Evidence Based Education

@ProfCoe

A (new) manifesto for evidence-based education: twenty years on

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1999

- A Manifesto for Evidence Based Education
- David Hargreaves calls for teaching to be a research-based profession
- Very few RCTs in schools in UK
- Most researchers argued against doing them
- Peter Tymms' study on homework in primary schools contradicts David Blunkett's policy. From THE 1.10.06:
  - 'No one with "the slightest common sense" could possibly take seriously research by Peter Tymms, the minister said. The professor of education at Durham University was one of those academics who is "so out of touch" that they "churn out" irrelevant findings that should be ignored.'

2019

- EEF has commissioned 190 large-scale trials
- Multiple organisations and events that support large numbers of teachers engaging with research (researchED, CCoT, EducationFest, Ambition Institute, TeachFirst, TDT, CUREE, EBE)
- Wide support for evidence-informed practice among teachers (Coldwell et al, 2017)
- Genuine and deep engagement with research may still be at the leading edge, but growing

What do we mean by ‘evidence-based’?

“an approach which argues that policy and practice should be capable of being justified in terms of sound evidence about their likely effects.”

Characteristics of an evidence based approach

- Understanding the evidence
- Testing the why
- Being critical
- Prioritising evaluation
- Local formative monitoring
- Changing with the evidence
- Understanding methodology

How evidence based are you?

Understanding research

- Explain why children in small classes typically learn only slightly more than they would in big classes
- In what ways does understanding depend on knowledge? In what ways does knowledge depend on understanding?
- When does praise support learning?
- Explain why grouping learners by ‘ability’ (setting, streaming, or in-class grouping) does not seem to make much difference to how much they learn?
- What determines whether learners remember things?

Applying research

- What strategies can you use to prevent students' working memory being overloaded?
- How can teachers make it most likely that students will remember what they have taught?
- What kinds of marking convey effective feedback?
- How can teachers give effective feedback to classes of 30 (without killing themselves)?

Knowledge of research

Put these in order of effectiveness:

A. A one-to-one numeracy intervention (two 15-minute sessions per week, delivered by teaching assistants) for Year 2-6 pupils who are struggling with numeracy (outcome: maths)
B. Nine weekly one-hour sessions where Y7 pupils below L4 read and discuss an age-appropriate book, with tools and resources to encourage reading for pleasure (outcome: reading)
C. A four-week summer school programme (between Y6 & 7) for pupils who had been predicted to achieve KS2 below Level 4b in English, focussed on poetry and writing (outcome: writing).
D. Y6 & 7 teachers trained to deliver a programme to help low attaining pupils plan, monitor and evaluate their writing using memorable experiences, eg trips and visitors (outcome: writing).

Being critical

- Write a list of things that are widely believed but not supported by evidence (and reference the evidence that challenges them)

- Scoring for this is

  no_who_believe_it / no_who_disbelieve_it * security of evidence

Monitoring / evaluation

- Think of a change you have tried to implement in your teaching (or leadership) role. How have you evaluated it?

a) No attempt to evaluate
b) General impressions of how it went
c) Collected some data on people's perceptions
d) Collected some data on actual student learning
e) Collected high quality assessments of student learning
f) Collected high quality assessments and controlled for the counterfactual (what would have happened otherwise)

Changing with the evidence

- Write a list of things you once believed but changed your mind about because of research evidence

- Scoring for this:

  Total number of items on the list, each weighted by the passion with which you previously believed it

Understanding methodology

- For the following designs:
  - Randomised control trial (individual allocation)
  - Cluster randomised trial
  - Quasi experimental designs
  - Difference in differences
- Briefly describe the pros and cons of each for making causal impact claims

Things it is not

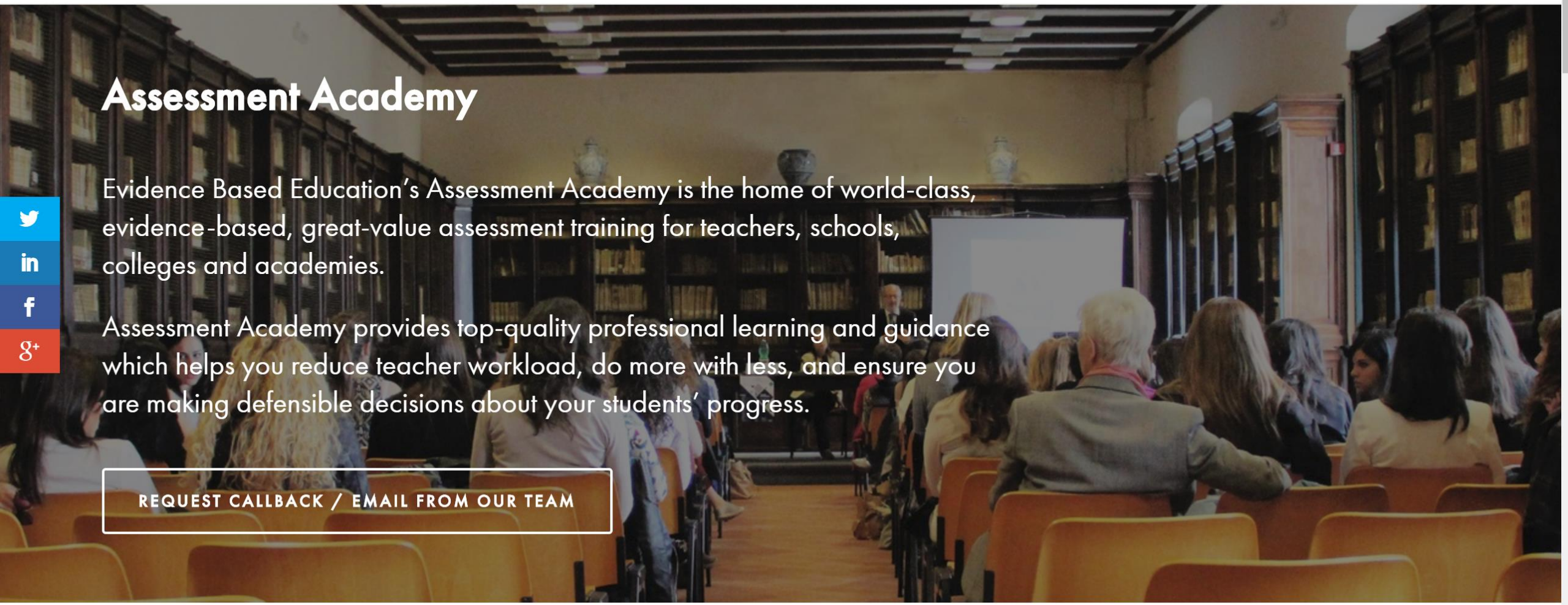
- A recipe
- An instruction
- A mechanistic, oversimplified view of the world
- Neo-liberal disempowering of teachers
- A marketing bandwagon

Policies that would help

- Promote a scientific approach to learning about how to improve education
- Create feedback systems that enable continuous improvement
- Strengthen the working relationships between practitioners, researchers, funders and policy makers
- Strengthen the safeguards that allow policymakers to do the difficult but right

What are we going to do?

- Development of accessible online training and tools
- The Great Teaching Review
- The Professional Learning Evaluation Framework



https://evidencebased.education/assessment-academy/

The challenge

To develop a list of teacher abilities (skill, knowledge, competence, behaviour, attitude, etc) whose elements

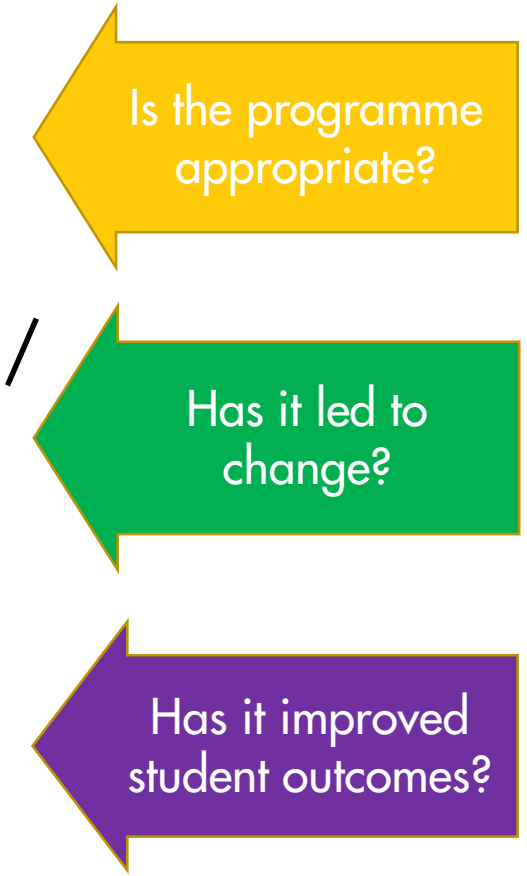
a) Include everything you might want to use to evaluate or improve teaching quality (eg for recruitment, retention, performance management, professional development, etc)
b) Are supported by evidence and theory as related to learner outcomes
c) Are well-defined and observable
d) Can be learnt/improved

The Elements of Great Teaching

1. Curriculum-related content knowledge
2. Cognitive activation
3. Classroom management
4. Classroom culture and relationships
5. Teacher knowledge about education
6. Teacher professionalism

Professional Development: Stages of evaluation

1. A clear logic model
2. Judgements of programme alignment with
   - Evidence-based practice
   - Organisational journey
3. Assessment of teacher learning / thinking / attitudes / culture
4. Evidence of change in teachers' practice
5. Evidence that these changes are sustained
6. Plausible evidence of changes in student outcomes
7. Strong evidence of changes in student outcomes attributable to the PD



Thank you!

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