

Pedagogical Prophet? David Hargreaves' 1996 Vision for a Research-Based Profession: A 2024 Reality Check



Faculty of Wellbeing, Education & Language Studies, The Open University, UK (andrew.jones2@open.ac.uk)

Received: 24/07/2024

Accepted for publication: 30/10/2024 Published in Early View: 23/02/2025

Abstract

David Hargreaves' 1996 vision for a research-based teaching profession aimed to integrate robust, evidence-based approaches into educational practice and policy. This critical evaluation examines the extent to which his vision has been realised. In his inaugural lecture for the Teacher Training Agency (TTA), Hargreaves' proposed a profession where research directly informs teaching practices, promoting continuous improvement in educational outcomes. This evaluation compares his proposals with the current educational landscape, highlighting both progress and ongoing challenges. While acknowledging Hargreaves' significant influence, the analysis also considers criticisms regarding the types of research that have become prevalent in educational discourse, especially within government policy. The article underscores the need for ongoing development to fully achieve a research-based profession and evaluates the impact of Hargreaves' ideas on contemporary educational policy and practice.

Keywords: David Hargreaves, evidence-informed practice, teacher training, teacher leadership, cognitive-science

Introduction

David Hargreaves, a prominent educational researcher, laid out a comprehensive vision in 1996 for a research-based profession aimed at enhancing educational practice and policy. This was the focus of an inaugural annual lecture given to the now-defunct *Teacher Training Agency* (TTA), a precursor to the *Training and Development Agency for Schools*, which was dissolved into the *Department for Education* (DfE) in 2012. His suggestions were driven by the need for a robust, evidence-based approach to teaching and educational administration. Hargreaves' envisioned a profession where research directly

informs practice, fostering continuous improvement in educational outcomes. This would make the profession more 'effective and satisfying' but would also 'require a radical change in the kind of research that is done and the way in which it is organised' (Hargreaves, 1996a, p. 1).

This article aims to evaluate the current status of Hargreaves' suggestions, focusing on how effectively they have been implemented in 2024, as well as some discontent about the 'kind of research' that has, arguably, become dominant in educational discourse, particularly in government policy and statutory guidance. By comparing his proposals with the

contemporary educational landscape, this article assesses progress made, and identifies areas still in need of further development. While the article does not claim that Hargreaves' single-handedly influenced or changed educational research in England, it views his TTA lecture as a precursor to several significant changes in policy and practice, and thus a benchmark for measuring how much things have changed since the mid-1990s.

Contextual background

In his 1996 TTA lecture, Hargreaves described the then state of educational research as mostly disappointing and inaccessible, advocating for a model akin to 'evidence-based medicine' (Hargreaves, 1996a, p. 8). He argued that educational research was a 'private, esoteric activity, seen as irrelevant by most practitioners' (ibid., p. 3). Hargreaves proposed a medical model of researchbased practice, aligning with the principles of identifying, testing, and quantifying the impact of specific interventions. Referencing clinical researchers Sackett and Haynes (1995), he suggested that 'we need evidence about what works with whom under what conditions and with what effects' (Hargreaves, 1996, p. 8). This approach encourages teachers to adhere to evidence-based standards similar to those used by medical professionals (Becher & Lefstein, 2021). It is also science-centric, or at least anchored in a positivist paradigm in its approach to research and the acquisition of evidence and data (Wrigley, 2018; Kvernbekk, 2017). As Slavin (2002, p. 18) puts it, '[t]he experiment is the design of choice for studies that seek to make causal conclusions, and particularly for evaluations of educational innovations'.

Today, the impact of this scientific approach on pedagogical practice in England, rooted in the medical model, is clear. Perry et al., (2021, p. 3) state, 'the dominant science for informing education practice has been cognitive psychology. Multiple publications directed at educators and a lay public aim to make accessible lessons for learning drawn from cognitive and educational psychology.' Over the past decades, this vision has resonated with policymakers, leading to the promotion of scientific research in schools to enhance educational outcomes (Slavin et al., 2021).

This is particularly true in England, where there has been a focus on using evidence from cognitive science to inform teaching decisions (Coldwell et al., 2017; Perry et al., 2021; Weinstein et al., 2018). Various researchers have also supported Hargreaves' vision, agreeing that educational research should primarily address questions about 'what works' (Slavin, 2002; Coe & Kime, 2019; see also Kvernbekk, 2017). This approach has been central to the development of initiatives such as the Early Career Framework (ECF), which draws on the 'best available education research' to address past inadequacies in professional development for novice teachers (DfE, 2019a, p. 4), and the newly formed National Institute of Teaching (NIoT), which aims to fully facilitate access to research-based training and development across England by 2028 (NIoT, 2024).

Moreover, the establishment of the Education Endowment Foundation (EEF) in 2011 and the 'What Works Network' in 2013 marked significant steps towards making evidence accessible to educators (Gold et al., 2018). The EEF, set up as a statesponsored charity, focuses solely on education whereas the 'What Works Network' was set up to coordinate research-based strategies and promote among various government best practice departments and agencies, including education. The DfE has further embedded this approach in key reforms, such as the Initial Teacher Training (ITT) Core Content Framework and the ECF, which will be merged into one framework from September 2025 (DfE, 2023a). Institutions like the EEF, the National Foundation for Educational Research (NFER), the Chartered College of Teaching, and organisations such Evidence Based Education, The Teacher Development Trust and researchED have played crucial roles in enabling teachers to engage with research-based practice (Coe & Kime, 2019; Weinstein et al., 2018; NFER, 2023). It can be argued that this scientific model of research-based practice in England, often referred to as 'evidence-based practice' or, when giving more consideration to the context of educational settings, 'evidence-informed practice', is well established in English schools (De Bruyckre & Kirschner, 2022; Weinstein et al., 2018).

However, there are educational researchers who worry that this direction of travel bypasses qualitative

research and has a narrow evidence base (Biesta, 2024; Simmie et al., 2023; Wrigley, 2018; Wrigley and McCusker, 2019). These concerns will be leveraged below to critically evaluate the impact of Hargreaves' lecture on the profession, especially as the current dominant paradigm for educational research is restricted to quantitative research methods.

Furthermore, while substantial progress has been made towards realising Hargreaves' vision, some aspects of the TTA lecture remain partially fulfilled. The current emphasis on quantitative methods, particularly randomised control trials (RCTs), underscores the value placed on rigorous research but also suggests the need to embrace a broader range of evidence, including qualitative research (Goldacre, 2013; Kvernbekk, 2017; Cartwright & Joyce, 2020). Despite these challenges, the influential role of organisations like the EEF and the integration of scientific research into educational policy illustrate significant strides towards a research-based profession (Connelly et al., 2018; Owen, Watkins and Hughes, 2022).

My interest in Hargreaves' legacy is both professional and academic. As a practitioner, teaching religious education and sociology, my pedagogical approach combines non-scientific methods with scientific research-based practice. Initially trained as a citizenship teacher and influenced by Mercer (2000) and Freire (1996), I employ dialogic and critical pedagogies, focusing on social change and critical thinking. While using scientific evidence-based strategies like retrieval practice and spaced distribution, I maintain a commitment to critical pedagogy, helping students contextualise their personal histories. Additionally, I incorporate student-centred pedagogies such as 'Building Learning Power' (BLP) (Claxton, 2012), valuing teamwork, participation, and creative thinking. In my professional practice, however, I am a co-manager of an 18-school professional development network offering peer-to-peer support to schools on implementing the DfE's ECF, which is derived from the current, popular configuration of scientific 'researchinformed', or rather 'evidence-based', practice. This has led to some soul-searching on my part as I train early career teachers within the confines of the medical model of research-based practice, whilst not quite practising ECF's prescribed strategies in my own classroom. This has led me to engage in doctoral study on whether the ECF is nurturing teachers with limited pedagogical dexterity in terms of its focus on cognitive science at the expense of wider educational theories and strategies, such as constructivism, SOLO taxonomy, and BLP.

Methodology

This evaluation of Hargreaves' TTA suggestions and comparisons to contemporary 2024 education contexts, was conducted by combing a literature review with a thematic document analysis. The literature review included a database search of the British Education Index (BEI) and the US-based Education Resource Information Center (ERIC), chosen due to Hargreaves' influence on researchers in both the US (Kvernbekk, 2017) and the UK (Coe & Kime, 2019). An initial search using "David Hargreaves" yielded 194 results. This was refined using the keywords and Boolean logic: "David Hargreaves" AND "research" AND "education", which produced 83 results. While some sources directly related to Hargreaves' TTA lecture (Hargreaves, 1996a, 1996b, 1997a, 1997b, 1999a, 1999b, 2001; Hammersley 1997, 2013), there was little academic discussion on the legacy or impact of Hargreaves' lecture or additional arguments on the importance of research-informed practice.

To further assess how Hargreaves' 1996 recommendations for a research-based education profession aligns with current educational policies, a thematic document analysis was employed. The thematic analysis followed Braun and Clarke's (2006) approach, where broad themes were identified from Hargreaves' lecture, such as the prioritisation of research-based practices, the funding of practitioner research, and the creation of educational forums. The themes identified included:

- A national strategy for research
- A national educational forum
- Evidence-based teacher training
- Funding for teacher-practitioners
- Increased use of teacher mentors
- An Ofsted research division

- A practitioner-focused research journal
- Research funding for practice-based agencies
- An awareness and acknowledgment of research-based practice amongst policymakers
- A medical model of educational research

For the document analysis, which sought to locate these themes across an array of documentations, an appropriate selection criteria was applied, ensuring that all selections included policy documents as well as strategy or financial documents related to the study. This included policy documents from the DfE, publications from EEF, and research frameworks from the Office for Standards in Education (Ofsted). Key documents, such as the DfE strategy papers, the EEF's Teaching and Learning Toolkit, and Ofsted's School Inspection Framework, provided contemporary examples of a research-oriented focus within educational policy. Additionally, materials from organisations like the Chartered College of Teaching and the Centre for the Use of Research and Evidence in Education (CUREE) offered historical context and illustrated changes over time in the approach to practitioner research and researched-based teaching. Whilst some of the grey literature appeared in the database searches outlined above, I also used practitioner knowledge of DfE policy documents, especially those that must be followed in fidelity to statutory guidance (for example, see DfE, 2023a).

The themes identified in the thematic analysis and selected publications for review are combined in Table 1 (see *Appendix* below) in the Findings, Analysis and Discussion section below, which includes brief explanations on how these align.

Hargreaves' vision

Although highly critical of university-based educational research, Hargreaves' TTA lecture highlighted significant developments and challenges in education. It emphasised the importance of innovation in teaching practices and the integration of technology in classrooms, stating, 'Educators must continually adapt their methods to incorporate technological advancements' (Hargreaves, 1996a, p. 3). Hargreaves underscored how educators needed to evolve their roles to foster critical thinking and

adaptability among students, preparing them for a rapidly changing world, noting that 'critical thinking and adaptability are essential skills for students facing an unpredictable future' (ibid., p. 5). He discussed the impact of educational policies on teaching practices and stressed the necessity for educational systems to adapt to societal changes, asserting that 'educational policies must be flexible and responsive to the changing needs of society' (ibid., p. 9). The lecture also highlighted the importance of continuous professional development for teachers, stating that 'ongoing professional development is crucial for teachers to stay updated with the latest educational practices' (ibid., p. 7). Hargreaves provided insights into how educational systems could support teachers in this regard, calling for more robust support structures and resources.

Additionally, Hargreaves' lecture reflected on past experiences and case studies where innovative methods had been teaching successfully implemented. For example, he mentioned a case where project-based learning was introduced in a school district, leading to increased student engagement and improved critical thinking skills. Lessons drawn from these examples were used to propose strategies for broader application. The importance of collaboration among educators, policymakers, and communities was also a recurring theme, suggesting that it 'is vital for effective educational reform' (ibid., p. 11).

Overall, Hargreaves' TTA lecture offered a critical overview of educational research in 1996, advocating for continuous innovation and adaptation to meet the evolving needs of students and society, built upon a more scientific notion of practitioner-focused research-based practice akin to that in medicine. As discussed building a research-based earlier, profession that echoes medicine and clinical practice was key to Hargreaves, who stressed, '[t]he medical profession has gained public prestige concurrently with the growth of its research. The education profession has not' (ibid., p. 1). However, while many of his envisioned ideas have become reality including improved teacher training based on research evidence, national oversight of research strategies, more political will to see research used in education policy, and the establishment of an Ofsted

research division (see Table 1 - Appendix below) – there is also unease at how this research-based approach has unfolded, especially the prioritisation of quantitative and scientific-grounded research. This will be unpacked below.

Findings, analysis & discussion

The findings, analysis and discussion below suggest Hargreaves' suggestions for a research-based profession have, in many ways, been realised. Table 1 aligns David Hargreaves' 1996 thematic suggestions with the current educational landscape, providing a structured comparison between his vision and contemporary practices. Each theme, establishing a national research strategy to fostering a research-based focus within education, reveals varying degrees of alignment with Hargreaves' original ideas. The following analysis examines these themed suggestions, exploring how closely they reflect Hargreaves' vision in today's educational context and identifying areas where implementation has diverged. By critically assessing the impact of government policies, organisational initiatives, and broader systemic changes, this discussion offers a critical perspective on the evolution of Hargreaves' research-based profession within the UK.

A National Strategy for Research and a National Educational Forum

In 1996, Hargreaves suggested establishing a 'national strategy for educational research,' focused on clear priorities and funding mechanisms that would ensure coherence and alignment with the education sector's needs (Hargreaves, 1996a, p. 6). Since then, the DfE has placed evidence at the centre of policy-making. For example, the government established the What Works Network in 2013 to make evidence on 'what works' readily available to decision-makers across public services. As part of this network, the EEF was launched with government funding to operate as an independent charity and is now the largest program among government-backed educational organisations (Gold et al., 2018; UK Government, 2022). By 2018, nearly one-third of all schools in England had participated in the 158 EEFfunded projects, 132 of which were RCTs (Gold et al., 2028). In the 2022/23 academic year, the EEF had 151 active research projects across all phases of primary

and secondary education (EEF, 2023). As a result, the EEF has significantly expanded the evidence base from experimental trials in UK education.

Despite these achievements, critics argue that this research approach emphasises short-term goals, often at the expense of addressing long-term challenges in education. For example, Biesta (2024) questions whether the current focus on quantitative research methodologies sufficiently resists the instrumentalisation of education. Empirical research focused solely on 'what works' can sometimes overlook broader educational values, including the moral purpose of education, a concerned echoed by other researchers (Simmie et al. 2023). Furthermore, expanding the scale of funding to include more teachers and schools could help embed a researchinformed culture more effectively. Although aligning practice with research is widely supported, poor implementation and limited educator understanding of research processes often dampen its effectiveness (Pegram et al., 2022; Graves & Moore, 2018; Basckin et al., 2021).

Alongside a national strategy, Hargreaves envisioned a 'National Educational Forum' to facilitate continuous dialogue among educators, researchers, policymakers, and practitioners (Hargreaves, 1996, p. 6). While a single unified forum remains absent, organisations such as the EEF, the NFER, the Chartered College of Teaching, and CUREE are pivotal in promoting these dialogues. The National Institute of Teaching (NIoT), for example, collaborates with schools to address pressing issues like recruitment and retention, particularly in underserved regions. As mentioned earlier, the institute expects to expand its reach, stating that it, 'would like every teacher and leader in England to have been positively influenced by the NIoT, either directly or indirectly by 2028' (NIoT, 2024). The NIoT has a number of regional campuses based in some of the country's biggest academy trusts and also works with a network of Associate Colleges, selected for their expertise and track records in teacher development. This is further aided by a network of DfE accredited Teaching School Hubs and Research Schools, which promote research-based practice within their localities (TSHC, 2024). However, despite the arrival of the NIoT, EEF, and the Chartered College of

Teaching, the lack of a unified forum could potentially lead to fragmented efforts to establish a research-based profession, reducing coherence in policy and practice and hindering a cohesive national strategy for educational improvement.

Teacher Training, Practitioners & Mentoring

Hargreaves proposed that teacher training should be underpinned by robust research to enhance teaching quality (1996a). In recent years, frameworks like the ITT Core Content Framework and the ECF have aimed to fulfil this vision by emphasising evidence-based practices (DfE, 2019a, 2023). These frameworks provide a standardised foundation for teacher training and development, mandating the 'best available evidence' for training providers and schools inducting early-career teachers (ibid., p. 4). However, the impact of these programs is inconsistent, with critics suggesting that rigid adherence to mandated frameworks can limit innovation and teacher agency in the classroom (Vare et al., 2022). Moreover, this structured approach often necessitates mentors who are not only welltrained but also knowledgeable in the latest research, which is both costly and time consuming (Ellis et al., 2020; Murtagh et al., 2022). It is also suggested that these frameworks are not holistic and bypass other approaches to teaching and learning, as well as the wider purposes of education (Vare et al., 2022).

In line with his advocacy for research-based training, Hargreaves also suggested allocating funding specifically to support teachers in conducting research. In 2024, the DfE and organisations like the Chartered College of Teaching support teacherpractitioner research through qualifications and NPQs, which are aimed at middle and senior leaders (DfE, 2023b). According to former Schools Minister Nick Gibb, these initiatives create a golden thread of support for teachers at every career stage (Gibb, 2023). However, some critics question the framing of this support as evidence-based or 'what works,' arguing that such a clinical approach can marginalise ethical considerations, leaving out broader questions about what constitutes valuable knowledge (Simmie, 2023; Biesta, 2024). Additionally, Ball (2021) and Holloway and Larsen Hedegaard (2023) caution that the 'what works' agenda risks turning teachers into

technicians focused on measurable outcomes, reducing their professional autonomy. Indeed, Vare et.al (2022) question whether the ITT Core Content Framework, the ECF and NPQs represent 'a golden thread or gilded cage.'

Hargreaves also argued for the use of experienced teachers as mentors in training programs, with specific mention of buying out their time to allow them to support research-based training (Hargreaves, 1996a). In 2024, the ITT and ECF programs have formalised the role of mentors, emphasising that they should be well-versed in evidence-based practices (DfE, 2019a, 2019b, 2023a). Moreover, schools can currently claim up to £2,097 of backfill payments to fund ECF mentors off timetable time (DfE, 2024). This is a strong alignment with Hargreaves' vision, but some critics highlight the inflexibility of the current mentoring frameworks, which may limit the diversity of mentoring relationships, especially as the ECT mentoring materials are largely proscribed (Vare et. al., 2022). Rigid frameworks might constrain more innovative, reciprocal mentoring models that support learning in both directions (Ellis et al., 2020; Murtagh et al., 2022). Furthermore, top-down or proscribed mentoring, as facilitated by the ECF in particular with its scripted mentoring resources, arguably limits the abilities of mentors to impart best practice outside of those specified.

An Ofsted Research Division

The desire for a research-based culture has, however, extended beyond the classroom. Hargreaves proposed a research division within Ofsted to analyse evidence collected by inspectors and inform future inspections (Hargreaves, 1996a). Today, Ofsted has developed a dedicated research and evaluation function, aligning with Hargreaves' vision (Muijs, 2020; Ofsted, 2023a, 2023c). Moreover, in the 2022-23 financial year, Ofsted allocated £238,000 for research activities. This funding supported various research initiatives, including subject reports and early years research reviews, aimed at informing decision-makers and improving educational standards (Ofsted, 2023b).

Although the Education Inspection Framework for September 2023 promotes using research methods like qualitative and quantitative data collection for

understanding educational outcomes, including classroom observations, curriculum analysis, staff and student interviews, and reviews of teaching materials (Ofsted 2023a), a lot of their research, which can reviewed on the Ofsted Blog webpage, focuses on large scale surveys and is informed by quantitative methodology (see Ofsted, n.d.). Where it is not, some of the qualitative research seems to be carried out by inspectors, or Ofsted employees, and their research credentials are not always made clear. This is not the case, however, for all Ofsted research, including their subject reports (for examples, see DfE, n.d.).

Practitioner-Focused Research Journal

In order to further support research-informed teacher training and development, Hargreaves' suggested creating a research journal aimed at practitioners, similar to medical journals like The British Medical Journal and The Lancet (Hargreaves, 1996a). In 2024, 'Impact: The Journal of the Chartered College of Teaching' arguably serves this purpose, providing a platform for disseminating research findings to the teachers and supporting the teaching community by connecting research findings to classroom practice. Aimed at balancing academic rigour and accessibility, it features themed issues with contributions from teachers, school leaders, and academics, offering case studies, expert perspectives, and research-based strategies that are directly applicable to classroom settings (For example, see Chartered College of Teaching, 2024b). Yet, its reach is somewhat limited outside of the college's membership, and its influence on teaching practice could benefit from increased dissemination efforts (for a similar, albeit indirect discussion on the reach of research-informed initiatives, see Perry & Morris, 2023). Expanding the journal's reach across diverse educational contexts could enhance its impact on the profession.

Funding for research and the role of policymakers

Hargreaves' advocated diverting research funding towards practice-oriented agencies. In the UK, the EEF exemplifies this model, directing resources toward classroom-focused research that influences DfE policies (EEF, 2022). The EEF was established in 2011 with a £125 million grant from the DfE, which

was increased to £137 million in 2022. In August 2023, the EEF's free reserves stood at £176 million, which can be used to support its activities until 2032 (EEF, 2023). Similarly, the NFER, whilst independent of the government, had total reserves of £24.3 million in 2023, which allows it to carry out substantial large scale research (NFER, 2023).

Although this shift aligns with Hargreaves' vision, it has led to an ongoing debate about whether the emphasis on RCTs and other quantitative methodologies, which are omnipresent in EEF research (Wrigley, 2018; Wrigley and McCusker, 2019), sufficiently addresses the complex needs of the education sector. Academics like Biesta (2007, 2010) and Hammersley (2013) have previously argued that these approaches can overlook the qualitative aspects crucial to understanding the socio-emotional development of students. Moreover, the preference for RCTs and quantifiable impact has led to a withdrawal of funding for educational research with low measurable impact (Wrigley, 2018), and could arguably be seen in the non-accreditation of a number of teacher training programmes at some of Britain's leading universities, who refused to capitulate to the DfE's proscribed ITT Core Content Framework (EPI, 2022).

Furthermore, Hargreaves suggested that educational leaders should gain political respect through research-based practices, enabling them to influence policy decisions (Hargreaves, 1996a). In 2024, political leaders increasingly reference research and 'evidence-based' educational advocates and researchers in their speeches and policy initiatives, and both the Conservative and Labour parties included references to research and evidence in the education sections of their manifestos for the 2024 general elections (Conservative Party, 2024; Labour Party, 2024). Over the last two decades, political figures like Gordon Brown, Michael Gove and Nick Gibb have significantly shaped education policy, frequently referencing evidence-based practices to bolster their approaches (Clegg, 2005; Gove, 2014; Gibb, 2017, 2023). Brown, for instance, was seen as using research evidence to justify ideological reforms that promoted New Labour's 'neoliberal' economic policies, especially in terms of curriculum reform (Clegg, 2005). Moreover, while Gove commissioned

research to inform his reform agenda, critics highlight that his policies often reflected ideological priorities, focusing on traditional curricula and competition (Buckingham, 2018; Ball, 2021). Similarly, Gibb's focus on a knowledge-rich curriculum has sparked debate over the balance between factual learning and holistic education, raising concerns that such approaches may limit teachers' professional autonomy (Gibb, 2017, 2023). This demonstrates the tension between political agendas and research-based education, with notable influences from ideologically driven policy decisions (Simmie et al., 2023).

A Medical Model of Educational Research

Finally, and building on all the points above, Hargreaves' highlighted the need for substantial evidence-based research in education in alignment with the 'powerfully beneficial' approaches taken in 'evidence-based medicine' (1996a, p. 8), which was outlined in the 'Contextual Background' section earlier. By 2024, prominent researchers like Daniel T. Willingham, Paul A. Kirschner, Carl Hendrick and Daniel Muijs, alongside non-academic writers such as Daisy Christodoulou and Tom Sherrington, contribute significantly to the field and attend research-based conferences, such as the hugely successful, popular, and increasingly global researchED (researchED, 2019). These researchers and polymaths, by and large, buy into the medical model envisioned by Hargreaves; indeed, quite a few are cognitive scientists focused on the cause and effect interventions of 'what works'.

Nonetheless, despite progress towards Hargreaves' vision, ensuring the quality applicability of research across diverse contexts remains a challenge and there is significant concern that researchers focused on applying scientific methodologies, especially those fitting the medical model, are working within limited research parameters (Biesta, 2007, 2010, 2024; Wrigley & McCusker, 2019; Simmie et al., 2023). This concern is not new and a number of researchers raised this in response to Hargreaves' original lecture (Goldstein, 1996; Hammersley, 1997, Davies, 1999), suggesting that evidence regarding the impact of educational activities on pupils' sense of self, social worth, and identity necessitates qualitative research methods.

Furthermore, Hammersley (2013) argues that researchers should prioritise understanding the diverse ways people experience the world, shaped by multiple interpretations that are both cultural and contextual. He suggests that research-based practice should integrate insights from cognitive science with the broader social sciences and humanities, which is a dimension arguably underrepresented in the current configuration of research-based practice. Additionally, research methods used in ethnography, including semi and unstructured interviews, offer richer insights into subjects' perspectives. These methods often capture the multiple interpretations and cultural contexts that influence educational experiences, which purely scientific evidence-based practice approaches may overlook (ibid., 2013). Addressing these concerns requires enhancing research methodologies, promoting interdisciplinary collaboration, and ensuring that research remains relevant to practitioners, potentially through mixed methods or critical realist approaches (Tikly, 2014). In this sense, the current model of research-informed practice operates on a false dichotomy, privileging quantitative over qualitative evidence. This binary perspective may limit а comprehensive understanding of what constitutes robust evidence.

Critics also argue that the scientific-centric or medical model of research-based practice oversimplifies natural science, isolating variables in controlled conditions that are not akin to the 'open systems' found in everyday educational settings (Biesta, 2007, 2010; Wrigley, 2018; Wrigley & McCusker, 2019). This critique highlights the need for a multifaceted approach in education research, one that considers diverse methodologies and the varied ways individuals experience the world. Researchers adhering to a rigorous scientific standard should not dismiss qualitative evidence but recognise its crucial role in informing and enriching the impact and meaning of quantitative findings. This directly relates to the medical model approach of isolating and identifying the causes of problems before experimenting with interventions which measured for effect, as, according to Biesta (2010, p. 34), '[t]he most important argument against the idea that education is a causal process lies in the fact that education is not a process of physical interaction but

a process of symbolic or symbolically mediated interaction'.

Additionally, a number of researchers are that small-scale concerned laboratory-style experiments, often used by cognitive scientists and championed by popular education writers such as Bennett (2013), and large-scale RCTs advocated by researchers at the EEF (Nevill, 2016), lack universal applicability across all educational settings, demographic groups, and individual pupils. For instance, Imray et al., (2023) argue that these methodologies disadvantage learners with severe learning disabilities by promoting homogeneous teaching strategies across all contexts and divergent educational settings. Additionally, Kay (2022) questions their suitability for young learners, especially as kinaesthetic activities, creativity, and play are still vital to cognitive development in a different way to knowledge acquisition in other phases, while Hwa (2023) criticises the neglect of sociocultural context in education policy, particularly in cross-country comparisons of student achievement.

Hargreaves did not really factor in these limitations in his TTA lecture, however, it is perhaps somewhat unfair to turn a visionary clarion call for more research-based practice into the arbiter of all that is good or bad with research-based practice, even if many of its current advocates bypass these issues. It should also be noted that Hargreaves did not completely jettison qualitative research in his TTA lecture, but by privileging a medical model of research-based practice, he arguably contributed to the limiting hierarchy of research methodologies found in the 'work works' agenda today, which Goldstein (1996), Hammersley (1997) and Davies (1999) arguably foresaw and Biesta (2007, 2010) soon realised.

Conclusion

Hargreaves' 1996 vision for a research-based teaching profession has profoundly influenced the educational landscape. His call for integrating research into educational practice, akin to evidence-based medicine, has led to significant advancements. Initiatives such as the EEF, the *Chartered College of Teaching*, the ITT Core Content Framework, the ECF,

the What Works Network, and the NIoT have created frameworks for research-based approaches, contributing to improvements in educational outcomes across various contexts. However, despite these achievements, some elements of Hargreaves' vision are arguably problematic. By seemingly privileging a medical model of research-based practice, with an emphasis on quantitative and scientific methods, particularly RCTs, he has potentially undervalued the need for a more comprehensive approach to research-based practice that incorporates qualitative evidence. This broader perspective is crucial for addressing the diverse needs and complexities inherent in educational settings.

Nevertheless, to further the spirit of Hargreaves' vision, future efforts to embed research-based practice in schools should explore the benefits of diverse research methodologies and promote interdisciplinary collaboration, as well as ensure that research findings are both relevant and accessible to practitioners. Balancing the scientific rigour of research-based practices with the practical insights of educators will help in evolving the education sector toward a more holistic and effective researchinformed profession. Given Hargreaves' background in qualitative research, exemplified by his seminal Deviance in Classrooms (Hargreaves et al., 1975), it would be intriguing to consider his perspective on the current state of research-based practice in England. Reflecting on his own legacy, it would be fascinating to explore whether Hargreaves' would reaffirm his 1996 vision or adapt it in light of contemporary developments and critiques in educational research.

Disclosure statement

The author(s) declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Open Access Policy

This journal provides immediate open access to its content with no submission or publications fees. This journal article is published under the following Creative Commons Licence:



This licence allows others to read, download, copy, distribute, print, search, or link to this article (and other works in this journal), and/or to use them for any other lawful purpose in accordance with the licence.

PRISM is also indexed in the world largest openaccess database: DOAJ (the <u>Directory of Open Access Journals</u>). DOAJ is a community-curated online directory that indexes and provides access to high quality, open access, peer-reviewed journals. The journal is also indexed in <u>ERIC</u> and <u>EBSCO</u>.



Appendix 1: Table 1 – Themes derived from Hargreaves 1996 lecture aligned with developments in research-informed practice in 2024

Theme	Hargreaves' 1996 Suggestions	Current Situation (2024)	Alignment to Hargreaves lecture	Reviewed Documents (2023)
National Strategy for Research	"formulation of short and long-term priorities, with mechanisms for funding agencies to increase knowledge about what topics are being funded" (p. 6)	The DfE employs evidence-based policy strategies, funding research through the EEF, as well as strategising initiatives through the What Works Network.	Shows partial alignment with Hargreaves' call for a structured research approach, though led by the DfE, the What Works Network and EEF rather than a comprehensive national strategy.	DfE Evaluation Strategy 2022 (DfE, 2022b), What Works Network Strategy (UK Government, 2023), Annual Reports (EEF, 2023).
National Educational Forum	"establish a continuing dialogue between all stakeholders to shape the agenda for its policy implications" (p. 6)	Facilitated by various organisations (e.g., EEF, NFER, Charted College of Teaching, NIQT), which facilitate dialogue, though no single national forum exists.	Partially aligns; there is distributed dialogue across organisations, but it lacks centralisation in a single forum.	Annual Reports (EEF, 2023), Annual Report 2023/24 (Chartered College of Teaching, 2024a), About Us (No.T., 2023).
Evidence-Based Teacher Training	"The TTA must be able to evidence research- based research to support and justify its endeavours." (p. 8)	The ITT and ECF frameworks emphasise evidence-based training, with significant EEF input	Strong alignment with Hargreaves' vision, as recent teacher training frameworks are rooted in research-backed principles.	ITT Core Content Framework (DfE, 2019b), Early Career Framework (DfE, 2019a), DfE Evaluation Strategy 2022 (DfE, 2022b).
Funding for Teacher- Practitioners	"money would be used to fund teachers as research-practitioners rather than the objectives of the activities of academic researchers." (p. 7)	The DfE, the Chartered College, and NIQT support teacher research through qualifications and NPQs; funding is often tied to specific credentials and programs.	Partial alignment; while funding is available, it is largely accessed through formal qualifications rather than direct grants for teacher-practitioner research.	About Us (NIQT, 2023), National Professional Qualifications (NPQ) Framework Documents (DfE, 2023b), Consolidated annual report and accounts 2021 to 2022 (DfE, 2022a).
Use of Teacher Mentors	"it is appropriate to 'buy out' practising teachers to be mentors in teacher training." (p. 7)	ITT and ECF now mandate well-trained, research-informed mentors, focusing on evidence-based practices.	Strong alignment, reflecting Hargreaves' vision of research-focused mentoring within teacher training programs.	ITT Core Content Framework (DfE, 2019b), ECF (2019a), DfE Evaluation Strategy 2022 (DfE, 2022).
Ofsted Research Division	"Would the profession benefit if Ofsted had a research division to analyse the evidence that inspectors collect?" (p. 8)	Ofsted has a research division supporting evidence-based frameworks and guiding inspection policies.	Fully aligned, with a clear implementation of Hargreaves' suggestion to base inspections on evidence-driven practices.	Annual Reports (Ofsted, 2023b), School Inspection Framework (Ofsted, 2023a), Research at Ofsted (2023c).
Practitioner-Focused Research Journal	"In medicine there are journals which aim to communicate to the profession" (p. 8)	The CCT's Impact journal bridges research findings and classroom practice, aimed at practitioners.	Direct alignment, with a journal designed specifically to connect research to teaching practice.	Impact Journal, 21 (Chartered College of Teaching, 2024b), researchED, Magazine (researchEd, 2023).
Research Funding for Practice-Based Agencies	"transfer substantial research budget from academic community to agencies committed to evidence-based practice" (p. 7)	EEF and similar organisations receive significant funding to conduct practical research that influences DfE policies.	Partial alignment; while practice-based agencies are funded, academia still receives a notable portion of research funding.	Annual Reports (EEF, 2023), Annual Report 2023/24 (Chartered College of Teaching, 2024a), About Us (No., 2023), Consolidated annual report and accounts 2021 to 2022 (DfE, 2022a).
Policy Makers' Acknowledgment of Research	"When educational leaders have evidence for their practices, they may command the respect of politicians" (p. 8)	Politicians, including figures like Michael Gove and Nick Gibb, frequently reference evidence-based advocates and research-focused practices in education.	Fully aligns, as evidence-based education is respected and supported politically, echoing Hargreaves' call for research-led educational leadership.	Evidence-Based Education Reforms (Gove, 2014), The Importance of Evidence in Education (Gibb, 2021), 2024 election manifestos (Conservative Party, 2024; Labour Party 2024).
A Medical Model of Educational Research	"educational researchers have failed to create a substantial body of knowledge education is not a research-based profession unless there is a major change" (p. 4)	Educational leaders and researchers promote evidence-based practices, with widely referenced figures in training programs such as John Hattie.	Direct alignment; the education sector has adopted evidence-based strategies, supporting Hargreaves' vision for a profession built on a foundation of practical, research-informed knowledge.	Teaching and Learning Toolkit (EEF, 2022), DfE Evaluation Strategy 2022 (DfE, 2022b), What Works Network Strategy (UK Government, 2023)

References

- Ball, S. J. (2021). *The education debate* (4th ed.). Bristol: Policy Press.
- Basckin, C., Strnadová, I., & Cumming, T. M. (2021).

 Teacher beliefs about evidence-based practice: A systematic review. *International Journal of Educational Research*, 106.

https://doi.org/10.1016/j.ijer.2020.101727

- Becher, A., & Lefstein, A. (2021). Teaching as a clinical profession: Adapting the medical model. *Journal of Teacher Education*, 72(4), 477–488. https://doi.org/10.1177/0022487120972633
- Bennett, T. (2013). Teacher proof. London: Routledge.
- Beyond Ofsted Inquiry (2023). Final Report of the Inquiry. https://beyondofsted.org.uk/
- Biesta, G. (2007). Why 'what works' won't work: Evidence-based practice and the democratic deficit of educational research. *Educational Theory*, *57*(1), 1–22. https://doi.org/10.1111/j.1741-5446.2006.00241.x
- Biesta, G. (2010). Why 'what works' still won't work: From evidence-based education to value-based education. *Studies in Philosophy and Education, 29,* 491–503. https://doi.org/10.1007/s11217-010-9191-x
- Biesta, G. (2024). Taking education seriously: The ongoing challenge. *Educational Theory, 74*, 1-15. https://doi.org/10.1111/edth.12646
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa
- Buckingham, D. (2018). Rewriting education: The legacy of Michael Gove.
 - http://www.davidbuckingham.net/2018/06/rewriting-education-the-legacy-of-michael-gove/
- Cartwright, N., & Joyce, K. (2020). Bridging the gap between research and practice: Predicting what will work locally. *American Educational Research Journal*, 57(3), 1045-1082.

https://doi.org/10.3102/0002831219866687

- Centre for the Use of Research and Evidence in Education (CUREE) (2024). *Professional development resources*. http://www.curee.co.uk/resources/research
- Chartered College of Teaching (2024a). *Annual report* 2023/24. https://chartered.college/wp-content/uploads/2024/10/Annual-report-23 24.pdf
- Chartered College of Teaching (2024b). *Impact*, 21. https://impact.chartered.college

- Claxton, G. (2012). School as an epistemic apprenticeship. 32nd Vernon-Wall Lecture. Milton Keynes: British Psychological Society.
 - https://www.education.sa.gov.au/docs/curriculum/tfel/school as an epistemic apprenticeship.pdf
 - Clegg, S. (2005). Evidence-based practice in educational research. *British Journal of Sociology* of Education, 26(3), 415-428. https://doi.org/10.1080/01425690500128932
- Coe, R., & Kime, S. (2019). A (new) manifesto for evidence-based education: Twenty years on.

 Sunderland. https://www.nfer.ac.uk/news-events/nfer-blogs/evidence-informed-approaches-to-teaching-where-are-we-now/.
- Coldwell, M., et al. (2017). Evidence-informed teaching:
 An evaluation of progress in England.
 https://assets.publishing.service.gov.uk/media/5a749aca40f0b61938c7ece0/Evidence-informed_teaching-an_evaluation_of_progress_in_England.pdf
- Connolly, P., Keenan, C., & Urbanska, K. (2018). The trials of evidence-based practice in education: A systematic review of randomised controlled trials in education research 1980-2016. *Educational Research*, 60(3), 276–291. https://doi.org/10.1080/00131881.2018.1493353
- Conservative Party (2024). The conservative party manifesto. https://www.conservatives.com/manifesto
- Davies, P. (1999). What is evidence-based education?

 British Journal of Educational Studies, 47(2), 108–121.

 https://doi.org/10.1111/1467-8527.00106
- De Bruyckere, P., & Kirschner, P. A. (2022). Translating research into classroom practice: Cognitive science and beyond. *Impact, (16)*.
 - https://my.chartered.college/impact/issue-16-autumn-2022/
- Department for Education (DfE) (n.d.). *Curriculum* research reviews.
 - https://www.gov.uk/government/collections/curriculu m-research-reviews
- Department for Education (DfE). (2019a). Early career framework.
 - https://assets.publishing.service.gov.uk/media/607959 36d3bf7f400b462d74/Early-Career Framework April 2021.pdf
- Department for Education (DfE). (2019b). ITT core content framework.
 - https://assets.publishing.service.gov.uk/media/6061eb 9cd3bf7f5cde260984/ITT core content framework .p df

- Department for Education (DfE). (2022a). Consolidated annual report and accounts 2021 to 2022. https://www.gov.uk/government/publications/dfeconsolidated-annual-report-and-accounts-2021-to-2022
- Department for Education (DfE). (2022b). *Evaluation* strategy 2022.
 - https://www.gov.uk/government/publications/dfeevaluation-strategy-2022
- Department for Education (DfE). (2023a). *Initial teacher* training and early career framework. https://assets.publishing.service.gov.uk/media/65b8fa
 - https://assets.publishing.service.gov.uk/media/65b8fa 60e9e10a00130310b2/Initial teacher training and ea rly career framework 30 Jan 2024.pdf
- Department for Education (DfE) (2023b). *National Professional Qualification: Leading behaviour and culture*.
 - https://assets.publishing.service.gov.uk/media/66c490 42b75776507ecdf46e/NPQ Leading Behaviour and C ulture_.pdf
- Department for Education (DfE) (2024). Funding for time off timetable for early career teachers and mentors.

 Retrieved from: https://www.gov.uk/guidance/funding-for-time-off-timetable-for-early-career-framework (Accessed 17 June 2024)
- Education Endowment Foundation (EEF). (2022). *Teaching and learning toolkit*.
 - https://educationendowmentfoundation.org.uk/education-evidence/teaching-learning-toolkit
- Education Endowment Foundation (EEF). (2023). *EEF Annual Report and Accounts 2022–2023*.
 - https://www.eefoundation.org.uk/public/files/Publications/Annual Reports/EEF Annual Report 2022-23.pdf
- Education Policy Institute (EPI) (2022, December 8). The reaccreditation of ITT providers. Blog.
 - https://epi.org.uk/publications-and-research/the-reaccreditation-of-itt-providers-implications-for-stem-subjects/
- Ellis, N. J., Alonzo, D., & Nguyen, H. T. M. (2020). Elements of a quality pre-service teacher mentor: A literature review. *Teaching and Teacher Education*. https://doi.org/10.1016/j.tate.2020.103072
- Freire, P. (1996). *Pedagogy of the oppressed*. London: Penguin.
- Gibb, N. (2017, February 17). Nick Gibb: The importance of an evidence-informed profession. Speech at the University of Buckingham. Available online:

- https://www.gov.uk/government/speeches/nick-gibb-the-importance-of-an-evidence-informed-profession
- Gibb, N. (2023, October). Letter from the Minister of State for Schools celebrating the first cohort of ECTs completing their training, the Rt Hon Nick Gibb MP. https://content.govdelivery.com/attachments/UKDFE/2023/10/13/file_attachments/2646191/ECF%20Letter%20to%20schools%20October%202023.pdf
- Gold, J. (2018). The what works network: Five years on. https://assets.publishing.service.gov.uk/media/5a8242 5b40f0b62305b93557/6.4154 What works report Fin al.pdf
- Goldacre, B. (2013). Building evidence into education. http://media.education.gov.uk/assets/files/pdf/b/ben %20goldacre%20paper.pdf
- Goldstein, H. (1996). A response to Hargreaves on 'evidence-based educational research'. https://www.bristol.ac.uk/cmm/team/hg/hargresp.ht
- Gove, M. (2014, July 10). Michael Gove speaks about the future of education reform.

 https://www.gov.uk/government/speeches/michael-gove-speaks-about-the-future-of-education-reform
- Graves, S., & Moore, A. (2018). How do you know what works, works for you? An investigation into the attitudes of senior leaders towards evidence-informed practice in schools. *School Leadership & Management, 38*(3), 259-277.
 - https://doi.org/10.1080/13632434.2017.1411900
- Hammersley, M. (1997). Educational research and teaching: A response to David Hargreaves' TTA lecture. British Educational Research Journal, 23(2), 141–161. https://doi.org/10.1080/0141192970230203
- Hammersley, M. (2013). What is Qualitative Research? London: Bloomsbury.
- Hargreaves, D. (1996a). Teaching as a research-based profession: Possibilities and prospects. *Teacher Training Agency Annual Lecture*.
 - https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews% 20and%20summaries/TTA%20Hargreaves%20lecture.p df
- Hargreaves, D. (1996b). Educational research and evidence-based educational practice: A response to critics. *Research Intelligence*, 58, 12–16.
- Hargreaves, D. H. (1997a). A Road to the Learning Society. School Leadership & Management, 17(1), 9–22. https://doi.org/10.1080/13632439770131

- Hargreaves, D.H. (1997b), In Defence of Research for Evidence-based Teaching: a rejoinder to Martyn Hammersley. *British Educational Research Journal*, 23: 405-419. https://doi.org/10.1080/0141192970230402
- Hargreaves, D. H. (1999a). Revitalising Educational Research: lessons from the past and proposals for the future. *Cambridge Journal of Education*, *29*(2), 239–249. https://doi.org/10.1080/0305764990290207
- Hargreaves, D. H. (1999b). The Knowledge-Creating School. *British Journal of Educational Studies*, 47, 122-144. http://dx.doi.org/10.1111/1467-8527.00107
- Hargreaves, D. H. (2001). A Capital Theory of School Effectiveness and Improvement. *British Educational Research Journal*, 27(4), 487–503. https://doi.org/10.1080/01411920120071489
- Hargreaves, D., Hester, S., & Mellor, F. (1975). *Deviance in Classrooms*. London: Routledge. https://doi.org/10.4324/9780203126639
- Holloway, J., & Larsen Hedegaard, M. L. (2023).

 Democracy and teachers: the im/possibilities for pluralisation in evidence-based practice. *Journal of Education Policy*, 38(3), 432–451.

 https://doi.org/10.1080/02680939.2021.2014571
- Hwa, Y.-Y. (2023). What works depends: teacher accountability policy and sociocultural context in international large-scale surveys. *Journal of Education Policy*, *38*(3), 474–499. https://doi.org/10.1080/02680939.2021.2009919
- Imray, P., Kossyvaki, L., & Sissons, M. (2023). Evidence-based practice: the use and abuse of research. *Support for Learning*, *38*(1), 51–66. https://doi.org/10.1111/1467-9604.12438
- Kay, L. (2022). What works and for whom? Bold beginnings and the construction of the school-ready child. *Journal of Early Childhood Research*, 20(2), 172—184. https://doi.org/10.1177/1476718X2110527
- Kvernbekk, T. (2017). Evidence-based practice in education. *Oxford Reference Encyclopedias* [online]. https://doi.org/10.1093/acrefore/9780190264093.013.187
- Labour Party (2024). The labour party manifesto. https://labour.org.uk/change/
- Mercer, N. (2000). Words and Minds: How we use language to think together. London: Routledge.

- Muijs, D. (2020, January, 3). Why we do research at Ofsted. *Ofsted Blog*. https://educationinspection.blog.gov.uk/2020/01/23/why-we-do-research-at-ofsted/
- Murtagh, L. et al. (2022). The 'impractical wisdom' of the ECF. *BERA Blog*. https://www.bera.ac.uk/blog/the-impractical-wisdom-of-the-early-career-framework
- National Foundation for Educational Research (NFER). (2023). *Annual report 2023*. https://www.nfer.ac.uk/media/zlyjvlw5/annual-report-2023 v3 online.pdf
- Nevill, C. (2016). Do EEF trials meet the new 'gold standard'? *EEF Blog*.

 https://educationendowmentfoundation.org.uk/news/do-eef-trials-meet-the-new-gold-standard
- NIoT (2024). What we do. https://niot.org.uk/about-us/what-we-do
- Ofsted. (n.d.). *Ofsted blog*. https://educationinspection.blog.gov.uk/
- Ofsted. (2023a). School inspection framework.

 https://www.gov.uk/government/collections/ofsted-inspections-of-maintained-schools
- Ofsted. (2023b). *Annual report 2022/23*. https://www.gov.uk/government/publications/ofsted-annual-report-2022-23
- Ofsted. (2023c). Research at Ofsted.
 https://www.gov.uk/government/organisations/ofsted/about/research
- Owen, K. L., Watkins, R. C., & Hughes, J. C. (2022). From evidence-informed to evidence-based: An evidence building framework for education. *Review of Education*. John Wiley and Sons Inc.

https://doi.org/10.1002/rev3.3342

- Pegram, J., Watkins, R. C., Hoerger, M., & Hughes, J. C. (2022). Assessing the range and evidence-base of interventions in a cluster of schools. *Review of Education*, 10, e3336.
 - https://doi.org/10.1002/rev3.3336
- Perry, T. et al. (2021). Cognitive science in the classroom: Evidence and practice review. EEF: London. https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-

- Perry, T., & Morris, R. (2023). Evidence-informed professional development: Blueprints or jigsaws?. *Impact*, 17.
 - https://my.chartered.college/impact article/evidence-informed-professional-development-blueprints-or-jigsaws/
- researchED. (2019, June). researchED Magazine. https://researched.org.uk/wpcontent/uploads/2020/03/researchEDMagazine-June2018-web.pdf
- Sacket D.L., & Haynes, R.B. (1995). On the need for evidence based medicine. *EBM*, 1 (1), 5-6.
- Simmie, G. M. et al. (2024). Towards a model of Teachers' Continuing Professional Development (CPD). *Professional Development in Education, 50*(1), 46–58. https://doi.org/10.1080/19415257.2023.2283420
- Slavin, R. E. (2002). Evidence-based education policies: Transforming educational practice and research. *Educational Researcher*, *31*, 15–21.
- Slavin, R. E., Cheung, A. C. K., & Zhuang, T. (2021). How could evidence-based reform advance education? ECNU Review of Education. SAGE Publications Ltd, 7–24. https://doi.org/10.1177/2096531120976060
- Teaching School Hubs Council (TSHC) (2024). Find your local teaching school hub. https://tshc.org.uk/find-your-local-teaching-school-hub/
- Tikly, L. (2015). What works, for whom, and in what circumstances? Towards a critical realist understanding of learning in international and comparative education. *International Journal of Educational Development, 40,* 237–249.
 - https://doi.org/10.1016/j.ijedudev.2014.11.008
- UK Government. (2023). What Works Network Strategy: November 2023.
 - https://assets.publishing.service.gov.uk/media/6565ed 1462180b0012ce8318/What Works Network Strateg y November 2023.pdf
- Vare, P. et al. (2022). Golden Thread or Gilded Cage? An analysis of Department for Education support for the continuing professional development of teachers.

 London: UCET.
 - https://doi.org/10.13140/RG.2.2.30168.16641
- Weinstein, Y., Madan, C. R., & Sumeracki, M. A. (2018). Teaching the science of learning. *Cognitive Research: Principles and Implications*. Springer. https://doi.org/10.1186/s41235-017-0087-y

- Wrigley, T. (2018) 'The power of "evidence": Reliable science or a set of blunt tools?', *British Educational Research Journal*, 44(3), pp. 359–376. Retrieved from: https://doi.org/10.1002/berj.3338.
- Wrigley, T. and McCusker, S. (2019) 'Evidence-based teaching: a simple view of "science", Educational Research and Evaluation, 25(1–2), pp. 110–126. https://doi.org/10.1080/13803611.2019.1617992.