Chapter 11
Teacher Research:
A Knowledge-Producing Profession?

Nicole Mockler and Susan Groundwater-Smith

Abstract Teacher research has a long and proud history, stretching back to at least the 1970s, of supporting and valuing teachers as creators as well as consumers of knowledge about educational practice. In this chapter, we explore the shape and rationale of these historical ideals and the 'architectures of practice' that frame them, juxtaposed with the more instrumentalist notions of teacher research expressed in recent years by, among others, proponents of 'evidence-based practice'. We argue for an opening of the discussion around evidence in education and what constitutes good evidence of practice, and a reclaiming of the notion of 'evidence-based practice' as a generative rather than reductive interpretation of educational practice, consistent with rather than antagonistic to the notion of *praxis* as morally informed action.

Introduction

This paper explores the notion of teacher research as a knowledge-producing practice, asking the question "what is it for teachers to engage in 'knowledge creation' in an age of compliance?". We hold that teacher research, particularly in the form of participatory action research, holds the capacity to be a 'practice changing practice' (Kemmis 2009), and in this chapter we consider some of the enabling and constraining factors to this. We also explore some of the practice architectures that might frame teacher research as a practice-changing practice and contrast these with those that frame contemporary notions of 'evidence-based practice'. Finally, through contrasting these, particularly the cultural–discursive preconditions of each, we mount a challenge to the very notion of 'evidence-based

N. Mockler (✉) · S. Groundwater-Smith
Faculty of Education and Social Work, The University of Sydney,
Sydney, NSW, Australia
e-mail: nicole.mockler@sydney.edu.au

S. Groundwater-Smith
e-mail: susangs@iinet.net.au

practice' itself, arguing that current iterations cede a somewhat fanciful idea of 'evidence' to those who would render it in very narrow and limited ways.

The paper is presented in three parts. After a brief introduction to the concept of teacher research as a practice-changing practice, we explore some of the contextual and epistemological foundations of the approaches to teacher research in which our work is grounded, considering four-key concepts that we regard as central to the work of teacher research as knowledge production. In the second section, we explore contemporary iterations of evidence-based practice, providing a brief account of discourses of evidence-based practice in education, and posing the question, which we see as central to any discussion of evidence-based practice, of how evidence can and should be understood. Here we explore the cultural and discursive arrangements that we see as surrounding the use of the notion of 'evidence' both within and beyond discourses of evidence-based practice. In the final section, we draw on this discussion to argue for a broadening of understanding around what constitutes good evidence and the reclaiming of the notion of 'evidence-based practice' as a central dimension of teacher research as knowledge production.

Teacher Research as a Practice-Changing Practice

Stephen Kemmis first coined the notion of action research as a practice-changing practice in the 2000s, writing in 2009:

> Action research aims to be, and for better or for worse it always is, a practice-changing practice. Better because it sometimes helps make better practices of education, social work, nursing or medicine; worse because it may have consequences that are unsustainable for practitioners of these practices or for the other people involved in them. (p. 464)

In this work, Kemmis (2009) builds on the work of Schatzki (2010) to argue for the power of participatory action research to shape the 'practice architectures' that frame practice within particular sites. These 'mediating preconditions' are expressed thus:

(1) cultural–discursive preconditions, which shape and give content to the 'thinking' and 'saying' that orient and justify practices;
(2) material–economic preconditions, which shape and give content to the 'doing' of the practice; and
(3) social–political preconditions, which shape and give content to the 'relatings' involved in the practice   (Kemmis 2009, p. 466).

Further, he argues that critical action research, with its attendant focus on the sustainability of practices, transforms the social formations within which practice occurs, such that

> People involved in critical action research aim to change their social worlds collectively, by thinking about it differently, acting differently, and relating to one another differently – by constructing other architectures to enable and constrain their practice in ways that are more sustainable, less unsustainable. (Kemmis 2009, p. 471)

In this chapter we are largely concerned with the architectures of the 'meta-practice'[1] of teacher research, and while we understand that these practice architectures are thickly interwoven and interdependent, we pay particular attention to the cultural–discursive arrangements that frame particular iterations of teacher research. For it is in the framing of this 'thinking' and 'saying' that orients and justifies practice that we see not only the roots of the practice itself but the roots of what constitutes 'acceptable practice' in this place and time. We argue that it is in the cultural–discursive sphere that practitioners often have the greatest agency. While clearly material–economic preconditions manifest themselves in today's world, dominated as they are by neoliberal discourses and those socio-political preconditions that are the building blocks of education systems, these are spheres where practitioners are less able to exercise either professional judgment or professional control. Further, as we shall argue in the discussion that follows it is in the understanding of the local and contextual that education professionals can best apprehend their practice.

We begin with an exploration of four-key and interlinked concepts that underpin the particular understanding of teacher research within which our work is located, suggesting that these give rise to the valuing of particular sayings, doings and relatings that hold the capacity to lead to teacher research as rich, generative knowledge production.

Teacher Research: Four-Key Concepts

Our aim in this section is to explore some of the key concepts and approaches that have historically informed the conduct of action research in schools. Of course, we lay no claim to this selection of key concepts being definitive; they are rather the framing constructs within which over the years, we have chosen to locate and defend our work.

Using Research Means Doing Research: Stenhouse as a Starting Point

Throughout his work, Lawrence Stenhouse argued strenuously for the importance of teachers engaging in research. Key to Stenhouse's argument was the notion that teachers had a crucial role to play in the research endeavour through the testing of the results of research in their local context:

---

[1]After Kemmis (2009), we argue that teacher research is a 'meta practice' in which it is a practice that shapes other practices (Kemmis and Grootenboer 2008).

> Using research means doing research. The teacher has grounds for motivation to research. We researchers have reason to excite that motivation: without a research response from teachers our research cannot be utilised. (Stenhouse 1981, p. 110)

Further, Stenhouse argued consistently against the adoption of the 'psycho-statistical' model in educational research (Stenhouse 1978, 1979, 1980, 1985) in favour of what he referred to as 'the illuminative tradition' (Stenhouse 1979) and the study of cases (Stenhouse 1980), both of which he regarded as capable of utilising and building teacher professional judgement rather than attempting to undermine it:

> Teaching is largely a response to the observation and monitoring of learning in cases. If this is so, then a crucial problem of the psycho-statistical paradigm as the design for a discriminant experiment is not simply that it deals in general prescriptions, but that it offers to guide teachers by overriding, rather than by strengthening, their judgement. (Stenhouse 1978, p. 8)

Drawing the analogy of the teacher being "like a gardener who treats different plants differently and not like a large-scale farmer who administers standardised treatments to as-near-as-possible standardised plants" (Stenhouse 1985, p. 22), Stenhouse posed that "The teacher must diagnose before he (sic.) prescribes and then vary the prescription…he is not able to fulfil his professional role on the basis of probabilistic generalisations but on the contrary is expected to exercise his judgement in situational analysis" (Stenhouse 1985, pp. 22–23).

Stenhouse's position constituted a thoughtful and comprehensive understanding of 'evidence' as locally and contextually constructed: for him, the evidence that counted was that which is concerned with the creation and verification of research results at the local level, not that which is generated outside the local context with a view to generalising 'what works'. Furthermore, in his defence and privileging of well-honed teacher professional judgement, and his invocation of Cronbach's (1975, p. 125) claim that "when we give proper weight to local conditions, any generalisation is a working hypothesis, not a conclusion", Stenhouse argued for the importance of the local and contextual in what constitutes evidence for use in educational decision making.

Teacher Research as 'Practical Philosophy'

Carr (2006) equates action research with a form of 'practical philosophy' derived from historical self-consciousness and aiming to understand and value the nature of context in all of its complexity. He argues, drawing upon Gadamer, that to

> … achieve a purely rational understanding is illusory, that human understanding is never simply 'given' in any perception of observation but is always 'prejudiced' by an interpretive element that determines how perceptions and observations are understood. Moreover, just as the act of understanding is always an act of interpretation, so it also has an inescapably historical character. (p. 429)

Drawing, in particular, upon an argument that action research should be willing to expand its "historical horizons" (p. 433), Carr argues for a form of inquiry that recognises the kind of practical knowledge, that is socially situated and historically formed, that requires practitioners to understand the historical antecedents of practice and to engage in an ongoing and rigorous interrogation of that practice through engagement in dialogue.

Also, in line with our purpose to trouble the notion of what constitutes quality, Carr asks that we consider educational research in general and action research in particular by understanding first and foremost what *education is* rather than what *research is* with the former underpinned by the kind of knowledge that can best contribute to its development by enabling practitioners to explore and critique their practice on the basis of their systematic inquiries:

> Thus, it would be a form of research that no longer produces social scientific knowledge 'on' or 'about' education but instead develops the kind of self-knowledge that enables practitioners to identify the unquestioned assumptions and irrational beliefs sustaining their practice and, by so doing, enables them to evaluate their practice on the basis of a coherent and clearly articulated educational point of view. (2007, p. 282)

Context, then, including the particular interpretations brought to bear on evidence by action researchers by virtue of their own standpoint and beliefs, is a critical element of this notion of action research as practical philosophy. Furthermore, Carr's conceptualisation of action research in this way links to Cochran-Smith and Lytle's (1992) conceptualisation of action research as related to teachers' epistemologies.

Knowing Our Own Knowledge

Over 20 years ago, Susan Lytle and Marilyn Cochran-Smith argued for teacher research to be understood as a means for teachers to 'know their own knowledge':

> … research by teachers is a significant way of knowing about teaching. We argue that teacher research is a way of generating both local knowledge and public knowledge about teaching; that is, knowledge developed and used by teachers for themselves and their immediate communities as well as knowledge useful to the larger school and university communities. (Lytle and Cochran-Smith 1992, p. 450)

Embedded within this conceptualisation of teacher research is an assumption of reflexivity between teacher research and teaching practice, wherein teachers, through the act of engaging in research, become producers and generators of knowledge rather than merely consumers of knowledge generated elsewhere. They posit, for instance, that "teacher research is a powerful way for teachers to understand how they and their students construct and reconstruct the curriculum… inquiry stimulates, intensifies and illuminates changes in practice" (Lytle and Cochran-Smith 1992, p. 458). In later work, Cochran-Smith and Lytle have extended this notion, drawing on the work of Carr and Kemmis (1986) to suggest

that their concept of 'inquiry as stance' "can be thought of as a theory of action grounded in the dialectic of inquiry and practice" (Cochran-Smith and Lytle 2009, p. 122).

This conceptualisation of the relationship between teacher research and knowledge production pushes far beyond previous conceptions of the knowledge-creating school (Hargreaves 1999a), rendered as these are with far more narrow ideas about data and evidence. Indeed, Cochran-Smith and Lytle encourage us to think beyond popular conceptualisations of knowledge itself, such as those advanced by Gibbons et al. (1994) to a more embracing and inclusive vision of knowledge as produced collaboratively and discursively within the field of practice (Groundwater-Smith and Mockler 2009).

As Groundwater-Smith and Irwin (2011) argue action research can make a powerful contribution to professional knowledge building:

> …while formal knowledge (episteme) may be seen at one end of the continuum where the intention is to seek knowledge for its own sake; action research is concerned with practical knowledge informing the moral disposition to act wisely, truly and justly (phronesis) and lies at the other end. (p. 157)

Whereas episteme concerns itself with theoretical knowledge and techne relates to 'know how'. Understood today as technical knowledge, phronesis refers to practical wisdom that we believe is essential in informing professional practice in terms of principled action. Evidence generated with an eye to teachers 'knowing their own knowledge' as praxis is necessarily local, contextual and open to rigorous debate and negotiation between practitioners in the local setting.

Teacher Research as Professional Learning and Development

While not concentrating on material–economic and social–political preconditions, as indicated earlier, we believe that we do require the frame of reference that they provide. As Altrichter and Posch (2009) remind us, the impact of globalisation on education has seen an increased embrace of market-based approaches to education, including teacher professional development. While action research has long been regarded as a powerful catalyst for teacher professional learning (Cochran-Smith and Lytle 1999; Groundwater-Smith and Mockler 2009; Grundy 1995), many pressures on contemporary schooling brought about by regimes of audit and accountability, with their attendant instrumentalism and standardisation, tend to privilege 'drive by' (Senge et al. 2000) or 'spray on' (Mockler 2005) professional learning over that which is more sustained and requires greater commitment. Added to this is the tendency to tie processes of teacher evaluation or appraisal to the collection of evidence and teacher professional development (Australian Institute for Teaching and School Leadership 2012), processes that on the one hand might be built generatively as opportunities for teacher research, but that on the other might

be constructed as tools of surveillance and accountability to narrow purposes (Mockler 2015).

Grundy (1994) wrote of teacher research as a collaborative professional development and school improvement enterprise: while practitioner inquiry holds the potential for the improvement of individual pedagogical practice, she argued that it can and should be a powerful tool for local, school-based educational reform through the opportunities it offers for deep collaboration. Kemmis, in his work over the past three decades, both individually and with colleagues, has similarly emphasised the critical collaborative nature of participatory action research, grounded in the opening and habitation of communicative space for teachers (see for example, Kemmis and McTaggart 2005; Kemmis et al. 2014), space within which professional learning and development thrives.

None of these framing concepts are 'pre-given'; rather they have been emergent over time and within a range of policy and practice pronouncements. Neither are their meanings fixed, as the various texts that govern them are themselves in a state of flux; these are the fluctuating moments informed by the cultural–discursive, material–economic and social–political conditions of the day.

Evidence and Evidence-Based Practice

We live in an age where 'data' rules. Schools are awash with data (Thompson and Cook 2014, 2015, in press) and teachers are increasingly encouraged to become 'data-driven' in their practice (see, for example, Australian Council for Educational Research 2008; Fenton and Murphy 2015; McLeod 2015). The 'data' in question almost always is confined to quantitative representations of educational achievement generated elsewhere.

In our desire to trouble the notion of 'evidence-based practice' in education, we are reminded, of Cameron's (1963) words:

> It would be nice if all of the data which sociologists require could be enumerated because then we could run them through IBM machines and draw charts as the economists do. However, not everything that can be counted counts, and not everything that counts can be counted. (p. 13)

We are also mindful of the corollary warning that over time, what often comes to be valued, or comes to 'count', is that which indeed *can* be counted. The rise of audit cultures in education, with their attention to measuring, ranking and subsequently laying claim to success and/or failure (Taubman 2009), provides ample demonstration of this phenomenon.

Discussions of evidence-based practice in education began almost two decades ago with David Hargreaves' 1996 Teacher Training Agency Lecture, (subsequently published as Hargreaves 2007). The central thrust of Hargreaves' (2007) argument was that educational research at the time did not represent 'value for money', primarily because it tended not to be 'cumulative': "few researchers seek to create a

body of knowledge which is then tested, extended or replaced in some systematic way" (p. 5). Small-scale studies which "inevitably produce inconclusive and contestable findings" (p. 5) are positioned to be 'of little practical relevance'. Instead, Hargreaves argues that what is required is research that "demonstrates conclusively that if teachers change their practice from x to y there will be a significant and enduring improvement in teaching and learning" (p. 9).

Rejoinders to Hargreaves' lecture, largely characterised by him as 'defensive responses' from 'postmodern hermits' (Hargreaves 1999b, p. 242), questioned the basis upon which his claim that educational research is not 'evidence-based' was made (Hammersley 1997), employed the notion of 'research-based teaching' to argue for the complex relationship between educational aims and processes (Elliott 2001), and argued against instrumentalism and for the role of theory in framing teachers' practices, as opposed to 'evidence' alone (Atkinson 2000).

A more mainstream resurgence of the discourse of evidence-based practice surfaced during Michael Gove's tenure as Secretary of State for Education in the UK, amid a push for greater 'evidence' to be used in social and human service areas generally (see, for example, Haynes et al. 2012). In 2013, epidemiologist Ben Goldacre was commissioned to produce *Building evidence into education* in which he argues for the adoption of 'evidence-based approaches' by teachers:

> I think there is a huge prize waiting to be claimed by teachers. 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. (Goldacre 2013, p. 13)

The argument that 'evidence' is a good thing on which to base decisions related to professional practice is, like 'quality', difficult to argue against, and in the various iterations of evidence-based practice in education, we see a dismissal of those who may wish to mount a dissenting argument as defending the status quo, defending their own 'patch of turf', or just old fashioned and retrograde. The problem lies, however, not so much in the concept of evidence-based education itself as in the narrow conceptualisation of 'evidence' employed by those who peddle it. For many years now in our thinking and writing about teachers as researchers, we have sidestepped the concept of evidence-based practice, preferring to cede the term to those who have employed it for their own narrow purposes, lest our work might be misunderstood as standing in the same space. With this recent resurgence, however, we are interested in exploring the notion of evidence, how it is used by proponents of evidence-based practice and what it means for teacher research as knowledge production.

To say that educational decisions and teacher professional judgement should be based on 'evidence' appeals to common sense. But evidence is never a value-neutral construct: how one understands what constitutes good evidence in education is informed by ontological and epistemological factors and theories-in-action that frame one's view of the world (for further discussion of this notion, see Guba and Lincoln 2008). So how exactly do proponents of evidence-based practice understand the notion of 'evidence'? We shall briefly

explore 'evidence' as employed by Hargreaves and later by Goldacre (2013) as a means of answering this question.

At the centre of both Hargreaves' and Goldacre's discussions lies the comparison between educational research and medical research: writing almost 20 years apart, both bemoan the unwillingness of educational researchers to adopt the approaches to research adopted in medicine and argue strongly for practitioners to be more involved in the conduct of research instead of "university-based academics involved in teacher education who do not teach in schools" (Hargreaves 2007, p. 6). Hargreaves argues that just as *basic* research in medicine is primarily conducted within the academy while *applied* research is conducted by practitioners, so too should this distinction be pursued in education. Leaving aside the simplistic nature of the various dichotomies Hargreaves employs, the 'evidence' that he privileges is "evidence on the effects and effectiveness of what teachers do in classrooms", which should "provide an evidence-based corpus of knowledge" (p. 7). While Hargreaves does not expand on the specifics of what might make good evidence in this arena, however, his assertion that good evidence should be 'scientifically sound' (p. 5) and provide evidence of 'what works' (p. 5) suggests a particular, adversarial approach (Groundwater-Smith and Mockler 2002, 2009) to evidence in educational research.

Both accounts, however, leave aside a range of concerns and debates around medical practice and the role of evidence-based practice in doctors' work, choosing instead to simplistically represent the depiction of evidence-based practice used as the consensus-based standard. Groopman (2007), for example, has assembled a range of cases that highlight the mental traps into which medical practitioners sometimes fall as they seek to develop diagnoses under often pressing circumstances. Among these are the rush to judgement, reaching premature conclusions; being misled by social stereotypes; and following established pathways. They are trapped by what he regards as 'present algorithms and practice guidelines in the form of decision trees' (p. 5). He argues that the medical practitioner is too readily seduced by 'cognitive cherry picking', that is selection what is most readily available, and his solution is to liberate medical practitioners from their linear and unimaginative thinking by requiring them to be more ready and willing to listen and reflect than to engage in 'confirmation bias'. In a similar vein, Sales and Schlaff (2010) argue that

> Physicians would benefit from training in a broader and more nuanced approach to the epistemological challenges inherent to how they consider evidence. (Goldenberg 2009) In an era shaped by pressures to rapidly adopt new technology (Rothman 1997) and by direct-to-consumer marketing, (Wolfe 2002) such training may prove instrumental in efforts to curb overtreatment and contain healthcare costs.

While Hargreaves stops short of suggesting research approaches and methods that practitioners/researchers might employ in generating and documenting good evidence, Goldacre (2013) makes an instant and conceptual leap from the argument for evidence-based practice in education to the employment of randomised controlled trials, so often and spuriously defended as the 'gold standard' for medical

research. For Goldacre, there is clearly one way of 'building evidence into education': "it's only by conducting "randomised trials"—fair tests, comparing one treatment against each other—that we've been able to find out what works best" (p. 7). He urges teachers to implement randomised controlled trials in their classrooms, seemingly ignoring the issues, both methodological and ethical, of the adoption of such practices might involve. Absent from Goldacre's argument is any recognition that what constitutes good evidence in education may be substantively different to the case of medicine, that the undertaking of randomised controlled trials by teachers in their classrooms may not in and of itself lead to good evidence, and indeed any recognition that collecting good evidence in education (and, one might hazard, Medicine, for that matter) might be anything other than a simple and simplistic endeavour.

Both Hargreaves and Goldacre's perspectives are plagued with unhelpful dichotomies that position practitioners and researchers in opposition to each other when it comes to evidence and research, a position not held exclusively by them. Recently, John Hattie, the Chair of the Australian Institute for Teaching and School Leadership, advised teachers to 'leave research to the academics', arguing that 'we have got no evidence that action researchers make any difference to the quality of teaching' (quoted by Stewart 2015). Hattie creates a distinction between teachers and researchers, claiming that "I want to put the emphasis on teachers as evaluators of their impact. Be skilled at that. Whereas the whole research side, leave that to the academics".

Furthermore, the Hargreaves/Goldacre approach positions evidence that makes a claim to be 'scientific' and thus generalisable as superior to that which claims authority over its local and contextual nature, thus the emphasis on the 'gold standard' of randomised controlled trials undertaken by teachers operating as researchers. As Wiliam (2014) has noted, however, Goldacre in his discussion of RCTs ignores a number of factors that make such studies difficult to undertake in education. Wiliam suggests that other forms of research might be both worthy and worthwhile, subverting Slavin's (1987) question of whether 'we really know nothing until we know everything?' (p. 347).

Given this summary, it is perhaps not unusual that so many commentators discuss evidence-based practice in cautious, even negative terms. Elliott (2004) sees the thrust in the UK towards teaching as an evidence-based profession as being highly problematic in that two different trajectories have emerged with one building upon the teachers-as-researchers tradition, the other perceiving teachers as passive utilisers of the kind of research that falls into carefully determined categories of being 'useful and relevant' evidence, collected through a narrow, instrumental research paradigm. These two trajectories can be seen to relate to a confusion in thinking about 'evidence for what purpose?' How then do we best understand the notion of evidence-based practice and the ways in which it might contribute to the knowledge building school and practitioner inquiry?

Davies (1999) suggests that evidence-based practice in education operates at two levels. The first is to *utilise evidence* from world-wide research and literature on education; the second is to *establish* sound evidence, by systematically collecting

information about particular phenomena. Engaging in evidence-based practice, we believe, requires both, although the types and approaches to *evidence* in use at these two levels are likely to be different.

As well as making the point that evidence can be collected differently for the enactment of practice and policy we also believe that we can think about purpose from the evidentiary positions themselves. It is possible to consider the gathering of evidence in adversarial settings where it is utilised to *prove* a case. Those seeking for that elusive, indeed we would argue generally impossible goal 'best practice' would wish to prove that one method is unarguably better than another. Discourses of 'what works' in education similarly make use of these adversarial approaches to evidence as providing the requisite 'proof'; a position that is strongly contested by education scholars such as Atkinson (2000) and Biesta (2007) who make the case constructs such as 'best practice' and 'what works' as simplistic and even injurious.

The second purpose for gathering evidence is to conceive of it forensically, where the investigator is seeking above all else to *understand* a particular phenomenon. Knowledge-building schools clearly wish to achieve a deep understanding of that which happens within them: pedagogy, curriculum decision making, managing human and material resources; communication and participation; and so on. Of course, this does not mean that practitioner inquiry should not concern itself with the *quality* of evidence, but rather the purposes to which that evidence is to be put. Robinson and Norris (2001) quite properly point out that a distinction should be made between weak and strong evidence.

The particular cultural–discursive preconditions to practice embodied in these two approaches give rise to different understandings and 'sayings' about evidence that inform both the practice of action research itself in schools, and, given the potential scope of influence of 'evidence-based practice', a broad variety of educational practices. Assumptions about generalisation of practice, transferability of 'what works', 'best practice' and so on work with the idea that particular educational practices in and of themselves are inherently 'right' or 'wrong', as opposed to contestable, open to debate and negotiation, and necessarily context-dependent. This works to shut down particular avenues of professional discourse, such as the 'communicative space' opened in authentic collaborative action research, where such debate and critical analysis of practice has traditionally flourished. Similarly, as the material–economic preconditions to education increasingly favour the kinds of evidence that can most easily be seen to render a level of (arguably, false) certainty, we see a privileging of accountability mechanisms that frame teachers' practice, pose a narrowing rendering of evidence of practice, and constrain the 'doings' that are possible. Finally, narrow approaches to evidence shape and give rise to particular 'relatings' more likely privilege competition in education than the kind of collaborative enterprise embedded in the practice of teacher research or participatory action research.

We believe, however, that there remains scope to reclaim generative approaches to 'evidence' in education and to promulgate the kinds of practice architectures toward which they naturally lead, and it is to this notion of reclaiming evidence-based practice that we now turn.

Reclaiming 'Evidence-Based Practice'

Evidence-based practice has long been regarded as representing a reductive and narrow approach to education, but this interpretation assumes a narrow interpretation of 'evidence'. Here we argue for a broadening of understanding around what constitutes good evidence in relation to educational practice and in a context where evidence is governed by conservative forces in relation to academic productivity. We believe that the evidence-based practice movement suffers from an impoverished view of evidence and a very limited understanding of what research, both that conducted by teachers and that conducted by others, is and could be. Ultimately, evidence is far more complex and multidimensional than proponents of evidence-based practice appear to understand. Evidence does not conform to universal good/bad, adequate/inadequate or reliable/unreliable dichotomies: how far evidence is any of these things is dictated by the purpose for which it was collected, the context within which is was collected, and the scope of the ensuing knowledge claims made in reference to it.

Some years ago, one of us wrote at length about the issue of authenticity in research: authenticity of design (congruence between the researcher's own way of seeing and being in the world and the enactment of research); authenticity of process (linked to ethical concerns and considerations); and authenticity of analysis and reporting (transparency and trustworthiness in the use of evidence) (Mockler 2011). While each of these 'authenticities' holds implications for teacher research, implications which have been explored elsewhere (Groundwater-Smith and Mockler 2007), authenticity of design holds particular implications for thinking about the nature of evidence and what constitutes 'good' evidence. Figure 11.1 highlights these implications.

The research enterprise is always framed by researchers' beliefs about reality and the nature of knowledge, regardless of whether or not researchers choose to make this explicit to themselves and their own community of critical discourse. For authenticity of research design to be achieved, an alignment between the critical questions related to ontology and epistemology that sit at the centre of the diagram and those more practical and pragmatic questions of 'How will I approach my research?', 'Where and how will I look?' and 'What strategies will I use?' needs to be achieved. What constitutes good evidence in research that aims to problematise practice at the local level, seek development of practice or bring teachers into dialogue about their practice will be substantially different to that which seeks to provide answers to educational questions that might be generalised across entire populations. It is not the case that the latter requires 'real evidence' while the former deals in the realm of the 'anecdotal evidence'. Likewise, when it comes to evidence about education and teachers' practice, it is not the case that the former deals with reliable 'objective' evidence while the latter with 'subjective' evidence that is in its very nature less trustworthy. Good evidence comes in many shapes, sizes and guises, and the critical issue is that any piece of evidence fits the scope and purpose of the questions to which it seeks to provide an answer.
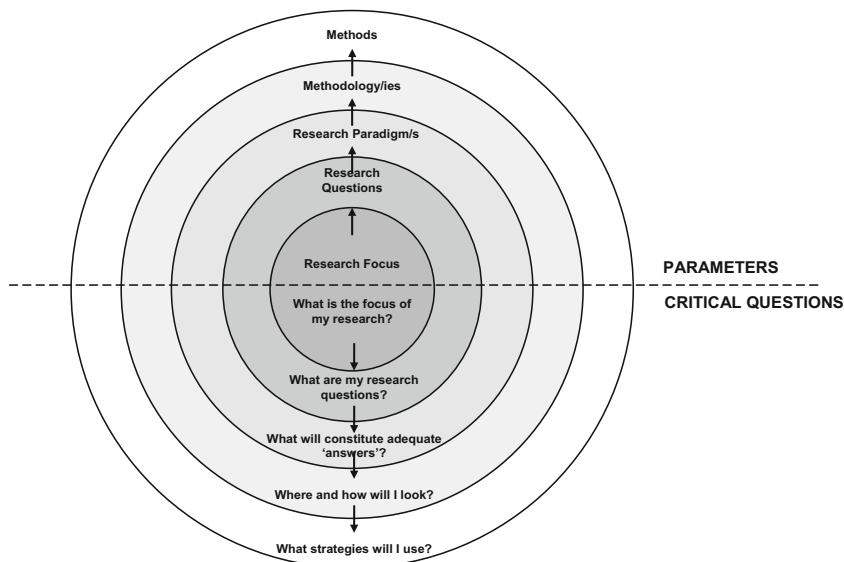
Fig. 11.1 Research parameters and critical questions (Adapted from Mockler 2011, with permission from Sense Publishers)

Studies that seek to generalise across a population and use quantitative methods such as randomised controlled trials do not have the exclusive right to claim that practice that emanates from them is 'evidence-based'. Evidence-based practice is that which is based on evidence that might be reasonably put to use within the realm within which it is employed. It might equally involve the utilisation of locally gathered qualitative data that seeks to shed light on the appropriateness of particular practices in the local context.

So what is it for teachers to engage in 'knowledge creation' in an age of compliance? While we have argued in this chapter that engaging in 'evidence-based practice' as it is commonly construed is highly consistent with the mechanisms of accountability and instrumentality that are hallmarks of the age of compliance, we also believe that authentic knowledge creation, informed by a nuanced understanding of what constitutes 'evidence', is very much a subversive act. Enabling factors for this kind of subversion generally includes a critical orientation (on the part of both individuals—including formal leaders—and school communities) toward externally imposed 'solutions', a determination on the part of those who hold the purse strings to focus material–economic resources of the school on the collaborative creation of authentic knowledge, and a manifest desire on the part of teachers and school leaders to incorporate ongoing collaborative knowledge creation into the cultural fabric of the school.

We see many examples of schools and teachers challenging the simple solutions posed by flat conceptualisations of 'best practice' and 'what works', but increasingly we are conscious of the impact of policy frameworks that privilege these

'simple solutions' to teachers' work. We have argued in this chapter for a re-thinking and reclaiming of 'evidence-based practice', which takes into account the need to problematise as well as problem-solve, and advocated for breaking open discussions of what constitutes 'good evidence' in educational terms. In this stance we resonate with the most recent work of Biesta (2014) in his deservedly applauded book *The Beautiful Risk of Education* wherein he "gives teaching back to education" (p. 44) and with this gift returns teaching to a moral and virtuous activity. It is our contention that 'evidence-based practice' holds the potential to become generative and indeed transformative if such nuanced understandings of 'evidence' can be placed front and centre of the enterprise and, indeed, give teaching back to education.

References

Altrichter, H., & Posch, P. (2009). Action research, professional development and systemic reform. *The SAGE Handbook of Educational Action Research*, 213–225.

Atkinson, E. (2000). In defence of ideas, or why 'what works' is not enough. *British Journal of Sociology of Education, 21*(3), 307–330.

Australian Council for Educational Research. (2008). *The digest*. Retrieved April 30, 2015 from https://www.trb.tas.gov.au/SharedDocuments/Usingdatatoinformteaching.pdf

Australian Institute for Teaching and School Leadership. (2012). *Australian teacher performance and development framework*. Melbourne: AITSL.

Biesta, G. (2007). Why 'what works' won't work: Evidence-based practice and the democratic deficit in educational research. *Educational Theory, 57*(1), 1–22.

Biesta, G. (2014). *The beautiful risk of education*. Boulder, CO: Paradigm Publishers.

Cameron, W. (1963). *Informal Sociology: A casual introduction to sociological thinking*. New York: Random House.

Carr, W. (2006). Philosophy, methodology and action research. *Journal of Philosophy of Education, 40*(4), 421–435.

Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. London: Falmer Press.

Cochran-Smith, M., & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249–305.

Cronbach, L. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist, 30*(2), 116–127.

Cochran-Smith, M., & Lytle, S. (1992). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249–305.

Cochran-Smith, M., & Lytle, S. (2009). *Inquiry as stance: Practitioner research for the next generation*. New York: Teachers College Press.

Davies, P. (1999). What is evidence-based education? *British Journal of Educational Studies, 47* (2), 108–121.

Elliott, J. (2001). Making evidence-based practice educational. *British Educational Research Journal, 27*(5), 555–574.

Elliott, J. (2004). Using research to improve practice: The notion of evidence-based practice. In C. Day & J. Sachs (Eds.), *International handbook on the continuing professional development of teachers* (pp. 264–290). Maidenhead: Open University Press.

Fenton, B., & Murphy, M. (2015). *New leaders for new schools*. Retrieved 30 April, 2015, from http://www.ascd.org/ascd-express/vol5/508-fenton.aspx

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The new production of knowledge: The dynamics of science and research in contemporary societies*. Thousand Oaks: Sage.

Goldacre, B. (2013). *Building evidence into education*. London: British Department for Education.

Goldenberg, M.J. (2009). Iconoclast or creed? Objectivism, pragmatism, and the hierarchy of evidence. *Perspectives in Biology & Medicine, 52*, 168–187.

Groopman, J. (2007). *How doctors think*. New York: Houghton Mifflin.

Groundwater Smith, S., & Irwin, J. (2011). Action research in education and social work. In L. Markauskaite, P. Freebody, & J. Irwin (Eds.), *Methodological choice and design* (pp. 57–70). Dordrecht: Springer.

Groundwater-Smith, S., & Mockler, N. (2002). The knowledge building school: From the outside in, from the inside out. *Change: Transformations Education, 5*(2), 15–24.

Groundwater-Smith, S., & Mockler, N. (2007). Ethics in practitioner research: An issue of quality. *Research Papers in Education, 22*(2), 199–211.

Groundwater-Smith, S., & Mockler, N. (2009). *Teacher professional learning in an age of compliance: Mind the gap*. Dordrecht: Springer.

Grundy, S. (1994). Action research at the school level: Possibilities and problems. *Educational Action Research, 2*(1), 23–37.

Grundy, S. (1995). *Action research as professional development*. Murdoch, WA: Innovative Links Project.

Guba, E., & Lincoln, Y. (2008). Paradigmatic controversies, contradictions and emerging confluences. In N. Denzin & Y. Lincoln (Eds.), *The landscape of qualitative research: Theories and issues* (3rd ed., pp. 191–215). Thousand Oaks, CA: Sage Publications.

Hammersley, M. (1997). Educational research and teaching: A response to David Hargreaves' TTA lecture. *British Educational Research Journal, 23*, 141–161.

Hargreaves, D. (1999a). The knowledge-creating school. *British Journal of Educational Studies, 47*(2), 122–144.

Hargreaves, D. (1999b). Revitalising educational research: Lessons from the past and proposals for the future. *Cambridge Journal of Education, 29*(2), 239–249.

Hargreaves, D. (1996). Teaching as a research based profession: Possibilities and prospects (Teacher Training Agency Lecture, 1996). In M. Hammersley (Ed.), *Educational research and evidence-based practice*. London\Sage: Milton Keynes\Open University Press.

Haynes, L., Service, O., Goldacre, B., & Torgerson, D. (2012). Test, learn, adapt: developing public policy with randomised controlled trials. *Cabinet office-behavioural insights team*. London: Cabinet Office-Behavioural Insights Team.

Kemmis, S. (2009). Action research as a practice-based practice. *Educational Action Research, 17*(3), 463–474.

Kemmis, S., & Grootenboer, P. (2008). Situating praxis in practice: Practice architectures and the cultural, social and material conditions for practice. In S. Kemmis & T. Smith (Eds.), *Enabling praxis: Challenges for education* (pp. 37–62). Rotterdam: Sense.

Kemmis, S., & McTaggart, R. (2005). Participatory action research: Communicative action and the public sphere. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner: Doing critical participatory action research*. Singapore: Springer.

Lytle, S., & Cochran-Smith, M. (1992). Teacher research as a way of knowing. *Harvard Educational Review, 62*(4), 447–475.

McLeod, S. (2015). *Data-driven teachers*. Saint Paul, MN: Saint Paul Public Schools.

Mockler, N. (2005). Trans/forming teachers: New professional learning and transformative teacher professionalism. *Journal of In-service Education, 31*(4), 733–746.

Mockler, N. (2011). Being me. In J. Higgs (Ed.), *Creative spaces for qualitative researching* (pp. 159–168). Rotterdam: Sense Publishing.

Mockler, N. (2015). From surveillance to formation: Teacher 'performance and development' in Australian schools. *Australian Journal of Teacher Education*, 40(9).

Robinson, J., & Norris, N. (2001). Generalisation: The linchpin of evidence-based practice? *Educational Action Research, 9*(2), 303–310.

Rothman, D.J. (1997). *Beginnings count. The technological imperative in American health care*. New York: Oxford University Press.

Sales, C., & Schlaff, A. (2010). Reforming medical education: A review and synthesis of five critiques of medical practice. *Social Science and Medicine, 70*(11), 1665–1668.

Schatzki, T. (2010). *The site of the social: A philosophical account of the constitution of social life and change*. University Park, PA: Pennsylvania State University Press.

Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000). *Schools that learn*. London: Nicholas Brealey.

Slavin, R. (1987). Ability grouping in elementary schools: Do we really know nothing until we know everything? *Review of Educational Research, 57*(3), 347–350.

Stenhouse, L. (1978). Applying research to education. University of East Anglia. Norwich. Retrieved from https://www.uea.ac.uk/documents/4059364/4994243/Stenhouse-1978-Applying+Research+to+education.pdf/24ec7b40-ac56-46d2-8f8f-2bb7b4c53ac4

Stenhouse, L. (1979). *The problems of standards in illuminative research*. Paper presented at the Annual General Meeting of the Scottish Educational Research Association, University of Glasgow.

Stenhouse, L. (1980). The study of samples and the study of cases. *British Educational Research Journal, 6*(1), 1–6.

Stenhouse, L. (1981). What counts as research? *British Journal of Educational Studies, 29*(2), 103–114.

Stenhouse, L. (1985). The psycho-statistical paradigm and its limitations 1. In J. Rudduck & D. Hopkins (Eds.), *Research as a basis for teaching: Readings from the work of Lawrence Stenhouse* (pp. 20–24). London: Heinemann.

Stewart, W. (2015). Leave research to the academics, John Hattie tells teachers. Retrieved April 23, 2015 from https://www.tes.co.uk/news/school-news/breaking-news/leave-research-academics-john-hattie-tells-teachers?hootPostID=4e213f43b9d4c69fbbf623d03146632f

Taubman, P. (2009). *Teaching by numbers: Deconstructing the discourse of standards and accountability in education*. New York: Routledge.

Thompson, G., & Cook, I. (2014). Manipulating the data: Teaching and NAPLAN in the control society. *Discourse: Studies in the Cultural Politics of Education, 35*(1), 129–142. doi:10.1080/01596306.2012.739472

Thompson, G., & Cook, I. (2015, in press). The logic of data-sense: Thinking through learning personalisation. *Policy Futures in Education*.

Wiliam, D. (2014). Randomised control trials in education. *Research in Education, 6*(1), 3–4.

Wolfe (2002). Direct-to-consumer-marketing - education or emotion promotion? *New England Journal of Medicine, 346*, 524–526.