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Institute for  
**Effective Education**

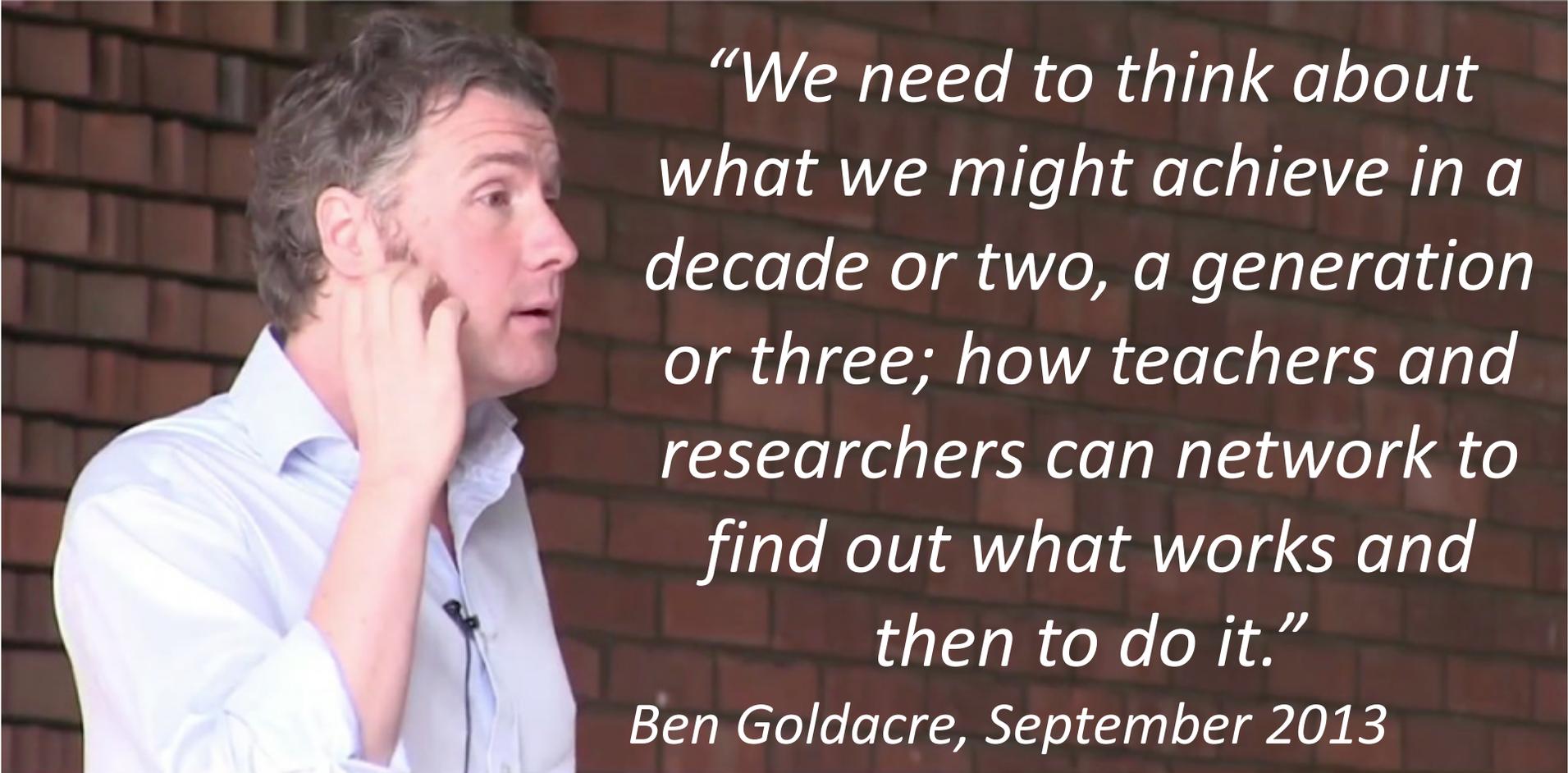


*Huntington School*

# Developing an evidence-informed school

John Tomsett

Huntington School &  
EEF/IEE Research School

A man with dark hair, wearing a light blue button-down shirt, is shown in profile from the chest up. He is looking to the right and has his right hand raised to his face, with his fingers near his ear, suggesting he is listening intently or speaking. The background is a dark red brick wall. The text is overlaid on the right side of the image.

*“We need to think about what we might achieve in a decade or two, a generation or three; how teachers and researchers can network to find out what works and then to do it.”*

*Ben Goldacre, September 2013*

# Beyond Guesswork?

*Teaching will only become an evidence-informed profession when a **leadership-wisdom** prevails which creates structures in schools where classroom teachers:*

- can access good evidence easily;*
- feel encouraged and safe to change their practice in the light of the evidence;*
- are supported by a school-based research-lead with a Higher Education connection;*
- can evaluate the impact on student outcomes of the changes to their pedagogy and decide whether to continue with **or stop** the change.*

research  **ED** 2014

# Why teaching will never be a research-based profession and why that's a Good Thing

Dylan Wiliam (@dylanwiliam)

[www.dylanwiliam.net](http://www.dylanwiliam.net)



**“If you’re not using  
evidence, you must be  
using prejudice...”**

**Sir Kevan Collins, CEO,  
Education Endowment Foundation**

# Big 7 reasons for R&D



they do...  
professionals at our jo  
**professionalism** /  
professionalism in v  
and high standa





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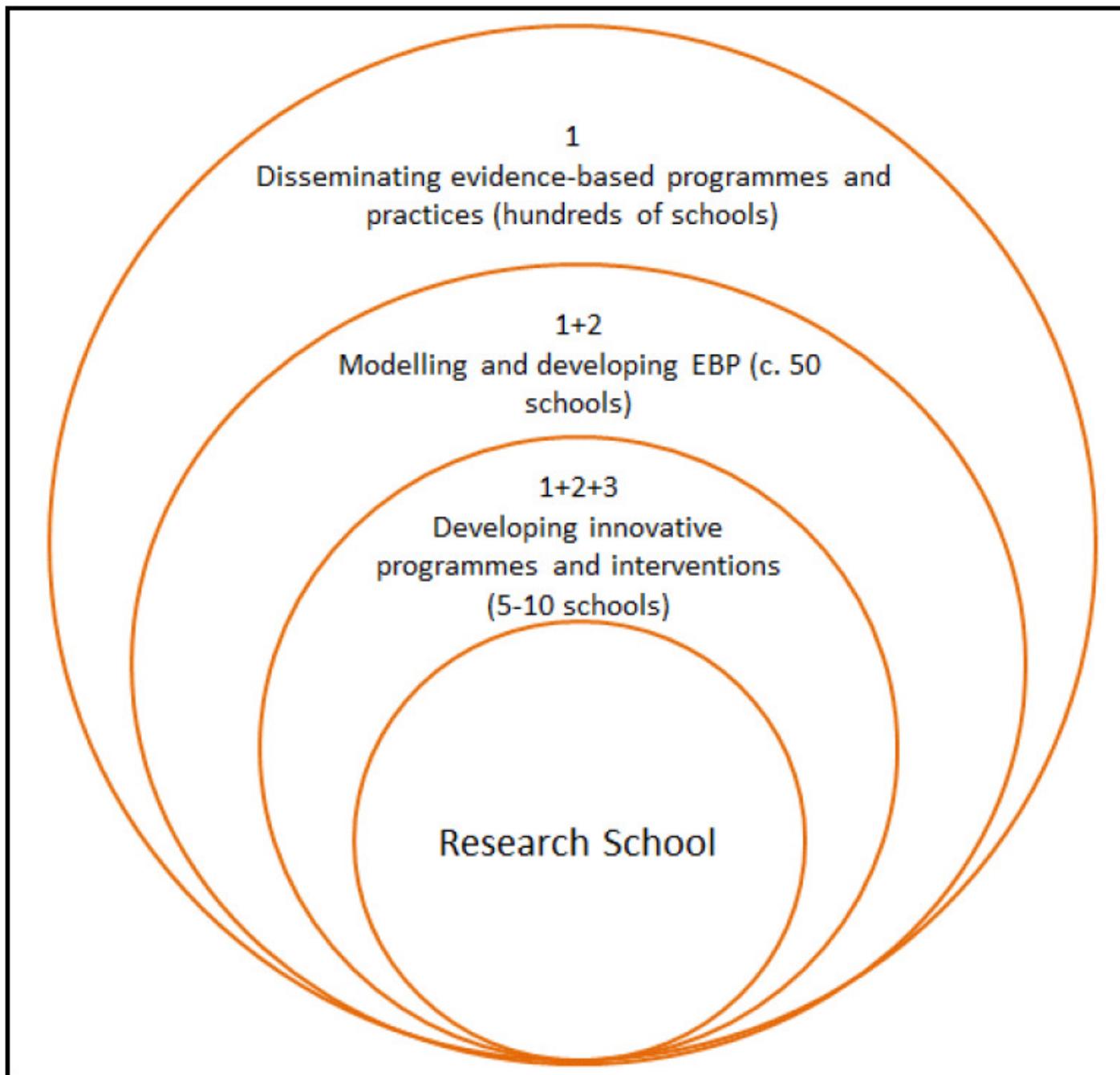
*Huntington School*

**EEF/IEE Research Schools**



# Research School Activities

1. Disseminating evidence-informed interventions and practices, and supporting their implementation;
2. Modelling and developing evidence-informed practice;
3. Bridging the gap between research and practice by developing innovative interventions and practices, based on the existing research.





**Improving  
Teaching & Learning**

**Culture**

**Evidence**

**Performance  
Development**

**CPD**

# Truly Great Teaching

We are reflective practitioners who continue to develop excellent subject knowledge. We adopt an evidence-informed approach to learning and teaching.

We know the students in front of us. The needs of individuals are catered for.

We all have high expectations for all

We understand the literacy and numeracy demands of our subjects, and all of us support students to access the requirements of the curriculum.

behaviour for learning is well managed so that our students are active learners who exhibit the school's core values.

Our students are given strategies to develop memory and metacognition skills. This leads to learning on a deeper level: independence, mastery and resilience.

our teaching promotes key life skills, so that our students are prepared for the world beyond school, emphasising connections between subject learning and real life applications.

Huntington School



# Mandatory Evidence

- **Review of the their students' examination results against the students' academic targets, providing class by class commentary on their students' performance;**
- Lesson Observation feedback;
- Feedback from work scrutinies;
- Good evidence of thoughtful lesson planning;
- Any further evidence which might relate specifically to the teacher's Performance Development objectives.

# Mandatory Evidence

- **The teacher's TLF notebook/blog as a record his/her reflections upon his/her development as a teacher over the year which is a crucial element of the overall Performance Development process and plays a central role in the school's drive to improve the overall quality of teaching.**



Where's the  
Evidence?  
?

# 1:1 Mathematics Tutoring

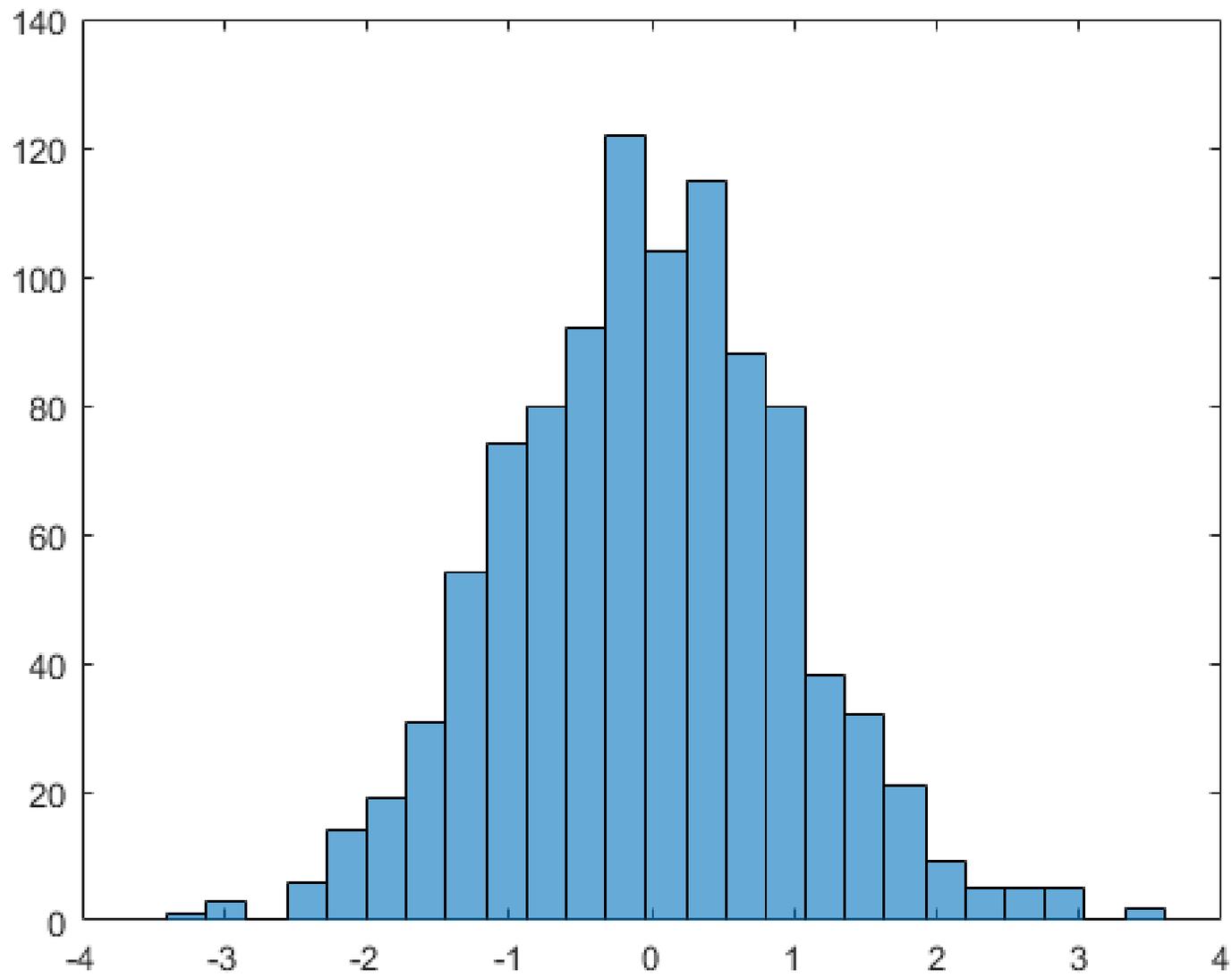
- £3,000 p.a.
- September 2015...
- Me: “Did the 1:1 tutoring work?”
- Matt: “Yes, 75% of them got a C grade.”
- Me: “So? They might have got a C grade anyway. What impact did the 1:1 tutoring have?”
- Matt: “I don’t know.”

# 1:1 Mathematics Tutoring

- £3,000 p.a.
- May 2016...
- Matt: “I remembered what you said about the impact of 1:1 tutoring.”
- Me: “Go on...”
- Matt: “I have created a treatment group and a control group of 12 students in each with very similar starting points and I am going to compare them to see if 1:1 might have had some impact.”

# 1:1 Mathematics Tutoring

- September 2016...
- Treatment Group: C+ grade, 10/12;
- Control Group: C+ grade, 4/12;
- Treatment Group: at least exp progress, 8/12;
- Control Group: at least exp progress, 7/12;
- I acknowledge the small sample size...it's important to note that the control group were selected by me in December. Students were paired against similar students in the treatment group based upon current attainment data, personality and target grades.



6.6%

Copyrighted Material

# make it stick



*The Science of Successful Learning*

Peter C. Brown

Henry L. Roediger III

Mark A. McDaniel

Copyrighted Material

**70%**

**+ 11%**



General Certificate of Secondary Education  
Higher Tier  
June 2014

# French

**465!**

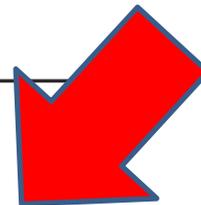
## Unit 1 Listening

Monday 12 May 2014 1.30 pm to 2.15 pm  
approximately (including reading time)

You will need no other materials.

### Time allowed

- 40 minutes approximately + 5 minutes reading time before the test



**11Fr1**

**67%**

**64%**

**FFT D +24**

**94%**

**97%**

# 11Fr1...Unit 1

81%

A\*-C

# 11De4

17%      14%  
FFT D +/-0  
47%      51%

# 11De4...Unit 1

19%

A\*-C

# Why the difference?

- The French class were able to practise right up until the day before the examination;
- The German class had their examination immediately after the May/June half-term holiday; there was a ten day gap between their final practice paper and the real examination;
- What is the relationship between metacognitive processes and academic starting points?
- BTW...We are teaching students with mixed starting points in the same class in current Year 11.

# Professor Rob Coe

‘Our strategy should therefore be to make the best choices we can from the best evidence available, to try it out, with an open mind, and see if it works. If it does, we can keep doing it; if not, we will learn from that experience and try something else.’



# **The Magic of Metacognition**



## Evidence and Data

Teaching and Learning Toolkit

About the Toolkit

Using the Toolkit

Early Years Toolkit

Families of Schools Database

Videos and Case Studies

Publications

EAL Review

TA Campaign: Report

TEACHING & LEARNING TOOLKIT TOPIC



COST



EVIDENCE



IMPACT



**Meta-cognition and self-regulation**

£ £ £ £ £



**+8**  
months

**Feedback**

£ £ £ £ £



**+8**  
months

**Peer tutoring**

£ £ £ £ £



**+6**  
months

**One to one tuition**

£ £ £ £ £



**+5**  
months

**Collaborative learning**

£ £ £ £ £



**+5**  
months

# What is metacognition?

Flavell (1976), who first used the term, offers the following example: I am engaging in *metacognition* if I notice that I am having more trouble learning A than B; if it strikes me that I should double check C before accepting it as fact.

We need to model explicitly the mental processes involved in teaching & learning which we, as teachers, can often take for granted.





**Tuesday 13 May 2014 – Morning**

**AS GCE ECONOMICS**

**F581/01 Markets in Action**

What I THINK when I  
am tackling an exam  
paper.

Candidates answer on the Question Paper.

**OCR supplied materials:**  
None

**Other materials required:**  
• Calculators may be used

**Duration: 1 hour 30 minutes**



DT shift to R.

(b) The success of the programme presented by James May and the move of production to China have each had an effect on the market equilibrium for Airfix Spitfire model kits.

Using one demand and supply diagram, explain the likely impact of these changes on the market equilibrium.

S + shift to R.

Don't need much explanation.

How many D + S shifts are there?

Ans: 2.

Am I sure I know which way the shifts go?

check LABELS!

It's 6 marks -

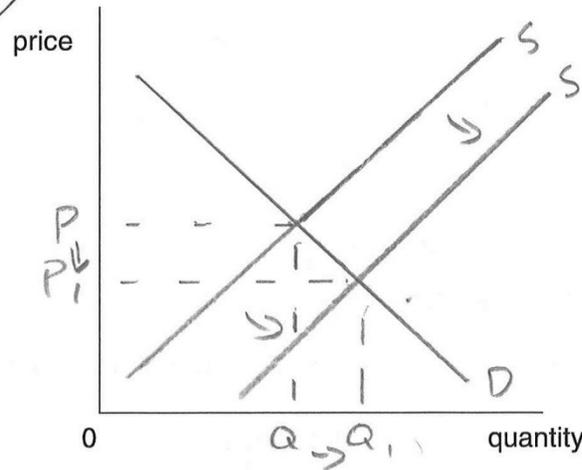
4 for diagram, probably, and 2 for explanation.

Don't need to think about COMMENT cos it is just explaining the diagram.

.....  
.....  
.....  
.....  
.....  
.....

(c) Using a demand and supply diagram, comment on the likely impact on the market for new houses of relaxing planning regulations.

Supply  
~~not demand~~



Labels ✓  
Original ✓  
New ✓  
Arrows ✓  
check ✓

By relaxing planning regulations it makes it easier to build houses. Therefore supply would increase from  $S \rightarrow S_1$ . This will also cause a fall in price from  $P \rightarrow P_1$  and an increase in supply from  $Q \rightarrow Q_1$ . However this depends on whether all other things remain the same (*ceteris paribus*) and will also depend on the size of the increase of supply, to how much the market is affected.

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<b>Jun-16</b>		<b>347/400</b>	<b>A*</b>
<b>Jun-15</b>	<b>-</b>	<b>75/100</b>	<b>b</b>
<b>Jun-15</b>	<b>-</b>	<b>82/100</b>	<b>a</b>
<b>Jun-16</b>	<b>-</b>	<b>92/100</b>	<b>a</b>
<b>Jun-16</b>	<b>-</b>	<b>98/100</b>	<b>a</b>

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## Question Level Analysis

[View paper](#)

**Qualification:** GCE

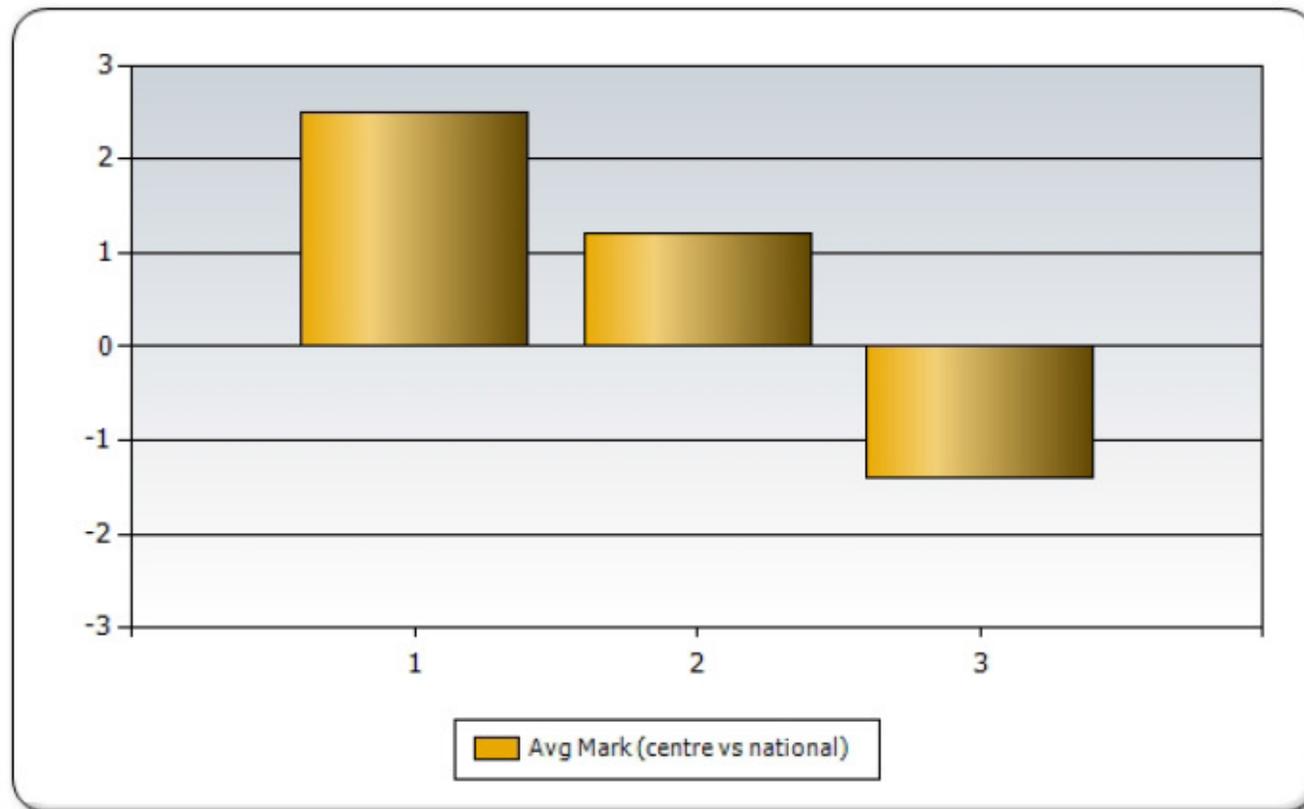
**Unit:** F585/01 The Global Economy

**Series:** Jun-16

**Tier:** -

**Candidates:** 13

Question	Average mark (Centre)	Average mark (OCR National)	Marks available
1	14.8	12.3	20
2	14.9	13.7	20
3	11.6	13.0	20



### Compare Series for Specification

Code	Qualification	Specification	Series	Candidates	centre average UMS/mark	national average UMS/mark
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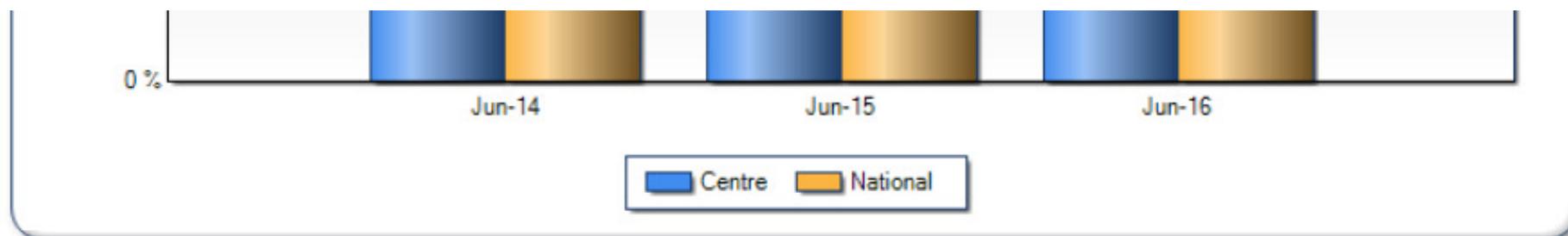
H461	GCE	Economics	Jun-16	<u>13/13</u>	300/400	286/400
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Series	Candidates	centre average UMS/mark	national average UMS/mark
--------	------------	-------------------------	---------------------------

Jun-16	<u>13/13</u>	300/400	286/400
--------	--------------	---------	---------

Jun-15	<u>5/7</u>	278/400	285/400
--------	------------	---------	---------

Jun-14	<u>7/10</u>	278/400	284/400
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# ALPS – last 3 years

10	0.87	7	6	0.96	5	13	1.06	2
----	------	---	---	------	---	----	------	---



10%

AS?

CR...HN

Gg?

## **13R: Overall**

- 8 students overall
- Average c.- 0.1 of a grade below MEG per student

## **13S: Overall**

- 5 students overall
- Average + 0.7 of a grade above MEG per student

# Class by class analysis...

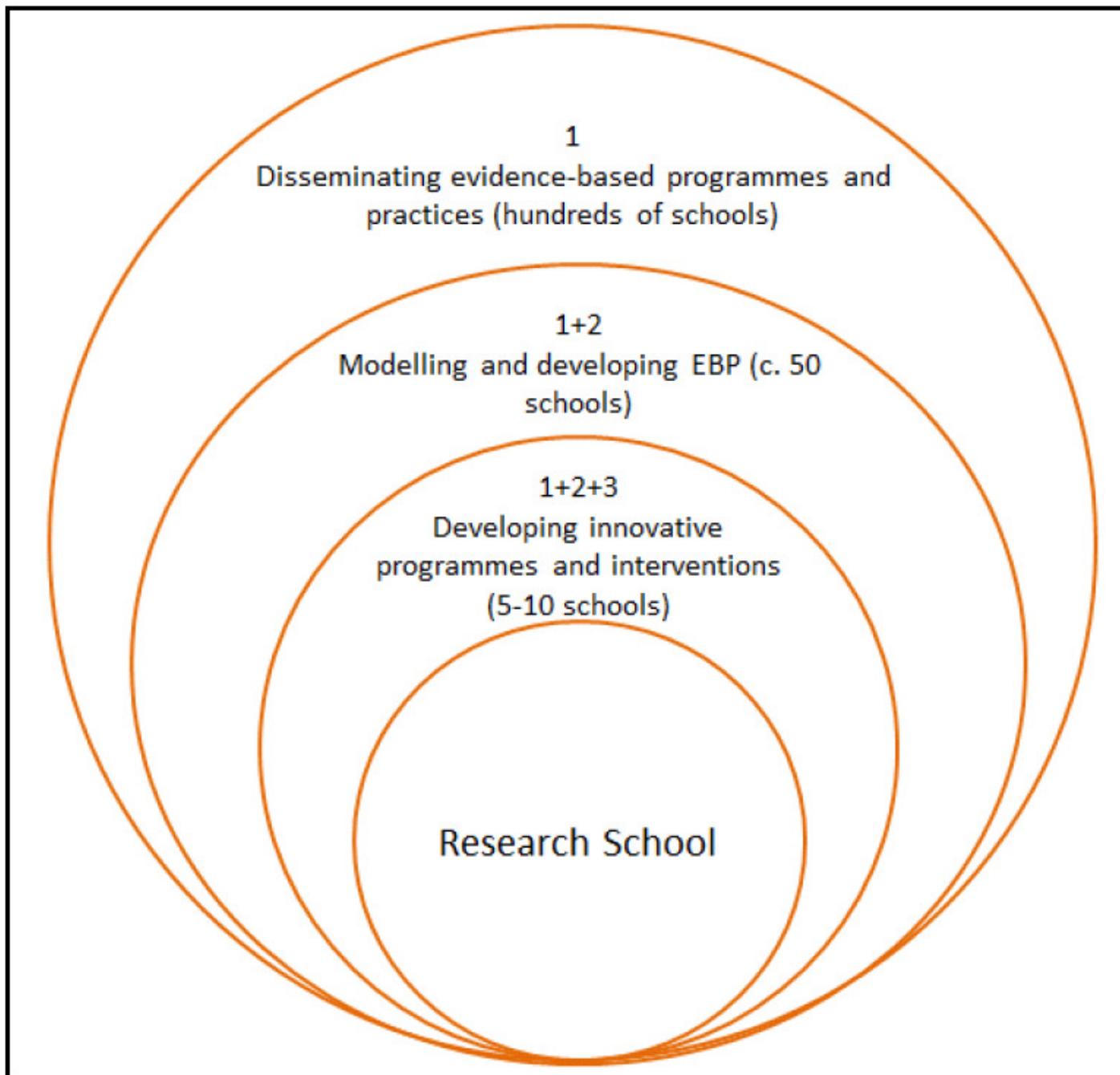
Teacher: John Tomsett    Subject: Economics    Class: 13R

## Summary

Number of Students	8
Students Above Target	0
Students on Target	7
Students Below Target	1
Average Target Residual (GCSE, AS & A Level only)	- 0.1

## Commentary

Re-taking AS modules had a significant impact upon outcomes.







# Dylan Wiliam, rED 2014

- The role of teachers
  - All teachers should be seeking to improve their practice through a process of ‘disciplined inquiry’
    - Some may wish to share their work with others
    - Some may wish to write their work up for publication
    - Some may wish to pursue research degrees
    - Some may even wish to undertake research

# Performance Development 2016-17

Whole School Objective

Departmental Objective

*Inquiry Question – replaces the  
Personal Objective*

## Developing an 'Inquiry' approach to Professional Development

Practitioner inquiry should lead to deep learning which transforms professionals' understanding & practice and, subsequently, has a positive impact upon the students' learning in the classroom.

### **Critical inquiry helps us to...**

- challenge our assumptions;
- offers us a new lens through which to view our practice;
- make informed decisions about our practice using the available **evidence.**

## Old style...

### **Professional Objective**

Develop effective **modelling techniques** to improve and refine student understanding of a range of complex scientific tasks. Use a range of scaffolding techniques to improve understanding.

**...replaced by a more disciplined approach...**

## The new-style objective will take the form of an Inquiry Question:

How does **<intervention x>** impact on **<pupil learning need y>** for **<pupils z>**?

## Inquiry Question – Science example

How does **<students modelling how to answer 6 mark QWC questions>** impact on **<the marks awarded for these questions>** for **<students in top sets compared to lower sets>?**



Keep things narrow and focused, e.g.

“Improving measurement of angles” is better focused than “improving maths grades”

“Quiet, low prior-attainment boys in year 7” is better focused than “learners on Free School Meals”

**1. Diagnosis stage**

- Diagnosis stage**
- Identified limited vocabulary (comprehension and writing)
  - Baseline piece of work – tally of tier 2 words

**2. Research an intervention**

- Research an intervention**
- David Didau's blog → Isabelle Beck, 'Bringing Words to Life' → Tiers of vocabulary
  - Aim to increase use of tier 2 vocabulary
  - Introduce beginning of every lesson (8 x 10 min sessions)

**3. Embed and refine**

**Embed and refine**

- Planned 10 mins & observed pupil reaction, interviewed pupils and looked at work at end of day
- Refined introduction and adapted task
  - Planned and observed longer lesson
- Final evaluation of work

## **Enquiry Question: Example 1**

**How does <targeted teaching (8 x 10mins sessions) of type 2 vocabulary> impact on <increasing the use of type 2 vocabulary used in extended writing> for < low prior-attainment boys in year 7 >?**

## **Enquiry Question: Example 2**

**How does <teacher feedback>  
impact on <developing literacy  
skills in extended writing tasks>  
for <low confidence Year 8 girls>?**

## **Enquiry Question: Example 3**

**How does <interleaving (information presented over spaced intervals)> impact on <developing spoken fluency in Spanish> for <underachieving girls in class 7Y2>?**

*The process of completing the Inquiry is the objective, rather than whether or not the intervention is successful...*

- The inquiry objective will form an integral aspect of the Performance Development cycle and will contribute to all colleagues meeting the **Teachers' Standards**.
- Training provided to support colleagues in developing an inquiry style question.
- Our CPD model underpins this approach and provides the necessary tools required to enable colleagues to engage successfully in the inquiry mode of professional development.



Please can Subject Leaders email me your (maximum of) three priorities by close of play Tuesday, on a single Powerpoint slide.

# English Department Priority

## 2016-2017

How can we develop independent readers and word-rich writers through a range of approaches, including memory and metacognitive-based strategies?

- **KS3:** developing confidence and knowledge of subject specific vocabulary whilst fostering curiosity and interest in language;
- **KS4:** closing comprehension and vocabulary gaps so that students can analyse complex unseen texts, independently;
- **KS5:** developing students' abilities to express complex ideas in a precise, fluent way so that they can write coherent, well structured arguments.

# Philippa Cordingley

[In schools where effective professional learning takes place we found] modelling of this kind of deep and sustained, enquiry oriented learning by school leaders who provide time for collaborative analysis and ***evidence-informed reflection*** and who specifically encourage risk-taking.

**A school-based structure to  
foster “disciplined enquiry”**

**Student outcomes**

**Lesson study**

**Performance Development**

**CPD is privileged**

**Research Lead**

**Chelsey Sullenberger**  
**vs.**  
**Francesco Schettino**



# Evidence-informed Leadership

## Chelsey Sullenberger

- Visiting scholar at UC Berkeley's Collaborative for Catastrophic Risk Management since 2007;
- Researches how to make decisions to maintain safety despite technological complexity and crisis conditions;
- Has written and analysed aviation accident reports for over 20 years;
- The last person to leave the plane, Chesley Sullenberger twice walked the plane's aisle to check all passengers were off;
- Sully's last act onboard was to grab the passenger list – used on-shore to verify rescue of all passengers and crew.

# Haplessness...

## Francesco Schettino

- After attending the nautical institute Nino Bixio in Piano di Sorrento, Schettino worked for the ferry company Tirrenia;
- In 2002 Schettino was hired by Costa Cruises. Starting as an official in charge of security, he moved up to become second-in-command;
- In 2010 Schettino, as captain of the *Costa Atlantica*, entered the port of Warnemünde, Germany, at too high a speed, allegedly causing damage to another ship, the *AIDAblu*;
- In 2014 he taught a panic management course at Rome university...



*“One way of looking at this might be that for 42 years, I've been making small, regular deposits in this bank of experience, research and training.*”

*“And on January 15, the balance was sufficient so that I could make a very large withdrawal.”*





**John Tomsett**  
**Huntington School, York**  
**EEF/IEE Research School**

**[j.tomsett@huntington-ed.org.uk](mailto:j.tomsett@huntington-ed.org.uk)**  
**[@johntomsett](#)**  
**[www.johntomsett.com](http://www.johntomsett.com)**