

# 1 Can research improve schools?

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In 2013, the Secretary of State for education in England did something pretty extraordinary: he publicly asked for advice. This particular Secretary of State was not known for his humility; indeed, when he left this post, his removal was widely believed to be hastened by his confrontational attitude to teachers. But on this occasion he seemed to have swallowed his pride in order to request help.

He did so because he wanted to know if educational research could improve teaching in schools. He didn't ask a teacher, a school leader or indeed, an educational researcher; he asked Ben Goldacre, a medical doctor who wrote the 'Bad Science' column in *The Guardian* newspaper. And what the good doctor told him was that educational research certainly could improve teaching in schools because:

By collecting better evidence about what works best, and establishing a culture where this evidence is used as a matter of routine, we can improve outcomes for children, and increase professional independence ... research can help find out which interventions will work best overall, and which strategies should be tried first, second or third, to help everyone achieve the best outcome.

(Goldacre 2013, p. 7)

The idea that research could, 'help everyone achieve the best outcome' was attractive; it was positive and optimistic, and it came with the credibility of a nationally known medical doctor who is a scourge of 'Bad Science'. Ben Goldacre's Report caught the national mood; the Secretary of State acted on his advice, and allocated £135 million for a series of research studies, overseen by the Educational Endowment Foundation (EEF). Subsequently, schools in England have come under some pressure to demonstrate that they use research to inform their activities.

Policy pressures are not new. In England as elsewhere, education has often been a victim of multiple directives from local and national government. Some of these have a long life and can even become institutionalised – the use of systematic, synthetic phonics, for example. Others can come and go quite quickly – the 'three-part lesson' is an example. One question worth asking is, 'will research utilisation be short-term or long-term?' Without venturing into the

realm of fortune-telling, we think that research utilisation is likely to stay around. There are several reasons for this. First, the UK government has invested heavily in research utilisation in education. The award of £135 million to the EEF has had a considerable impact on schools; by 2018, these involved 970,000 children and young people in 9,400 schools (EEF 2018). The national survey of newly-qualified teachers requires teachers to evaluate how well their training has prepared them, ‘to access educational research ... to assess the robustness of educational research [and] ... to understand and apply the findings from educational research’ (Gov.uk 2014). Teaching Schools have been required to demonstrate involvement with research and development as one of their priorities, and the ‘Carter Review’ (2015) of initial teacher training described the need for teachers to understand, ‘how to access, interpret and use research to inform classroom practice’ (p. 8). Research utilisation is not an individual policy, standing apart from the rest of educational policy; it is part of a drive towards a ‘self-improving school system’ in which centrally-managed change, seen in the National Strategies, is replaced by schools taking responsibility for their own improvement (DfE 2010; Hargreaves 2010; Godfrey 2017). In this self-improving system, as Brown and Zhang (2014) note, ‘evidence use is positioned as being front and centre’ and the core characteristics of ‘self-improvement’ include:

- 1) teachers and schools being responsible for their own improvement; and
- 2) teachers and schools being required to learn from each other and from research so that effective practice spreads.

(Greany 2014; Brown and Zhang 2014, p. 782)

Second, there are moves to push research into practice across several government departments, not only education. The EEF is one of seven ‘What Works Centres’, each of which has a remit to ensure that professional practice becomes better informed by research. The other *What Works Centres* include:

- Health and social care: National Institute for Health and Care Excellence (NICE)
- Crime reduction: The College of Policing’s What Works Centre for Crime Reduction
- Early intervention: The Early Intervention Foundation
- Local economic growth: What Works Centre for Local Economic Growth
- Improved quality of life for older people: The Centre for Ageing Better
- Wellbeing: The What Works Centre for Wellbeing

Scotland has a *What Works Centre* and Wales has the *Public Policy Institute for Wales*. Each is funded by a combination of government and non-government sources, and the work of the English Centres is centrally coordinated by the Cabinet Office. Taken together, these represent a very substantial commitment to finding out what works (in education, crime reduction, early intervention etc.) and getting this into practice.

Third, the UK government's commitment to research utilisation is part of a broader, international movement. Within Europe, 'Optimal circulation, access to and transfer of scientific knowledge' is recognised in European educational policy (Commission of the European Communities 2013). France, Norway and Denmark have established national clearinghouses for educational research, and the USA's 'What Works Clearinghouse' was established back in 2002, in order to provide teachers, policymakers, researchers, and the public with 'a central and trusted source of scientific evidence of what works in education' (Institute of Educational Sciences 2002). Germany, Austria and the Netherlands have national educational research centres that aim to foster transfer from educational research to practice in one form or another. Efforts to 'mobilise' educational knowledge are also apparent in states beyond Europe, including USA, Canada, Latin and South America, Australia, New Zealand, Singapore and South Africa (for example see Earl & Timperley 2008; Levin, Qi & Edelstein 2013; Briscoe et al., 2015; Farley-Ripple, et al., 2017; EEF 2017; Malin et al., 2018).

Fourth, the current enthusiasm for educational research use is by no means unique: research utilisation has a history. As long ago as 1929, John Dewey started a debate about research utilisation, noting that teachers read research in the hope of finding 'recipes' for teaching, and argued that research would be unlikely to provide such 'recipes'. This idea has been vigorously debated over the years by authors such as Fleming (1946); Clifford (1973); Nisbet & Broadfoot (1980); Hargreaves (1996); Hammersley (2002); Thomas & Pring (2004); Biesta (2010) and Winch, Oancea & Orchard (2015). One of the most hotly-debated contributions to the discussion was that of David Hargreaves who, in a speech to the Teacher Training Agency in 1996, made many of the same points as Ben Goldacre. Like Goldacre, Hargreaves compared the relatively low impact of educational research on education, to the high impact of medical research on medical practice and concluded that education would be much better if it were more research informed. We will return to these ideas and some of these authors, below. For now, it is sufficient to note that research utilisation is not a new idea; it has frequently surfaced in policy and practice, and has been subject to much debate.

Fifth, the concept of research utilisation is extremely broad. Unlike, say, synthetic phonics or the three-part lesson, it has the potential to suggest answers to many kinds of educational problems, from overarching matters such as recruiting and retaining teachers, to matters of fine detail, such as teaching spelling to children with reading difficulties.

Finally, there is some evidence that many teachers are enthusiastic about the idea that research could improve their practice. Meta-analyses of educational research (e.g. Hattie 2008) are growing in sales and influence, whilst a teacher-led movement called 'researchEd', coordinated by the teacher and journalist Tom Bennett, is acting as a powerful forum for online and face-to-face debate between teachers and researchers. Since its formation in 2013, researchEd has developed a series of national and regional conferences not only in the UK but in countries including Australia, New Zealand, USA, Canada, Sweden and the Netherlands. It

also has a considerable presence on social media, with many thousands of followers on *Twitter*, partly due to its members' sharing links to research and research-informed articles.

Universities have also formed networks of schools engaged in research. At the time of writing, Manchester University, Sheffield Hallam University, University College, London (UCL) and Edge Hill University all have research networks for schools. Cambridge University has two such networks: Cambridge School Teachers and Research (CAMSTAR) and the School-University Partnership for Educational Research (SUPER). Harvard University has an international network of schools engaged in research; there is also a Research Schools Network, funded by the EEF and the Institute for Effective Education (IEE). Beyond universities, organisations including the Centre for the Use of Research and Evidence in Education (CUREE) and the Teacher Development Trust provide strongly research-based CPD for teachers.

At the same time, access to research is becoming easier. Open access policies ensure that more research papers appear on the internet and that these are accessed by more people than previously (Antelman 2004). For some years, the British government has been working with publishers to make all publicly-funded research available to everyone with an internet connection and it seems that this is a realistic ambition. In the meantime, the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre), based at UCL, undertakes and publishes systematic reviews of research for educational policymakers and practitioners, whilst the Chartered College of Teaching provides its members with free access to research databases and publishes its own research journal, *Impact*.

There is also pressure on universities to pay attention to how their research is used; in the UK, university departments are required to submit accounts of the 'impact' of their research, defined as 'an effect on, change or benefit to the economy, society, culture, public policy or services ... beyond academia' (HEFCE 2011, p. 48). The 'impact' agenda has led to more practitioner-friendly presentations of educational research. In England, these include BERA's *Insights and briefings*, the EEF's *Toolkit*, the Institute of Education's *Evidence Library*, and York University's *Best Evidence in Brief*. Each of these is freely available on the internet and can be located with common search engines.

Also, there is limited but growing evidence, that engaging with research improves schools. Brown (2018) summarises this evidence: research-engaged schools can shift approaches to CPD from 'superficial "hints and tips" model of improvement to a learning culture in which staff work together to understand what appears to work, when and why'; it can lead to improvements in pedagogic knowledge and skills as well as greater teacher confidence; it can be associated with students' results and with 'higher teacher, school and system performance' (Brown 2018, p. 7). These results should be treated with caution because, in all the studies reviewed, improvements could be explained by factors other than research and in any case, *how* you engage with research is at least as important as *whether* you engage in research. But there are grounds for cautious optimism.

In summary, research utilisation is a powerful idea: it has government backing in many countries, a considerable intellectual history, support from teachers and networks of teachers and researchers, some evidence of positive impact, and a technological capability, via the internet and Open Access, to make it feasible. As this book testifies, many schools in the UK are already using research to improve the education of their students. The policy imperative is for all schools to use research critically, to make genuine and long-lasting improvements.

### **Arguments and counter-arguments**

Nevertheless, there are arguments against research utilisation, both from within the educational research community and from those on its periphery. From the periphery, it is argued that educational research is not of sufficiently high quality to be of practical value: it is too small-scale, unscientific and is out of touch with the concerns of teachers. For example, David Hargreaves described educational research as, 'irrelevant to practice ... uncoordinated with any preceding or follow up research ... virtually nobody reads' (Hargreaves 1996). Since then, there has been some evidence to support this assertion. Gore & Gitlin (2004) found that pre-service and in-service teachers from Australia and the USA 'overwhelmingly dismissed academic research on the grounds that it is not practical, contextual, credible, or accessible' (p. 38). According to this research, teachers want answers to practical questions but simultaneously understand that research cannot provide these answers; this helps to explain their negative view of research:

[Teachers] ... doubt the relevance of research produced outside their local contexts and convey a sense that research does not and cannot, even though they want it to, answer questions that may be specific to a single classroom.  
(Gore & Gitlin 2004, p. 41)

Instead of looking to research, Gore & Gitlin (2004) state that teachers rely on trusted, experienced colleagues and on their own experiences as the basis for improving their teaching. A similar finding was reported by Shkedi (1998) who reported that Israeli teachers rarely read research reports and, when they did so, this was usually within the context of academic study. She concluded that there is 'a deep gap between the researcher's world and the teacher's world' (Shkedi 1998, p. 559). In the UK, Ratcliffe et al. (2005) found that teachers do not perceive research evidence as a major source of ideas for changing practice, but instead, look to colleagues and in-service training. Even student teachers do not appear to rate research highly: Hagger et al. (2008), interviewing 36 student teachers, found that less than one percent of their learning to teach could be attributed to reading research or professional literature, whilst the vast majority of their learning was attributed to personal experience.

Although these studies are all quite old, criticisms of educational research have also surfaced more recently. Tom Bennett, the founder of researchED, has

argued that education suffers from too many ideas that are said to be research-based but in fact, are not. In his (2013) book *Teacher Proof*, he criticises the popularity of ideas such as ‘Brain Gym’ and ‘Learning Styles’ and argues that these are barriers to good teaching. In a similar vein, Christodoulou’s (2014) book, *Seven Myths About Education* argues that powerful myths are generated by educational researchers and operate in education but these are largely ideological, serving liberal political interests.

Research utilisation has also been critiqued from within the educational research community. It is said that research can, in principle, discover only how things *are* (or perhaps were, when the research was done), not how things *should be*. Research might show, for example, how people think, or the stages that children go through as they develop, or how teachers teach; it cannot discover how people ought to think, or whether children ought to be encouraged to go through their developmental stages faster, or whether teachers ought to teach differently. Such questions can only be answered by philosophical thinking and even then, we can never hope for unanimous answers because different people hold different values (e.g. Biesta 2007; 2010).

In an article, provocatively titled *The Myth of Research-based Practice*, Hamersley (2005) argues that at best, research can only provide information to practitioners, who must also rely on their own experience and judgment, informed by their own values, to make decisions as teachers. He also argues that research findings are fallible and that what researchers consider to be well-founded knowledge (accumulated slowly and logically, with an attitude of principled scepticism) is quite different from practitioners’ views of well-founded knowledge (up to date and practical, capable of being implemented instantly). Echoing Dewey (1929) he says that research findings are often too complex to inform teachers’ actions because research deals with particular, isolated issues in depth:

[Research] often shows that the world is more complicated than practitioners think it is, that widely held stereotypes are false or only true in a very approximate way, that assumed causal relationships are more contingent than often supposed, and so on.

(p. 324)

McIntyre (2005) develops Hamersley’s thinking, suggesting that research and teaching involve ‘sharply contrasting kinds of knowledge’ (p. 359). Whereas research generates propositional (i.e. ‘factual’) knowledge, teachers need ‘knowledge of how to do things ... with primary concern being focused on the usability and usefulness of the knowledge’ (p. 359). Research knowledge is, ‘abstract and theoretical or in some other way generalised’, whereas teaching occurs in highly specific contexts. This means:

While some kinds of research may pretend to offer recipes for teaching, even beginning teachers quickly learn that recipes do not generally work in

teaching. What works for one teacher, or in one school, or with one class, or on one occasion, very likely will not work for another.

(p. 359)

McIntyre (2005) also points out that the impersonal nature of research knowledge is quite different from the personal nature of teaching, where 'it is overwhelmingly on themselves as people, with all their diverse personalities and ways of thinking, that teachers primarily have to depend' (p. 360). He sees research-generated knowledge as generalised, propositional knowledge; it is narrowly-focused, abstract and theoretical; whereas teachers' pedagogical knowledge is 'knowledge of how to do things' (p. 359); it is context-specific and capable of being applied to complex, multi-dimensional and unpredictable situations.

Wiliam et al. (2004) sum up this argument as follows:

... research can never tell teachers what to do. Indeed, given the complexity of classrooms, it seems likely that the positivist dream of an effective theory of teacher action – which would spell out the 'best' course of action given certain conditions – is not just difficult and a long way off, but impossible in principle.

(Wiliam et al. 2004, p. 51)

Dewey, Hammersley, Biesta, McIntyre, Wiliam and others are united in a view that educational research cannot inform education in the way that politicians and their advisers seem to hope. Instead, they argue that research generates concepts and theory that influence policy and practice indirectly, for example by suggesting new ways of thinking about problems.

In summary, there is an intellectual argument between those who argue that education can become *based* on research (e.g. Hargreaves and Goldacre) and those who argue that research can only *influence* education. The first group argues that medicine was not always research-based but has made great strides forwards because it has become so. The second group responds that education is unlike medicine in many respects and instead, we should expect research to influence education indirectly, by suggesting new concepts and theories and by challenging existing concepts and theories.

It can be helpful to have some understanding of these debates, if only to avoid the extremes of over-enthusiasm for research-informed practice on the one hand, and deep cynicism about it on the other. In our work in schools we have interviewed people who are strong enthusiasts for research-informed practice and we have also met some who are more cynical. But the majority of teachers and school leaders are, it seems, fairly pragmatic. They do not expect research to 'revolutionise' teaching in the way that Goldacre (2013, p. 7) suggested but neither do they expect it to have no effect. To them, research is no 'golden bullet' but, on the other hand, it is certainly better than its alternatives.

## Research is better than its alternatives

In many of the interviews that have informed this book, a recurring theme is that research-generated knowledge is better than its alternatives. The argument is that the research *process* is more rigorous than alternatives such as trial and error, and that more valid and reliable *knowledge* is generated through research than through alternatives such as hunches and personal experience.

This view is stated by people close to the government. Kevan Collins, who oversees the EEF, has stated, ‘If you’re not using evidence to inform your decisions, you must be using prejudice.’ (Evidence Based Education 2017). To Coe (1999) the alternative to ‘evidence’ is ‘unfounded opinion’. Estelle Morris, who chairs the Institute of Effective Education, argues that evidence is preferable to ‘ideology’ (Morris 2014). So the current drive for research-informed practice stems, at least in part, from a disillusion with the alternatives, including as Goldacre (2013) says, ‘governments, ministers and civil servants who are often overly keen on sending out edicts, insisting that their new idea is the best in town’ (p. 7).

The same idea is prevalent among school leaders. One Assistant Headteacher compared research with ‘gimmicks’:

It’s not about gimmicks, it’s about giving them something that’s got substance behind it that they can believe in and invest in.

(Assistant Headteacher, suburban Secondary School)

A Headteacher in a different school referred to, ‘lots of teaching ideas which have been unfounded and we have adopted, one after the other’, concluding ruefully, ‘I think in education we have been easily led’ (Headteacher, urban Secondary School). Another teacher described a concrete example of a gimmick that was once widely accepted:

About ten years ago in teaching, this concept of brain gym appeared. At the starts of lessons, if pupils did certain physical activities and breathed in and out, it would help them to improve. And lots of schools were doing it and it took quite a while for people to question it and go, ‘hang on a minute, what’s the evidence for this?’

(Assistant Vice Principal, urban Secondary School)

In summary, the argument for research-informed practice is that the alternative to research, as a basis for educational practice, consists of prejudice, unfounded opinion, ideology and gimmicks.

Of course, this argument is not entirely true; teachers do not, on the whole, operate on these bases. They operate mainly on the basis of their experiential knowledge, gained through their experiences of teaching and being taught, and underpinned by their beliefs, competences and values. (There is a body of research on teacher thinking which has demonstrated the importance of belief and values in teaching; see, for example, Korthagen & Vasalos 2005). The

many thousands of hours of being taught enables teachers to develop their own, personal theories of teaching, which are developed through reflection; these personal theories include beliefs and values that are more nuanced and complex than prejudice, unfounded opinion, ideology or gimmicks.

Nevertheless, teachers' experience is not necessarily the only, or even the best basis for practice. Experience can shape nuanced and complex beliefs and values; it can also shape rigid and unquestioning beliefs, values and biases, not all of which are conscious (e.g. Moule 2009). Basing teaching on experience can lead to replicating previous experience of teaching in contexts where it might not be appropriate – witness certain politicians' fondness for promoting the type of teaching which they personally experienced. Alternatively, teachers can base their teaching on their reaction against the type of teaching they received – witness those teachers who never felt appreciated when they were pupils, and who consequently lavish indiscriminate praise on their own students (Kohn 1999). When teaching is based predominantly on personal experience it can be very resistant to change and some teachers can fall into a comfortable form of professional stasis. As one teacher put it, 'experience is a valuable thing in teaching but if you have been teaching the same thing for the last ten years what value is that?' (Research coordinator, urban Secondary school).

Furthermore, if experience alone were an adequate basis for teaching, the most experienced teachers would invariably be the best but this is not the case; indeed, teachers do not necessarily learn through experience and they can become less effective in later phases of their professional lives (Day & Gu 2007). Therefore, although the alternative to evidence and research is teachers' personal theories, shaped largely by their experiences, this does not necessarily lead to high quality teaching. What matters is not experience alone but the quality of teaching interactions with students, and the reflection which makes sense of experience, critiques it and considers alternative viewpoints and possibilities. Herein lies one of the potentials of research-informed practice – research can inform reflection, both internally and with others. As Earl & Timperley (2008) point out, research can ground teachers' discussions in data so that:

... conversations that are grounded in evidence and focused on learning from that evidence have considerable potential to influence what happens in schools and ultimately enhance the quality and the efficiency of student learning.

(p. 2)

Among school leaders, the argument for research and evidence to inform practice is not that research generates unarguable truths, or that it provides conclusive proof, or that it shows what is the best way of doing things – such naïve enthusiasm was not found in our research data. Instead, school leaders see research as better than its various alternatives. However, this raises questions: what is meant, exactly, by 'research' and 'evidence'? In what sense can schools be said to 'use' research? How do they actually use research to improve? This book aims to

answer these questions and, in so doing, to provide some suggestions for teachers and school leaders who wish to use research to improve their schools.

### **The basis for this book**

This book is the result of nine collaborative research projects, undertaken under the auspices of the research centre for Schools, Colleges and Teacher Education (SCaTE) at Edge Hill University, between 2013 and 2018. In total, these projects involved 153 teachers and school leaders in 85 schools or colleges in the various regions of England. As the book's primary author, I have been greatly helped by all these teachers who have generously given up their precious time to involve themselves in research. Some have read research papers, some have carried out Teacher Research projects, some have been observed and almost all have been interviewed by me or one of my colleagues.

A guiding principle throughout the book is that it is supported with empirical evidence and thoughtful reflection on that evidence. As the list of references attests, we (the authors) use a wide range of research literature to support the claims we make. In addition, most of our own research, cited in this book, has been published in international journals including *British Educational Research Journal*; *Curriculum Journal*; *Journal of Education for Teaching*; *Oxford Review of Education*; *European Journal of Teacher Education*, *School Leadership and Management*, and *Research Papers in Education*. A brief description of these research projects is provided in the Appendix.

Our main means of data collection in these projects was interviews: usually individual interviews but also paired or group interviews. We have also used observations of teachers' discussions and some documentary analysis of teachers' writing. Throughout this book, quotations from teachers and school leaders come directly from research data: either written data or transcriptions of what has been said in interviews or observations. For ease of understanding, some words have been omitted whenever they might interfere with a fluent reading of the text. Omitted words are marked by ellipses (...); these include repetitions, half sentences and phrases such as 'you know' which punctuate speech without adding meaning. Editorial additions are shown in square brackets.

On the whole, interviews are a good way to collect data from teachers. Teachers are uniformly articulate and, discussing their own schools, they know what they are talking about. Although there is always a possibility that interviewees say what they think the interviewer wants to hear, the clarity and force of what the teachers said usually convinced us that they were trustworthy; they were 'telling it as it is'. Interviews are particularly good for answering 'how' and 'why' questions, such as, 'how do teachers use research?' and 'why do they do so?' Indeed, it is difficult to undertake research into how and why people do things without talking and listening to them.

But there are limitations to our research. In particular, the picture that we paint in this book is about why, what and how people in schools *do* use research. We devote little space to why people *do not* use research, although

this point is touched on in the final chapter. Our sampling was not random so we do not claim to present a picture of all schools in England, let alone the UK. One major limitation is that we cannot demonstrate a link between research use by teachers, and pupil outcomes, although we have a PhD student who is currently working on this issue.

As a consequence of these limitations, the picture we paint is a positive one. This book gives an analysis of the reasons why our interviewees engage with research, the things they do to use research, and the types of research that they use. It is important for readers to bear in mind that no single school does everything that is described here, and it would probably be impossible to do so. Therefore, this book should not be read as a pattern for schools to follow but as an analysis of thinking and action that some schools have achieved, and that might be adopted in other schools.

### **The structure of this book**

This introductory chapter has sketched out the recent UK policy around research utilisation and introduced some of the arguments that surround the topic. The remainder of the book's first section, 'Why?' examines three reasons why school leaders use research: to inform decision making, to expand teachers' 'teaching mindsets' and to develop schools as intellectual communities. Starting with what people have told us during interviews, each chapter in this section explores the logic of what they say, to test the extent to which what they say makes sense, and why it makes sense. An example from a Primary or a Secondary school is then considered in some detail, together with a counter-example. Each chapter concludes by suggesting how schools might achieve these aspirations.

The second section, 'What?' looks at the many forms in which schools can access research and evidence. These include school-generated data, evaluations, Teacher Research and academic research. (In this book, unless we state otherwise, we view all four types of activities as 'research'.) The first chapter in this section explores what research is, and explains why research-generated knowledge is more generally respected than other forms of knowledge. The second chapter examines how teachers access and assess research; it considers the role of social media and blogs in this process.

The final section, 'How?' examines how schools create a research-informed culture, how research informs teachers' discussions and how teachers undertake their own research. Two chapters in this section are devoted to specific aspects of research use: Lesson Study, and the use of school-generated data. Chapter 12 considers research from the point of view of universities, who are the main 'producers' of knowledge. The final chapter outlines the most common obstacles to research use in schools, and suggests some ways of overcoming them, finishing with recommendations for the future development of research-informed schools.

So this is not a book that tells teachers and school leaders our opinions of what they should do. Rather, we hope to explore what teachers and school leaders are already doing, in schools and colleges around England. And,

although we offer recommendations for school leaders (senior and middle leaders), these arise primarily from evidence. We hope you find that the tone of this book is enthusiastic and committed, but we do not shy away from examining the various barriers and pitfalls that stand in the way of research utilisation.

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