Five Truths about Research-Informed Education

Dr Tom Perry

University of Warwick

ResearchED Birmingham
Saturday, 16 March 2024

Dr Tom Perry

Associate Professor, University of Warwick

How can research, evidence and data improve education policy and practice?

Methodology:

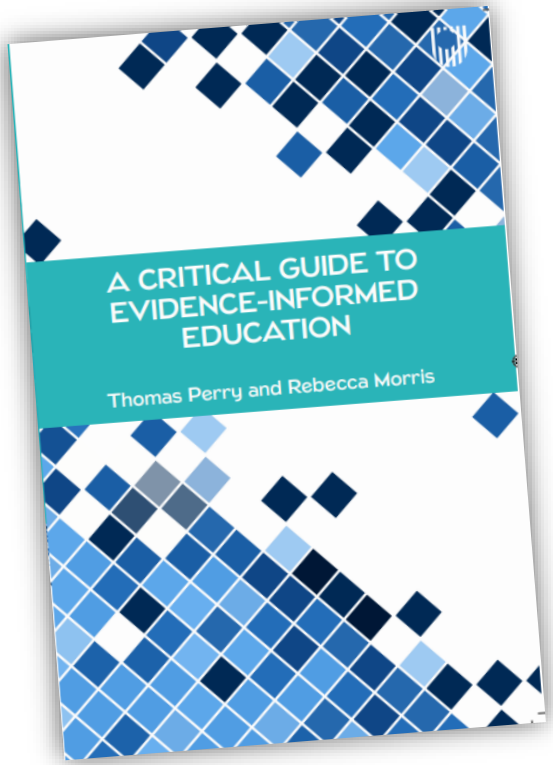
- Systematic reviews
- Evaluation and enquiry
- Mixed methods
- Secondary data / Quants
- Knowledge Exchange & Use
- Philosophy of Social research

Substantive research topics:

- Professional development, training and workforce
- Accountability and assessment
- Applied cognitive science
- School effectiveness & improvement
- Policy and structural reform
- Inequalities and disadvantage

tom.perry@warwick.ac.uk @TWPerry1 https://thomasperry.education/
Google Scholar Profile https://research-informed.education/

Recent book:



My research:

- EEF Cognitive Science in the Classroom (link)
- BERA Education Research – State of the Discipline (link)
- DCMS Review of Youth Services (link)
- Value-added measures (Progress 8) (blogs, paper)

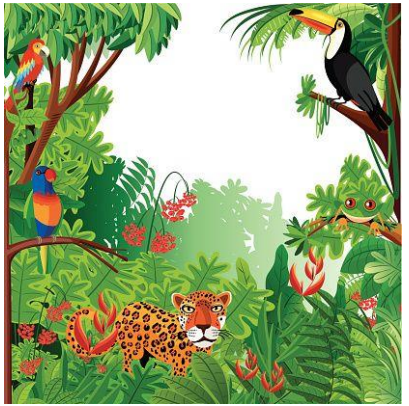
Current projects:

- Sustainable school leadership (link)
- Pupil school mobility (paper)
- Post16 GCSE resits (report, resits hub)
- Education research methods (link)
- Investigation in primary science (link)
- Education policy 2010-2024 book

tom.perry@warwick.ac.uk
Google Scholar Profile
@TWPerry1
https://thomasperry.education/
https://research-informed.education/

What does a research-informed education system look like?

- Are we nearly there yet?



Five truths and research-informed education

1. Schools are (already) doing research
2. Basic research is poorly applied. Applied research is under-valued.
3. Good research needs, and connects, both theory and evidence
4. Good research is pluralist
5. Education research capacity is undeveloped and uneven

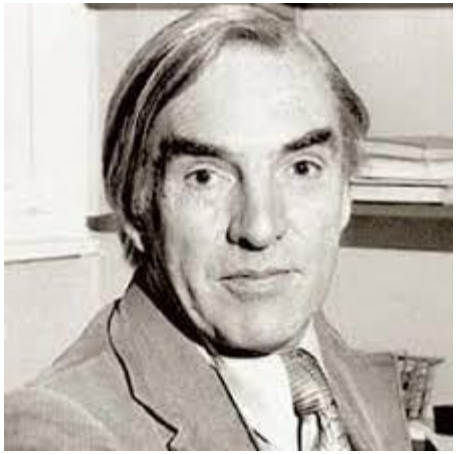
#1

Schools are (already) doing research

What is research?

“systematic, self-critical inquiry”
(made public)

(Stenhouse, 1981, p. 103)



Practice to research continuum

Reflective Practice

Literature review/Data Analysis
Enquiry/Evaluation

Lesson planning

School Improvement

Collaboration / collegiality

"The whole of science is nothing more than a refinement of everyday thinking."
Albert Einstein

Lesson/Learning Study

R&D

Research professional partnerships/communities network

Research as a professional skill

“The systematic use of evidence needs to be recognised for what it is: a highly complex, sustained professional skill and one that involves a series of activities closely related to research.”

(Cordingley in Thomas & Pring, 2004, p. 84)

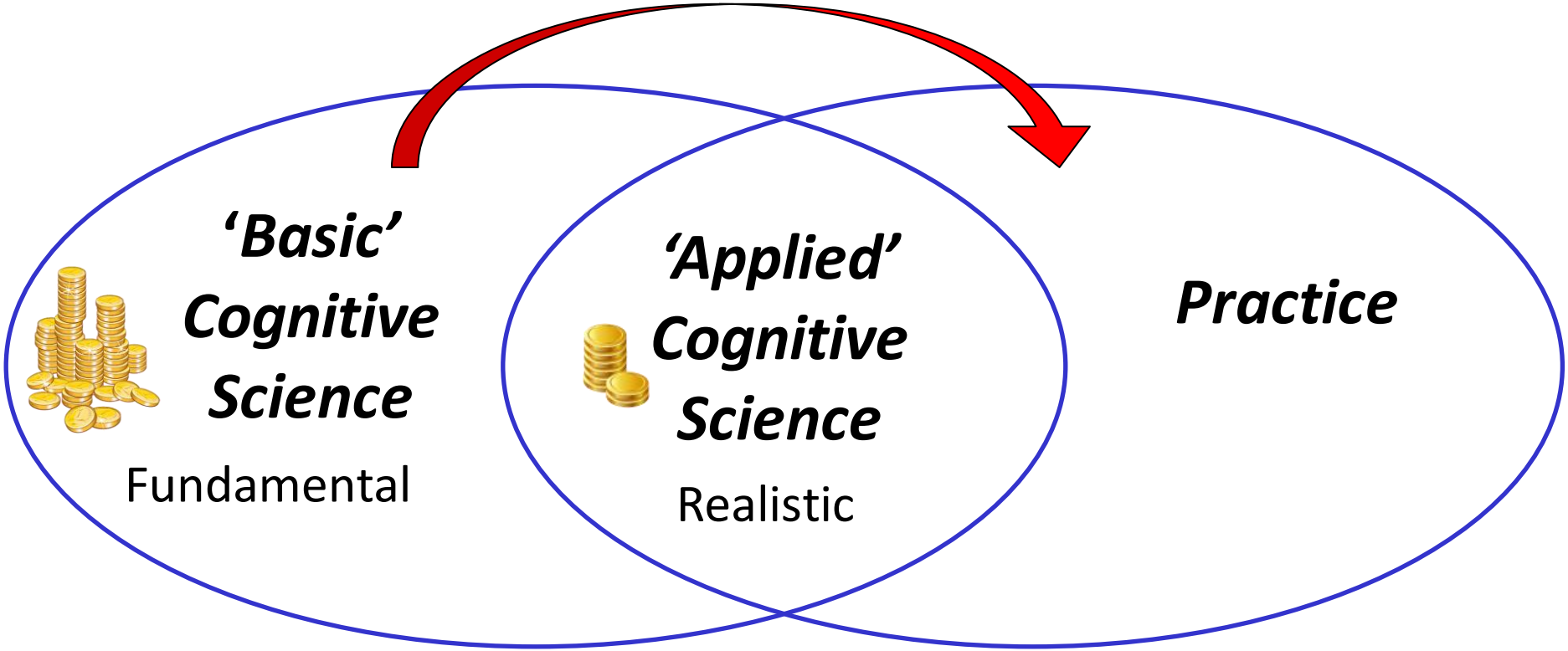
“Evidence doesn’t obliterate professionalism, it liberates it”
(Bennett, 2018, link)

Research diversity + Professional Expertise

- Case studies
- Surveys
- Experimental
- Action research
- Practitioner research
- Observational
- Historical
- Secondary data/quantitative

#2

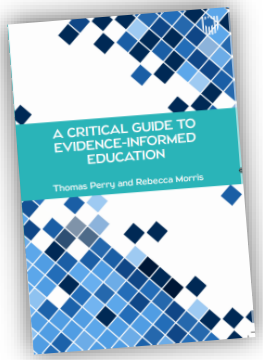
Basic research is poorly applied. Applied research is under-valued.


‘Basic’ Cognitive Science
Fundamental
‘Applied’ Cognitive Science
Realistic
Practice

Realistic Tests

Study	Subject	Students	Multiple Strategies	Result
Cromley et al. (2016)	Science	9,611 7th and 8th grade	Curriculum + CPD including several of: • Spaced retrieval (daily quizzes) • Worked examples with self-explanation • Concept comparisons • Dual coding/ diagrammatic reasoning • Visualization exercises	**6 teacher units:** • 2 moderate **postive** • 4 **not statistically significant** • 1 small **negative**
Davenport et al. (2020)	Maths	2,595 7th grade		• Positive but small and **not statistically significant**
Yang et al. (2020)	Science	5,508 7-8th grade		• Positive but small and **not statistically significant**
Schunn et al. (2018)	Science	6,400 to 3,200 7,600 to 4,200 7-8th grade		• Small postive to small negative (**most not stat sig**)

Criteria for quality research



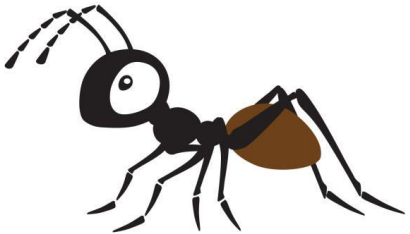
	Applied	Basic
Usable	✓	?
Relevant	✓	?
Rigorous	?	✓
Cogent	✓	?
Coherent	✓	?

#3

Good research needs, and connects, both theory and evidence

Theory and Evidence

- The T word
- The E word
- Francis Bacon – statesman and philosopher (1561-1626)



Piecing it together

Meta-analysis

Case study

Staff discussion for Self-Evaluation

Workbooks

Academic Evidence	Academic Theory
Practical Evidence	Practical Theory (Theory of action)

Cognitivism

Cognitive load theory

Worked examples

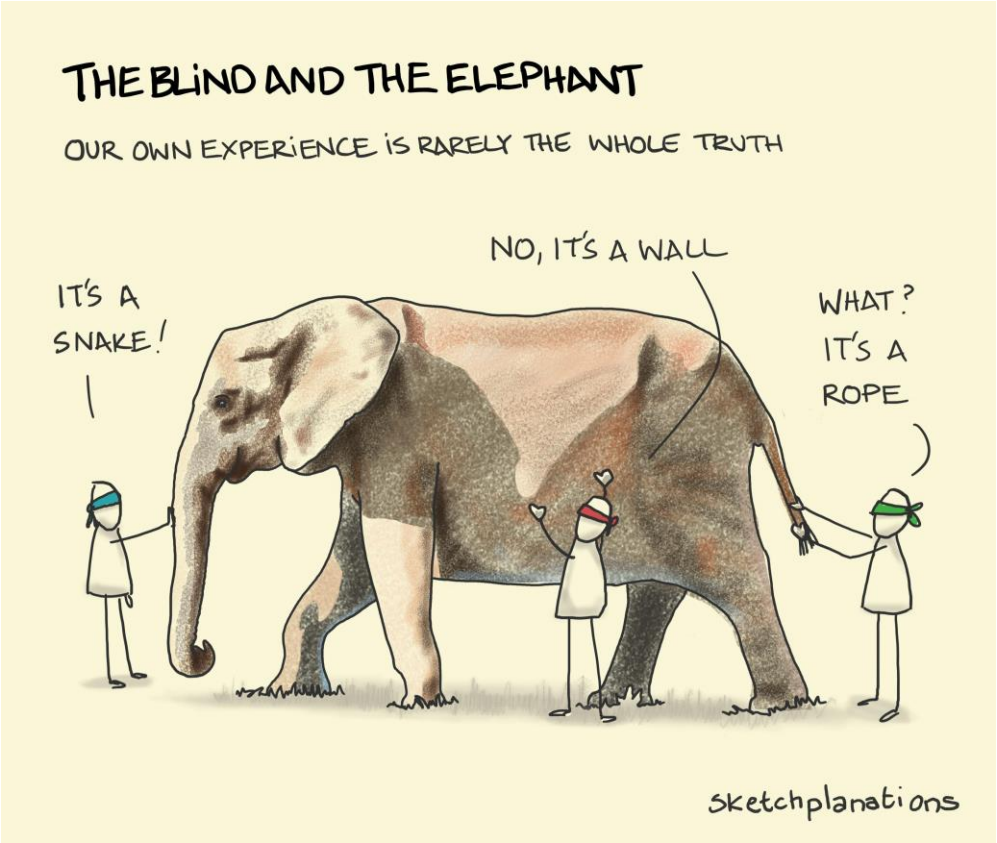
A well-sequenced curriculum

#4

Good research is pluralist

Pluralism

- Making connections:
  - Research and practice
  - Basic and applied research
  - Academic disciplines
  - Policy, leadership, practice
  - Research approaches (’paradigms’)/ and communities



Research Articles

Standards in education: reforms, stagnation and the need to rethink

David Bolden & Peter Tymms

Pages 717-733 | Published online: 15 Jul 2020

"[Our knowledge] is compartmentalised within a whole range of disciplines including psychology, sociology, genetics, medicine, economics, statistics and education. These disciplines do not communicate well with one another, if at all, and when they try, they often find themselves talking at cross purposes. Even within disciplines, there is fragmentation."

(Bolden & Tymms, 2020, p. 729)

#5

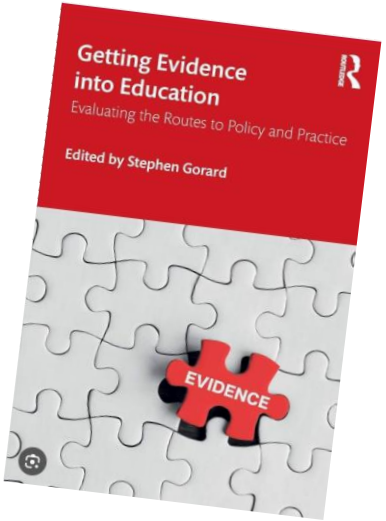
Education research capacity is undeveloped and uneven

Not too long ago…

> “The situation of educational research today is similar to that of medicine in the 15th century, when anyone could claim almost anything, and wonder cures, miracle pills, faith healing and snake oil were not only available, but mainstream.”
>
> (Bennett) (link)

Where are we now?

- “Despite over 20 years of modest improvement in research on what works … the evidence on how best to deploy such evidence is still very weak.” (Gorard, See and Siddiqui, Chapter 4)
- The evidence architecture in education is in a “sorry state”. (Howard White in chapter 3)
- “classroom formative assessment remains the exception rather than the rule in most classrooms.” (Dylan Wiliam, Chapter 10)
- “leaders still report considerable variability and uncertainty around what constitutes evidence-informed practice” (Morris, Perry, Asquith in Chapter 14)



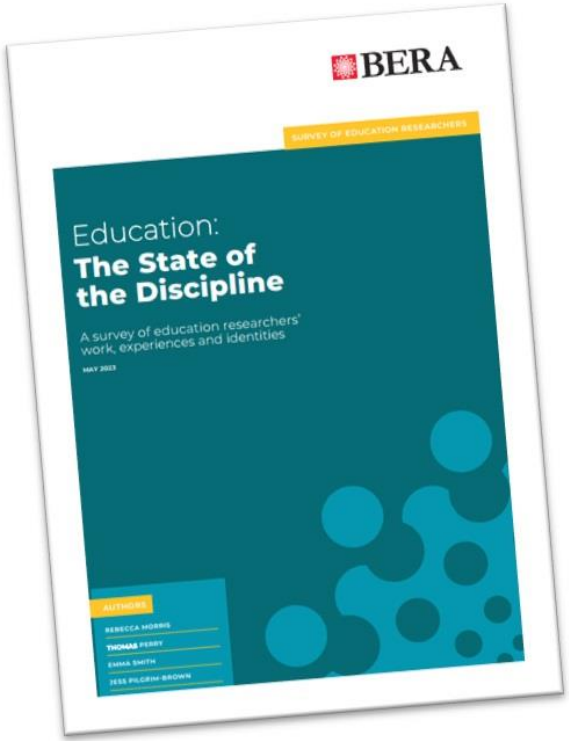
State of the Discipline

Education research = 0.05% of education budget (£5 per £10,000)

Healthcare research = 1%

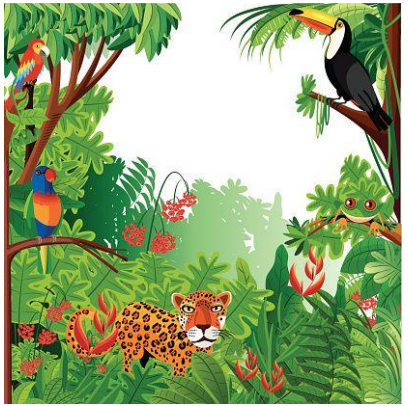
A lack of investment is a threat to the “health, sustainability and vibrancy of the discipline.”

(REF2021, 2022, p. 169)



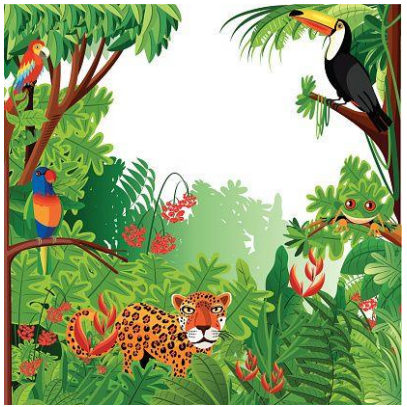
What does a research-informed education system look like?

- Are we nearly there yet? Are we making progress?



Five truths and research-informed education

1. Schools are (already) doing research
2. Basic research is poorly applied. Applied research is under-valued.
3. Good research needs, and connects, both theory and evidence
4. Good research is pluralist
5. Education research capacity is undeveloped and uneven



Discussion and questions

- Hot/cold spots for research-informed practice?
- What research do you find more/less helpful?
- Does your school/trust have a research lead?
- Have you had research training? What was your experience?
- What should we do more/less of?

tom.perry@warwick.ac.uk
Google Scholar Profile
@TWPerry1
https://thomasperry.education/
https://research-informed.education/