



THE IMPORTANCE OF TEACHER ENGAGEMENT WITH RESEARCH

Presented by:

Cat Scutt
Deputy CEO, Education and Research
Chartered College of Teaching



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COLLEGE OF
TEACHING

Let's start with a quiz!



Some of us are left-brained and
some of us are right-brained

True or False?

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some of us are right-brained

True or False?

Is self-quizzing on a chapter you have read more effective, less effective, or about as effective as re-reading the chapter?

- A) More effective
- B) Less effective
- C) About as effective

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Only 31% of
respondents got
this right!

Is reading something and highlighting sentences and vocabulary words in reading materials and re-reading them later more effective, less effective, or about as effective as reading something then writing everything one knows about the topic on a blank sheet of paper?

- A) More effective
- B) Less effective
- C) About as effective

Is reading something and highlighting sentences and vocabulary words in reading materials and re-reading them later more effective, less effective, or about as effective as reading something then writing everything one knows about the topic on a blank sheet of paper?

A) More effective

B) Less effective

C) About as effective

Teenagers have different body
clocks to adults

True or False?

Teenagers have different body clocks to adults

True or False?

Is “interleaving” problem types with each other (e.g., students solve a division problem, then a multiplication problem, etc) more effective, less effective, or about as effective as giving them “blocked” practice (e.g., students solve a bunch of division problems, then a bunch of multiplication problems)?

- A) More effective
- B) Less effective
- C) About as effective


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- A) More effective
- B) Less effective
- C) About as effective

*Only 20% of
respondents got
this right!*


Some reflections

- Does belief in 'neuromyths' affect teaching?
- What pupils believe about how they learn matters too!
- Engaging with evidence can help us to refine (and understand) our practice
- ... but it doesn't tell us everything



“There is a large body of research on how important teachers are to the academic outcomes of their pupils... [They] are the most important factor within schools that policy makers can directly affect to improve student achievement”

(Sutton Trust, 2011)




“The effects of high-quality teaching are especially large for pupils from disadvantaged backgrounds, who gain an extra year’s worth of learning under very effective teachers compared to poorly performing teachers”

(Sutton Trust, 2011)

<https://chartered.college/join/student-membership/>



- 
- What's your response to this (imaginary) newspaper headline? What would you want to know?

Research shows starting a class by building a paper aeroplane is beneficial



What measures were used? What does it ‘benefit’?

What was the methodology? Is it a one-off study, or has it been replicated?

Who was the research done with?

What does this look like in practice? What were the ‘active ingredients’?

How effective was it compared to the time taken?



Dylan Wiliam
@dylanwiliam



Increased use of student-centered teaching methods is linked to increased student wellbeing but lower achievement, which in turn, link to increased adult life satisfaction, but lower earnings—the "achievement-wellbeing tradeoff", discussed by [@CfEdnEcon](#):
bit.ly/2Dlx2px

12:37 pm · 14 Nov 2018 from [Florida, USA](#) · [Twitter Web Client](#)

291 Retweets **505** Likes

Understanding 'effectiveness' and 'impact'

Teaching and Learning Toolkit

An accessible summary of the international evidence on teaching 5-16 year-olds

Filter Toolkit

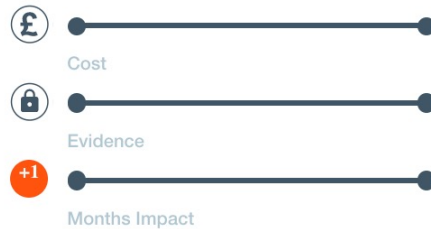
Toolkit Strand ^

Cost v

Evidence Strength ^

Impact (months) ^

Filter results by keywords



Download Toolkit

Arts participation

Low impact for low cost, based on moderate evidence.



+2

Aspiration interventions

Very low or no impact for moderate cost, based on very limited evidence.



0

Behaviour interventions

Moderate impact for moderate cost, based on extensive evidence.



+3

Block scheduling

Very low or no impact for very low cost, based on limited evidence.



0



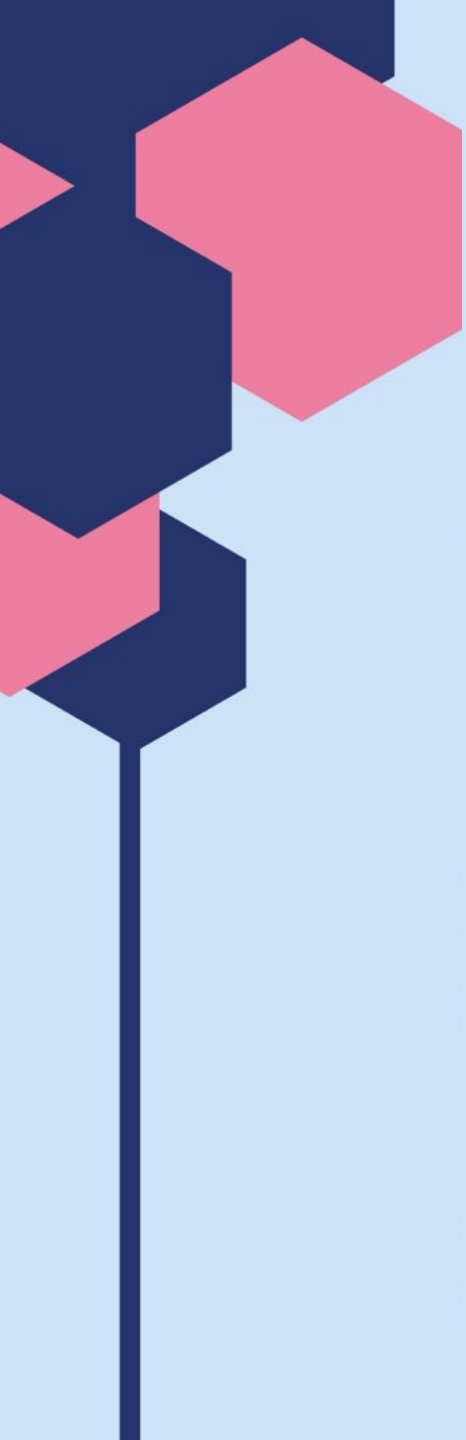
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A hierarchy of evidence

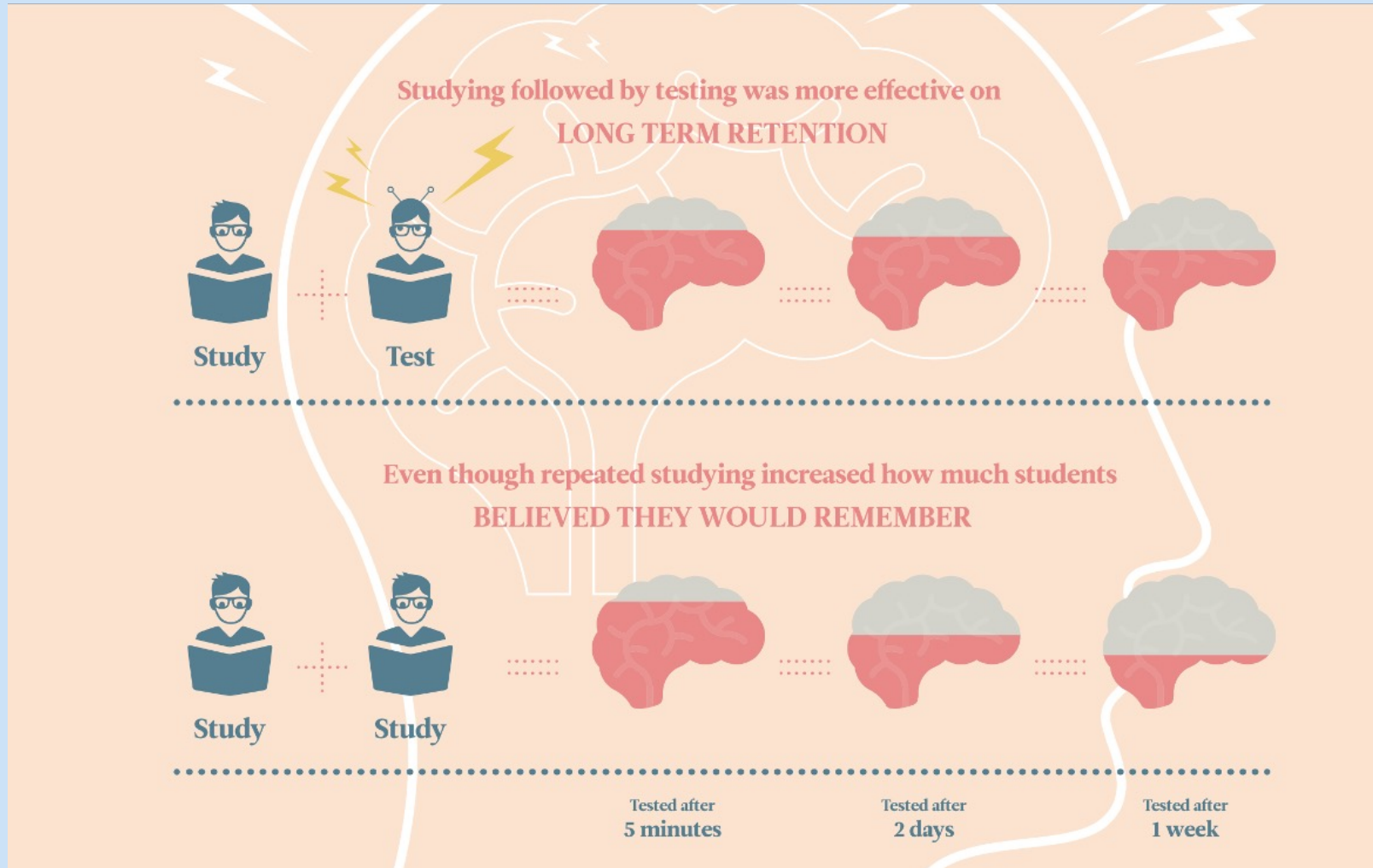


A hierarchy of evidence

EEF, 2017 (on Twitter)

DfE Evidence Hierarchy	
Indicative strength	Type of evidence
	<ul style="list-style-type: none">• Meta-analysis or systematic review - analysis and summary across many individual evaluations
	<ul style="list-style-type: none">• Matched-comparison design or a randomised controlled trial – tests intervention against a comparison grp
	<ul style="list-style-type: none">• Sound theory backed by a growing body of empirical research & may cite DfE policy / White paper
	<ul style="list-style-type: none">• Independent research / evaluation – uses surveys, data analysis, monitoring, interviews, observations, focus groups, etc
	<ul style="list-style-type: none">• Internal / in-house evaluation. Not independently evaluated• - inc. case studies, observation, interviews, MI
	<ul style="list-style-type: none">• Expert opinion / advice from consultants, academics or sector grp
	<ul style="list-style-type: none">• Media articles / anecdotal reports and interest groups

Can we trust self-report?



Impact, 2017, based on Roediger and Karpicke

Judging the robustness of research

Introduction to research

Judging the quality and trustworthiness of research



Gary Jones and Deborah Netolicky

What's the idea?

- » Are the methods used suitable for the research aims?
- » To what extent are the claims made supported by others' work?

for which - resources - be it staff, time, expertise and finance - are available?

Actionable

- » Does the research specify causal

That's a claim!

Key Concepts for thinking critically about educational claims



BEWARE Negative side effects: Side effects are rarely reported in educational research. Beware of side effects as well as benefits.

BEWARE Dramatic effects: Exaggerated claims to have students, staff or school effects. Beware of dramatic effects.

BEWARE Certainty: Fair comparisons of interventions provide the best basis for being confident about the effects of an intervention. Beware of claims that are overly confident to be true.

BEWARE Explanation is not enough: An explanation of how an intervention works does not mean that it does work. Beware of over-claiming.

BEWARE Big data: Claims that you have a "big data" edge from big data are often misleading. Beware of over-claiming.

BEWARE Correlation = Causation: The fact that a possible cause and effect are associated with an intervention does not mean that the intervention caused the outcome.

BEWARE Comparison groups: People in the comparison group need to be similar to one another.

BEWARE Indirect comparisons: There are many different ways to compare interventions. Beware of indirect comparisons.

BEWARE Equal treatment: Lessons in the group being compared should be the same. Beware of unequal treatment.

BEWARE Similar measurement of outcomes: Outcomes need to be measured in the same way in comparison groups.

BEWARE Reliable assessment of outcomes: Outcomes need to be measured using methods that have been shown to be reliable.

BEWARE Follow-up: It is important to measure outcomes in the same way in comparison groups.

BEWARE Practicality: The results of studies may not be applicable or transferable to your context. Beware of over-claiming.

BEWARE Context: The results of studies may not be applicable or transferable to your context. Beware of over-claiming.

BEWARE Advantages vs. Disadvantages: A systems review of the literature should include both advantages and disadvantages of the intervention.

BEWARE Confidence in the evidence: Decisions about whether to use an intervention should be based on the strength of available evidence.

BEWARE Original groups: Beware of over-claiming about the results of studies in which the intervention was compared to one or more different groups.

BEWARE Statistical significance: Statistical significance is not the same as importance.

BEWARE No evidence vs. Evidence: The lack of research evidence does not mean that an intervention is not effective. Beware of over-claiming.

BEWARE Verbal descriptions: Verbal descriptions of interventions can be misleading. Beware of over-claiming.

BEWARE Small studies: Fair comparisons with very small numbers can be misleading.

BEWARE Underreporting: Unpublished results of interventions may lead to biased conclusions about intervention effects.

BEWARE Inappropriate early intervention: Earlier intervention is not necessarily better.

BEWARE New interventions and technologies: Claims that new or technology interventions may be better than established alternatives.

BEWARE Most of the same intervention: Increasing the frequency or duration of an intervention may not increase the benefits. Beware of over-claiming.

BEWARE Conflicting interests: Conflicting interests may result in misleading claims about the effects of interventions.

BEWARE Anecdotes: Personal experiences or anecdotes should not be used as evidence for the effects of interventions.

BEWARE Expert opinion: Opinions of experts, authors, or other respected individuals do not provide evidence for the effects of interventions.

BEWARE Peer review and publication: Research that is peer-reviewed and published may not be better than research that is not.

BEWARE Review articles: Reviews of intervention comparisons that are not based on research can be misleading.

BEWARE BEWARE of claims that have a bad basis: Many claims about the effects of interventions are not trustworthy. Often this is because the reason (the basis) for the claim is not trustworthy. You should be careful when you hear claims that are:

- Too good to be true
- Based on faulty logic
- Based on trust alone

THINK 'FAIR' - and check the evidence from intervention comparisons: Evidence from comparisons of interventions can be misleading. You should think carefully about the evidence that is used to support claims about the effects of interventions.

TAKE CARE and make good choices: Good educational choices depend on thinking carefully about what to do.

Think carefully about:

- What your problem is and what your options are
- Whether the evidence is relevant to your problem and options
- Whether the advantages outweigh the disadvantages

Look out for:

- Unfair comparisons of interventions
- Unclear summaries of comparisons
- How intervention effects are described

www.thatsclaim.org/educational

Introduction: What and people? It what is at probably yourself. A says that, examples, the school increases or stress. I these claim should you like these

An educational... Problem and options: When you are thinking about a problem, make sure that you understand what the problem is and what your choices are. Type of outcomes: A systems review of the literature should include both advantages and disadvantages of the intervention. People m effects of which cla this, you their claim - its basis. For example, someone's personal experience is not by itself a good basis for a claim about what is effective teaching. This is because we don't know what would have happened if that person had done something else.

To know if an intervention (like extending the school day) causes an effect (like improved attainment), the intervention has to be compared to something else (like not extending the school day). Researchers compare an intervention given to people in one group with something else given to people in another group. These comparisons provide evidence - facts to support a conclusion about whether a claim is right or wrong. For those comparisons to be fair, the only important difference between the groups should be the interventions they receive.

A good choice is one that uses the best information available at the time. For good education, this includes using the best available evidence of intervention effects. Good choices don't guarantee good outcomes, but they make good outcomes more likely.

Chartered Choices Network



And a few more things to think about...

- Where was it published?
- Is it a peer-reviewed source?
- Who funded the work?
- Who carried it out?



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Context matters

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

Dylan Wiliam (@dylanwiliam)

1

www.dylanwiliam.net

FIGURE 1:
EVIDENCE-INFORMED PRACTICE





What measures were used? What does it ‘benefit’?

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The Bananarama Effect - Steve Higgins

*“It ain’t what you do,
it’s the way that you do it,
That’s what gets results.”*



Eton Mess - Stephen Lockyer



Cat Scutt @CatScutt · Jun 22

.@mrlockyer suggests meta-analysis can be akin to putting a strawberry pavlova in a blender; context, texture & detail lost #EducationFest



LETHAL MUTATION...





What measures were used? What does it ‘benefit’?

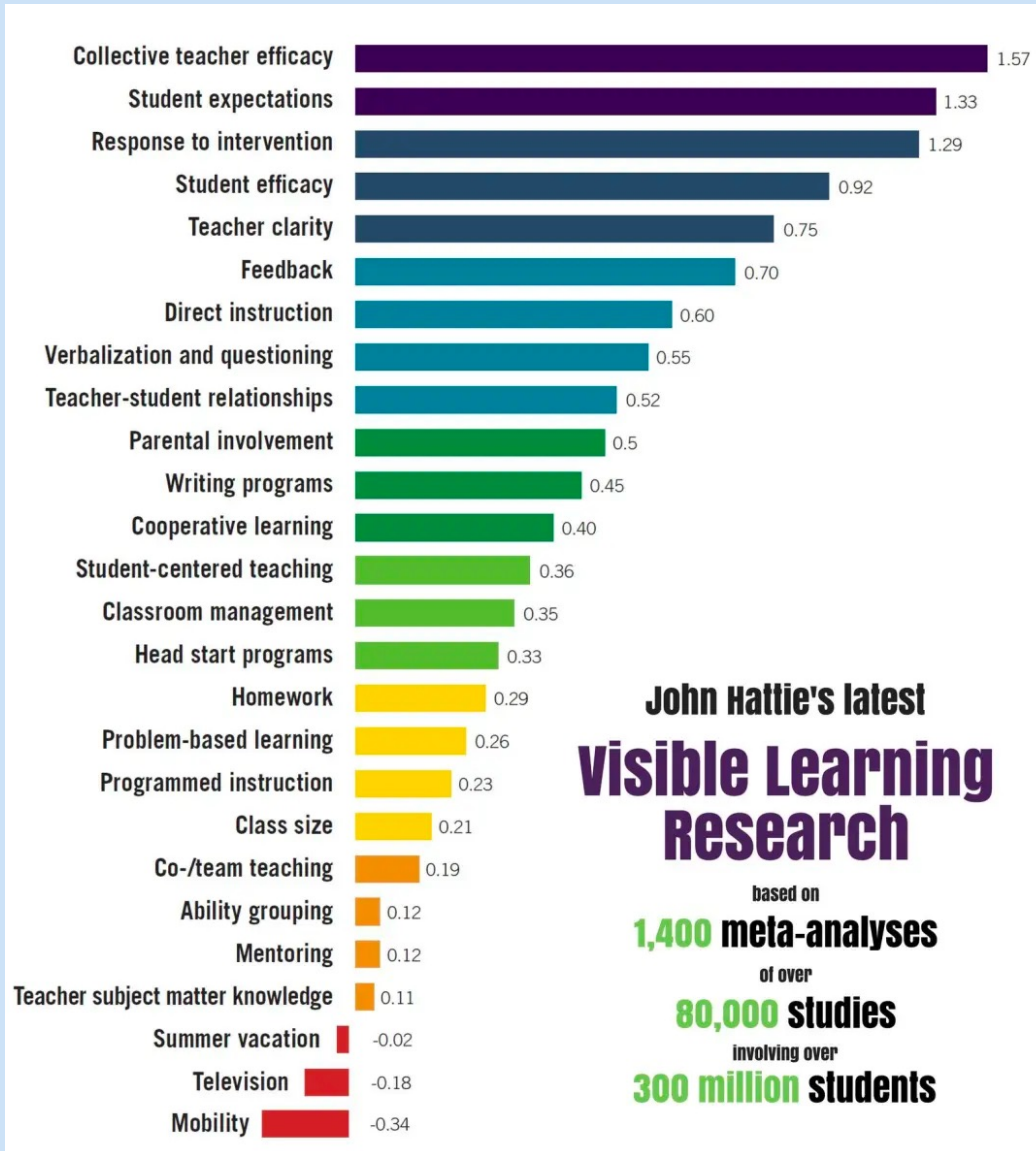
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Effectiveness and Efficiency



John Hattie's latest Visible Learning Research

based on
1,400 meta-analyses
of over
80,000 studies
involving over
300 million students



- 
- On the flip side...

No evidence that starting a class by building a paper aeroplane helps learning



Has no research been done, so we don't know?

Has research been done and is inconclusive?

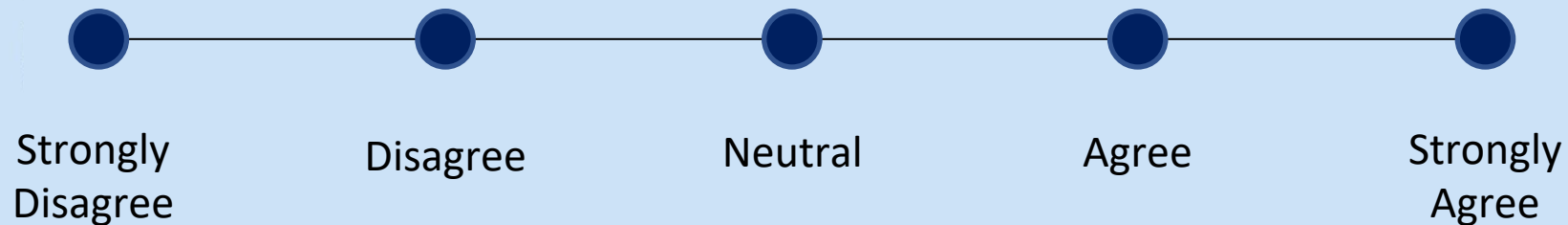
Has research been done and found it doesn't make any difference?

Has research been done and found it negatively affects learning?

Why did anyone think it **WOULD** work?



You can find research to back up any opinion



Recognising Biases

- Confirmation bias
- Publication bias

How you can dampen the effects of publication bias



BAZ RAMAIAH
Teacher success manager, Teacher Booker

Sun 23rd Jun 2019, 5:00



“Tell people about any studies with a negative finding”



WHERE ARE WE AT WITH EVIDENCE-INFORMED TEACHING?

Teachers' engagement with research: what do we know? A research briefing

- research evidence still has only a small influence on teachers' decision-making relative to other sources
- teachers were most likely to draw on their own expertise, or that of their colleagues, when making decisions about teaching and learning or whole-school change.

Teachers were, on average, willing to engage with research evidence, and reported that their school climates were supportive of evidence use. However, it appears that this willingness, and those positive climates, were not yet consistently translating into evidence-informed decision-making across schools in England.




Department
for Education

Evidence-informed teaching: an evaluation of progress in England

Research report

July 2017

**Mike Coldwell¹, Toby Greany², Steve Higgins³,
Chris Brown², Bronwen Maxwell¹, Bernadette
Stiell¹, Louise Stoll², Ben Willis¹ and Helen
Burns³**



Evidence-
informed
professional
learning

Support and
promotion of
evidence-
engagement

Evidence-informed school leadership

Neuromyths in education: Prevalence and predictors of misconceptions among teachers

Sanne Dekker^{1*}, Nikki C. Lee¹, Paul Howard-Jones² and Jelle Jolles¹

¹Department of Educational Neuroscience, Faculty of Psychology and Education, LEARN! Institute, VU University Amsterdam, Amsterdam, Netherlands

²Graduate School of Education, University of Bristol, Bristol, UK



References

High Expectations (Standard 1– Set high expectations)

[Further reading recommendations are indicated with an asterisk.]

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Bandura, A. (1986) *Social foundations of thought and action: a social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

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Chapman, R. L., Buckley, L., & Sheehan, M. (2013) School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review, *25*(1), 95–114.

Chetty, R., Friedman, J. N., Rockoff, J. E. (2014) Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood. *American Economic Review*, *104*(9), 2633–2679. <https://doi.org/10.1257/aer.104.9.2633>.

*Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit> [retrieved 10 October 2018].

Hanushek, E. (1992) The Trade-off between Child Quantity and Quality. *Journal of Political Economy*, *100*(4), 859–887.



Top down vs bottom up



LETHAL MUTATION...



FIGURE 1:
EVIDENCE-INFORMED PRACTICE



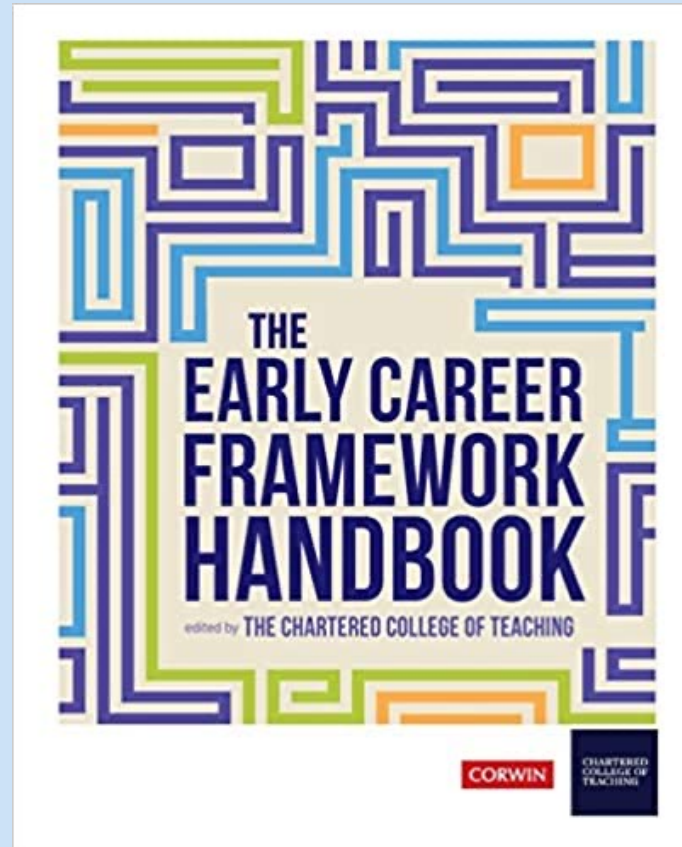
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Your Professional Body

We celebrate, support and connect teachers to provide world-class education benefiting pupils and society.

Together we will raise the status of the teaching profession.

THE EARLY CAREER FRAMEWORK HANDBOOK





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Research-informed content to support your practice



Early Career Hub

Part of MyCollege

Support and advice for new teachers



Early Childhood Hub

Part of MyCollege

Support and advice for early years practitioners



Video Hub

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Footage of classroom practice, interviews and webinars



Learning Hub

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Access our online learning platform, courses and information about Chartered Status

Featured Content

Original Research



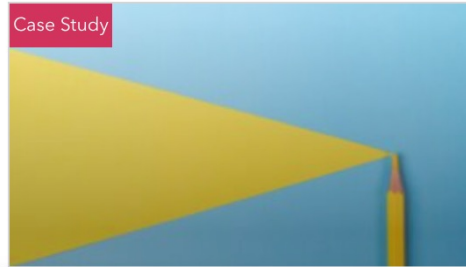
Case Study



Original Research



Case Study



Bitesize CPD



Bitesize CPD

Fostering positive behaviour, relationships and learning environments



Bitesize CPD

Supporting pupil mental health: Addiction and substance use



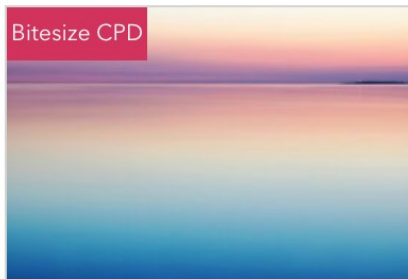
Bitesize CPD

Supporting students to develop literacy skills



Bitesize CPD

Supporting pupil mental health: Self-harm



Bitesize CPD

Supporting pupil mental health: Eating disorders



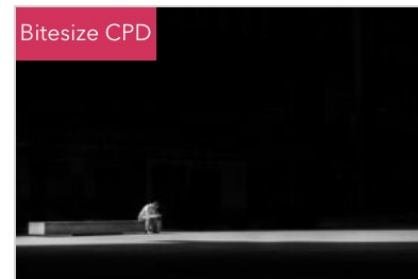
Bitesize CPD

Supporting pupil mental health: Trauma



Bitesize CPD

Supporting students with English as an Additional Language (EAL)



Bitesize CPD

Supporting pupil mental health: Bullying and loneliness

Subject-specific



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Article

Written By: [Keith Gage](#)

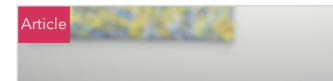


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Class

Pathways to Chartered Status

Chartered Teacher pathway




Chartered Teacher (Leadership) pathway



Chartered Teacher (Mentor) pathway





“Results demonstrate that higher performing teachers are not more likely to be sought out for advice; instead, higher performing teachers are more likely to seek advice.”

(Spillane et al, 2018)

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