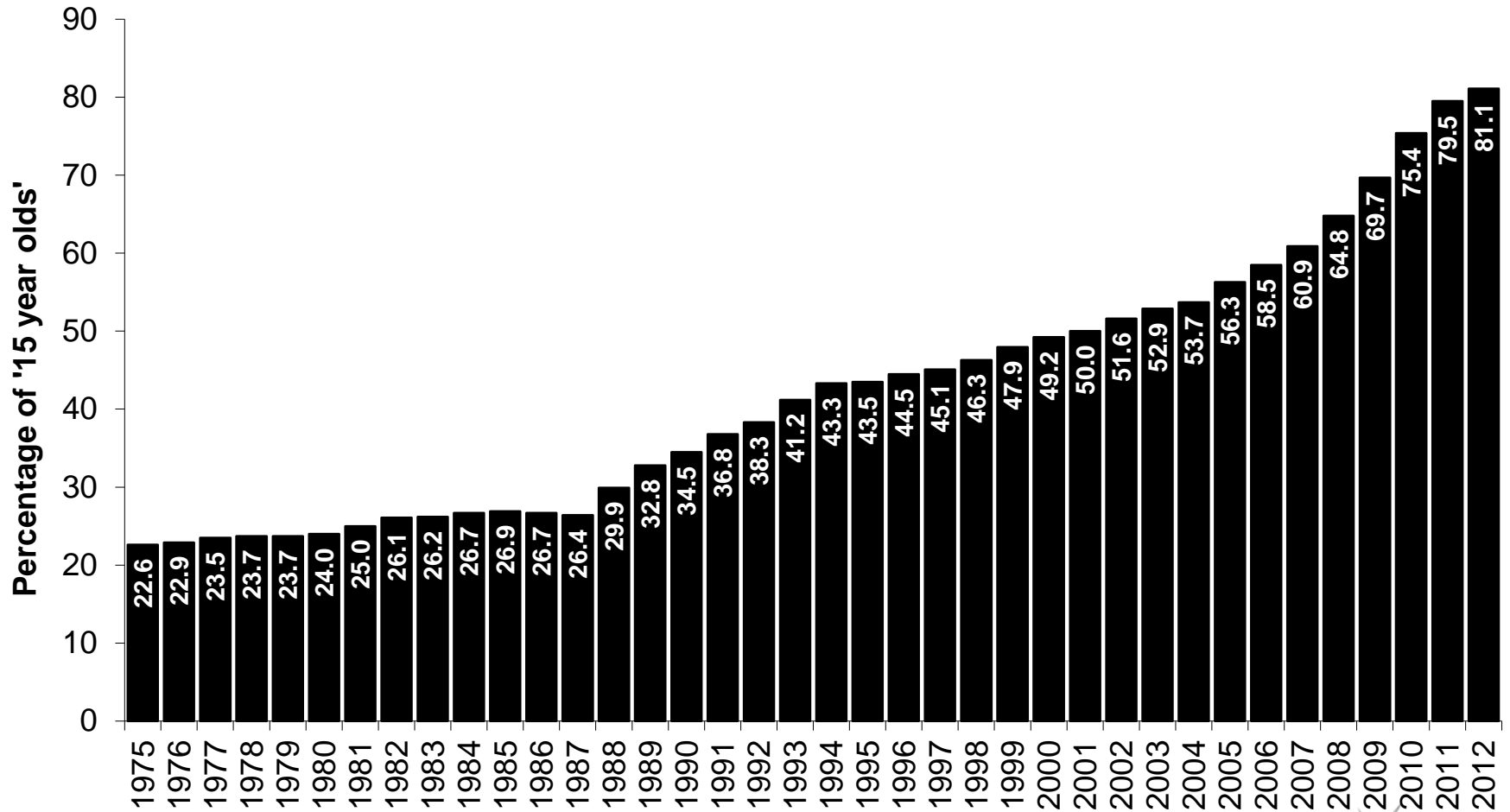


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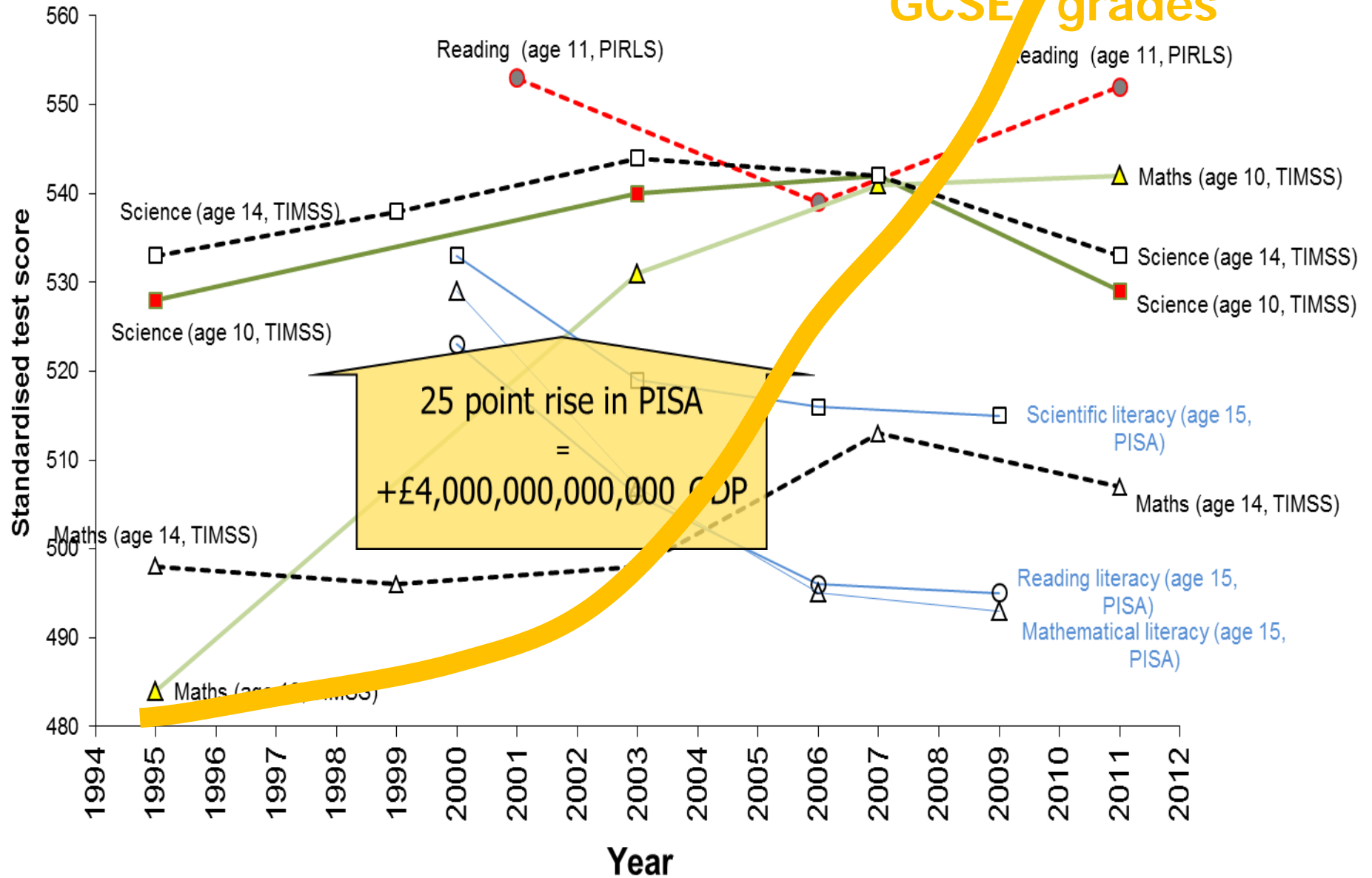
Have educational standards really risen?

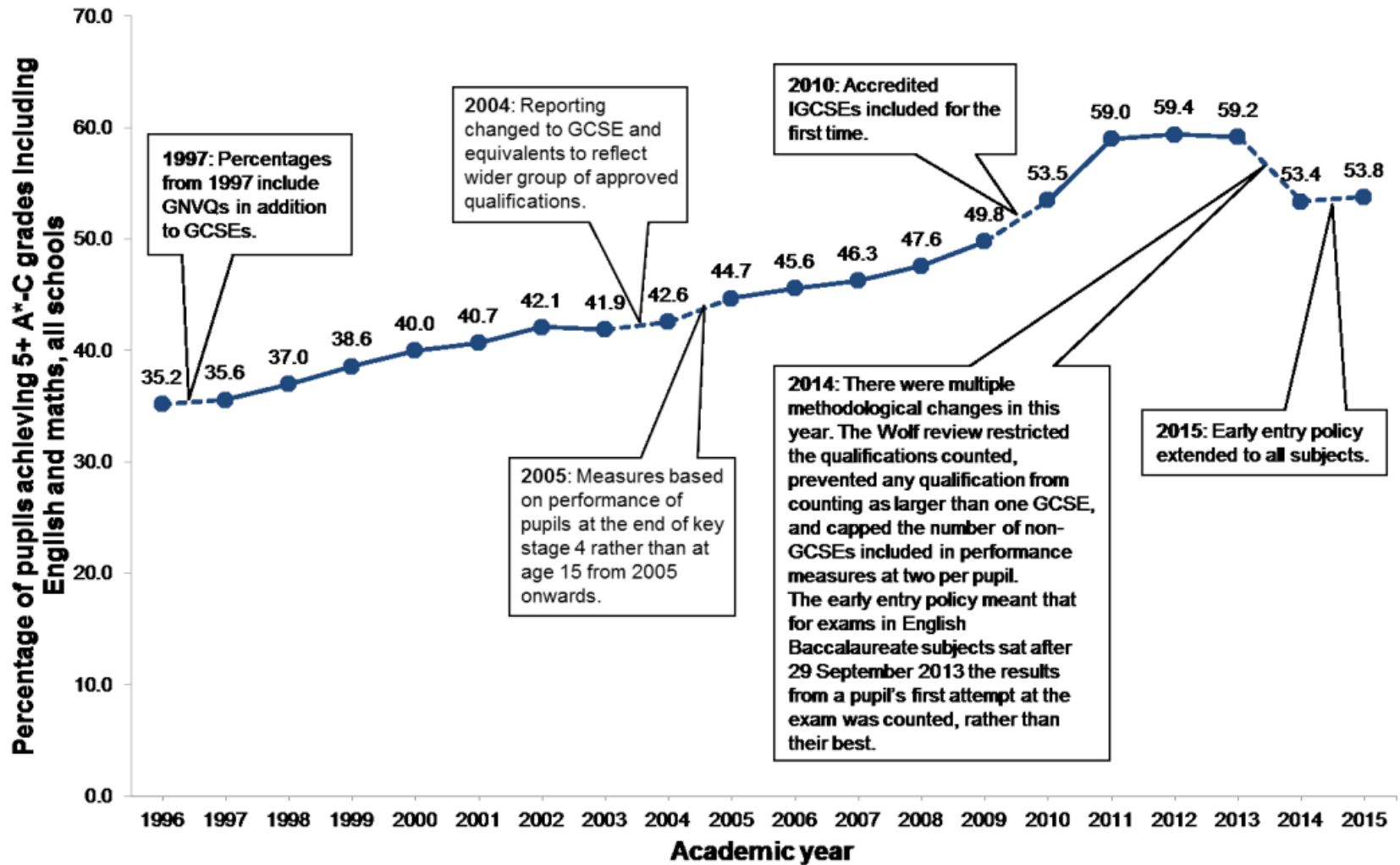
Changes in proportion gaining five A*-Cs at GCSE



Performance of England in international surveys

Equivalent change in GCSE grades





Source: DfE SFR 01/2016



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School improvement: Isn't it time there was some?

'Improvement' often isn't

- School/college would have improved anyway
 - Volunteers/enthusiasts improve: misattributed to intervention
 - Chance variation (esp. if start low)
- Poor outcome measures
 - Perceptions of those who worked hard at it
 - No robust assessment of pupil learning
- Poor evaluation designs
 - Weak evaluations more likely to show positive results
 - Improved intake mistaken for impact of intervention
- Selective reporting
 - Dredging for anything positive (within a study)
 - Only success is publicised



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Can we identify effective schools and teachers?

Problems with school effectiveness research

- **‘Effectiveness’ is not effectiveness** (Gorard, 2010; Dumay, Coe & Anumendem, 2013)
- **Strategies are too vague**
- **Correlations, not causes** (Coe & Fitz-Gibbon, 1998)
 - Can ‘effective’ strategies be implemented?
 - If so, do they lead to improvement?
- **‘Effects’ are tiny anyway** (Scheerens, 2000, 2012)

A chain of assumptions:

If ...

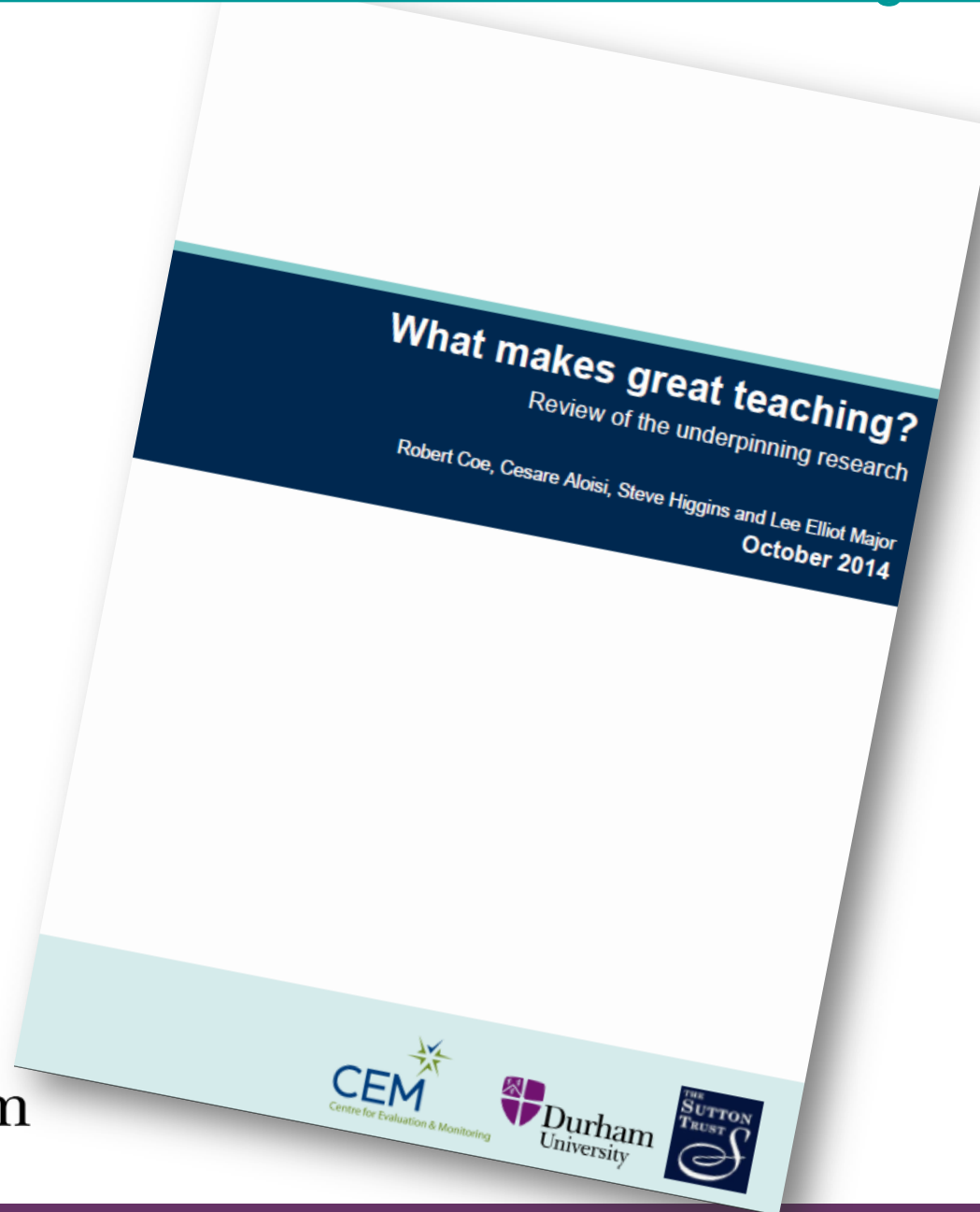
Assumption

1. Value-added models (VAMs) can identify effective schools and teachers
2. Characteristics associated with effectiveness are well enough defined to be useful
3. We know how to develop those characteristics
4. Implementing those development programmes leads to improved outcomes

Example

1. This VAM is valid
2. We know what 'high expectations' means
3. We know how to raise teachers' expectations
4. Doing this leads to higher attainment

<http://www.suttontrust.com/researcharchive/great-teaching/>



Can value-added models identify effective teachers?

- VAMs are sensitive to
 - Choice of outcome (attainment) measure
 - What type of model is used
 - What factors the models controls for (& how)
 - Impact of previous teachers
 - How students are allocated to teachers
 - Measurement error
- Stability over time is modest
- Convergent validity is modest



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Is 'evidence-based' practice and policy the answer?

Toolkit of Strategies to Improve Learning



Toolkit	Toolkit Info	Toolkit Filter	+ Pupil Premium Calculator	Latest Updates	Downloads
About the Toolkit					
Using the Toolkit					
Pupil Premium Calculator					
Videos and Case Studies					
Approaches A-Z					
Feedback	£££££	★★★★★			+8 months
Meta-cognition and self-regulation	£££££	★★★★★			+8 months
Peer tutoring	£££££	★★★★★			+6 months
Early years intervention	£££££	★★★★★			+6 months
One to one tuition	£££££	★★★★★			+5 months
Homework (Secondary)	£££££	★★★★★			+5 months

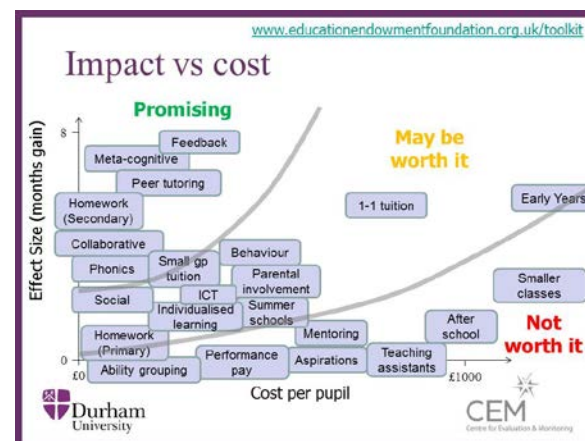
The Sutton Trust-EEF Teaching and Learning Toolkit

<http://www.educationendowmentfoundation.org.uk/toolkit/>



Clear, simple advice:

- Choose from the top left
- Go back to school and do it



For every complex problem
there is an answer that is
clear, simple, and wrong

H.L. Mencken

Why not?

- We have been doing some of these things for a long time, but have generally not seen improvement
- Research evidence is problematic
 - Sometimes the existing evidence is thin
 - Research studies may not reflect real life
 - Context and ‘support factors’ may matter
- Implementation is problematic
 - We may think we are doing it, but are we doing it right?
 - We do not know how to get large groups of teachers and schools to implement these interventions in ways that are faithful, effective and sustainable



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So what should we do (that hasn't failed yet)?

Four steps to improvement

- Think hard about learning
- Invest in effective professional development
- Evaluate teaching quality
- Evaluate impact of changes

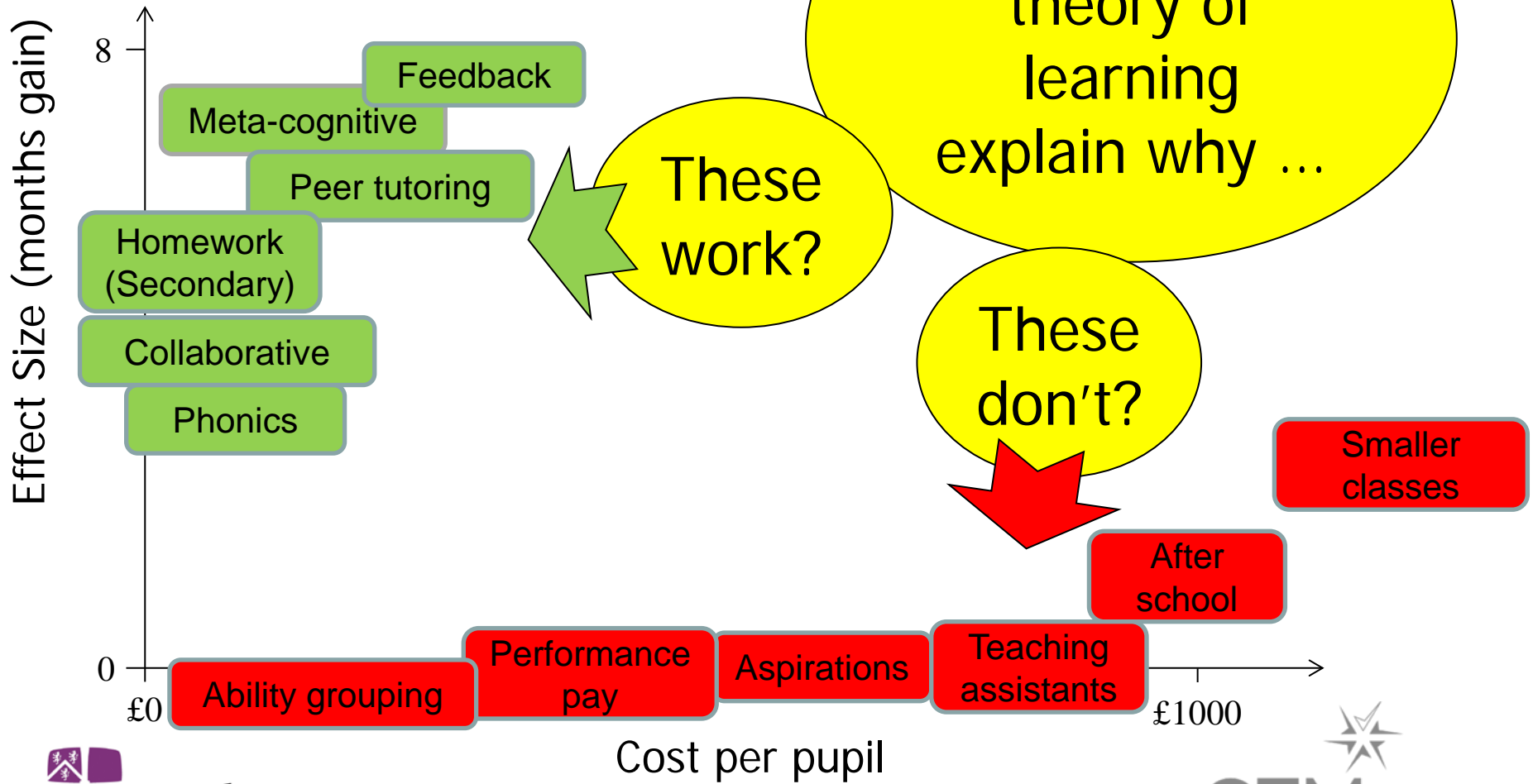


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1. Think hard about learning

Impact vs cost



Poor Proxies for Learning

- Students are busy: lots of work is done (especially written work)
- Students are engaged, interested, motivated
- Students are getting attention: feedback, explanations
- Classroom is ordered, calm, under control
- Curriculum has been ‘covered’ (ie presented to students in some form)
- (At least some) students have supplied correct answers, even if they
 - Have not really understood them
 - Could not reproduce them independently
 - Will have forgotten it by next week (tomorrow?)
 - Already knew how to do this anyway

A simple theory of learning

Learning happens
when people have
to think hard



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2. Invest in effective CPD



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How do we get students to learn hard things?

Eg

- Place value
- Persuasive writing
- Music composition
- Balancing chemical equations

- Explain what they should do
- Demonstrate it
- Get them to do it (with gradually reducing support)
- Provide feedback
- Get them to practise until it is secure
- Assess their skill/ understanding

How do we get teachers to learn hard things?

Eg

- Using formative assessment
- Assertive discipline
- How to teach algebra

- Explain what they should do

Cordingley et al 2015

<http://tdtrust.org/about/dgt/>

Home

About TDT

Advice

The CPD test

Posted on July 8, 2015 by david.weston

by Robert Coe, Philippa Cordingley, Steve Hill

Our recent review, '[Developing Great Teaching](#)' by the Teacher Development Trust by colleagues from CLPE has been widely reported as saying that traditional one-size-fits-all approach do not work. These headlines from the report are quite complex.

Are there some clear recommendations that teachers can make better choices about what kinds of CPD they do?

Yes, and they are in the report. It is not long (11 pages) or technical and every

**DEVELOPING
GREAT TEACHING**
Lessons from the international reviews into
effective professional development

 **TEACHER
DEVELOPMENT
TRUST**

In your CPD have you ...

- | | Yes | No |
|--|--------------------------|--------------------------|
| 1. Tried to learn to do something that is relevant and supported by research evidence? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Focused on (and evaluated success against) students' learning outcomes? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Engaged in activity that | | |
| a) Surfaced, challenged and developed your thinking about learning and teaching | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Modelled/demonstrated new approaches | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Allowed experimentation to adapt/apply approaches to your classroom | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Included observation and feedback? | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Took place at least fortnightly over two terms? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Drawn on explicit support from | | |
| a) External experts | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Peer networks | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Coaches / mentors | <input type="checkbox"/> | <input type="checkbox"/> |
| d) School/college leaders | <input type="checkbox"/> | <input type="checkbox"/> |



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3. Evaluate teaching quality

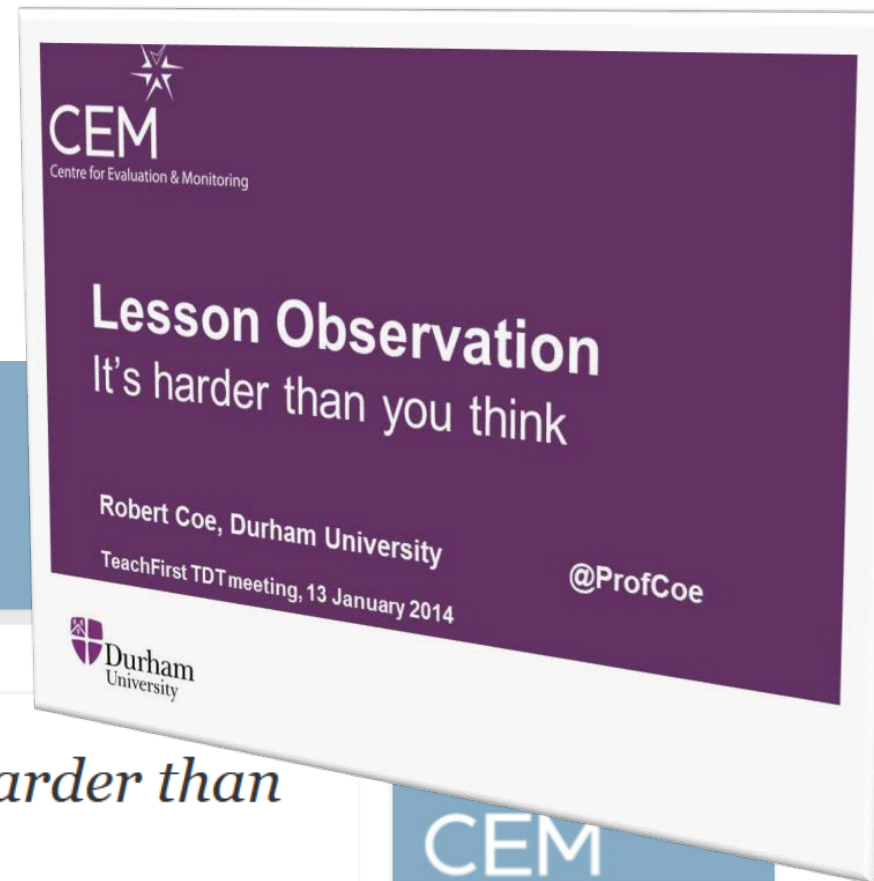
Identifying the best teachers


Sources of evidence:

1. Colleagues (peers, SMs) observing lessons
2. Trained outsiders observing lessons
3. Pupils' test score gains
4. Progress in NC levels (from teacher assessment)
5. Pupils' ratings of teacher/lesson quality
6. Teacher qualifications
7. Tests of teachers' content knowledge
8. Parents' ratings
9. Ofsted ratings
10. Colleagues' (including senior managers) perceptions
11. Teachers' self-evaluation

Lesson observation: It's harder than you think


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Lesson Observation
It's harder than you think

Robert Coe, Durham University
TeachFirst TDT meeting, 13 January 2014

@ProfCoe



Durham
University

Classroom observation: it's harder than you think

Professor Robert Coe

We've all done it: observed another teacher's lesson and made a judgement about how effective the teaching was. Instinctively it feels valid. I am a good teacher; I'll know a good lesson when I see one. We've all experienced it from the other side – being observed – but this time the feeling may be more mixed. Sometimes you get real insight from someone who sees what you don't, questions what you take for granted and makes you think differently. Sometimes they just tell you what they would have done, or focus on some trivial irrelevance.


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How do you know if teaching is working?

1. High-quality assessment
 - Not levels (generalised descriptors/criteria)
 - Convergent with learning goals & other evidence
 - Check for bias & confounds
2. Lesson observation
 - Be very cautious! (no grades or consequences)
 - Based on ‘Great Teaching’ evidence
 - Trust teachers with consistently good outcomes
3. Student feedback
 - Use validated instruments

Using good assessment to monitor teaching

- Standardised
 - criteria, exemplars, context, moderation, objective
- Reliable
 - accurate, consistent across teachers
- Aligned
 - Captures valued learning



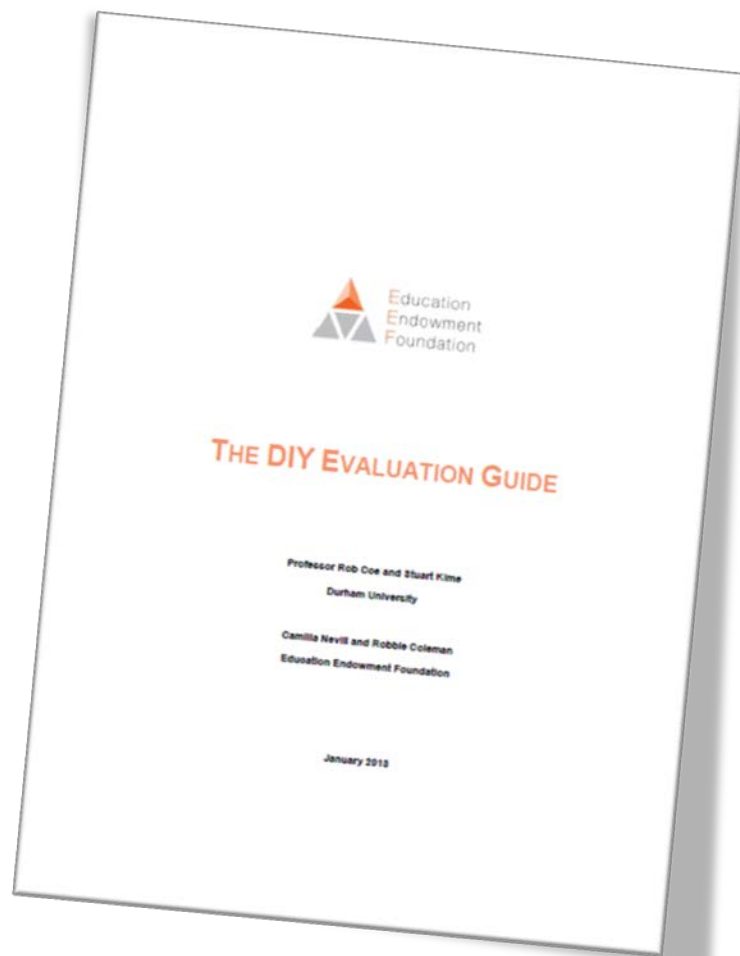


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4. Evaluate impact of changes

Key elements of good evaluation



- Clear, well defined intervention
- Good assessment of appropriate outcomes
- Well-matched comparison group



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What are the issues today?

Progress since 2013

- Standards of attainment probably flat, but at least grade inflation seems to have stopped
- Evaluating school (and teacher) effectiveness is still problematic & higher stakes
- Research evidence is higher profile (eg blogs, Toolkit, researchEd, WMGT, DGT; Research Leads). Maybe better?
 - 12 of 30 books and reports in my '[Research that is worth reading](#)' list published since June 2013
- Greater awareness of cognitive psychology
- Ofsted progressed from Inadequate to Requires Improvement

Where next

- An evidence-based, practical theory of pedagogy and instruction
- Practical tools for assessing pedagogy
- Evidence-based curriculum/resources
- Better (and more) CPDL
 - Core teaching skills
 - Assessment ([assessment.academy](https://www.assessment.academy))
 - Evaluation
- Better assessment tools (item/test banks?)



AssessmentAcademy