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Evidence-based practice: panacea or over promise?

Helen Simons

ABSTRACT

This issue on evidence-based practice in education locates the rise of contemporary interest in evidence-based practice in the political culture of our times and the dominant discourse, noted and critiqued in several of the papers, of the government’s agenda of ‘what works’. It outlines the motivations and origins of the current movement and the different forms of evidence advanced to serve policy and practice.

The paper briefly explores the oft-quoted parallel with evidence-based medicine and professional decision-making and with the field of evaluation, the context for the papers in this issue, where the tradition of using evidence to inform decision-making has not always led to informed policy decisions or improved practice. It also briefly examines the changes in terminology (e.g. ‘evidence-informed’ and ‘practice-based evidence’) which have evolved to reflect a broader range of evidence and the complexity of practice.

Each of the papers is briefly outlined and common themes identified. The paper concludes by arguing that we may need to be more modest in our claims for evidence-based practice. The relationship between evidence and policymaking or practice is complex, affected by relationships, ideologies and professional preferences as much as by evidence. It is by no means a panacea for all contexts and practices.

Keywords: evidence-based practice; contemporary debate; origins; purposes; evaluation; professional practice

INTRODUCTION

The aspiration for evidence-based research to influence policy and practice is not a new concept yet it has reemerged in our contemporary culture almost without question that evidence-based is ‘a good thing’. Of course, at one level this is true. How can any researcher, policy maker or practitioner deny that to base one’s practice and policy on evidence is not a

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sound practice? However, when we get closer to examining how evidence-based practice is currently being perceived and advocated by government departments and researchers, we find a range of different conceptions, claims, rhetoric and practices. Evidence-based practice is no panacea for all contexts and practices as the contributors to this volume point out. There are different interpretations of the concept, different origins for its emergence and different purposes for which it is espoused.

This issue begins to address some of the issues surrounding the notion of evidence-based practice in education, particularly with a view to improving practice. While the focus is on education, in the emphasis on professional practice in four of the papers, the arguments connect strongly with the nature of decision making in other professions.

By way of introduction, I briefly indicate something of the contemporary culture of evidence-based practice and highlight some of the issues that this movement has aroused. This is followed by a brief outline of the particular contribution each of the authors of the papers in this issue brings to the debate in the context of evidence-based practice in education.

**EVOLUTION OF CONTEMPORARY DEBATE ON EVIDENCE-BASED POLICY AND PRACTICE**

Since the early 1990s, evidence-based practice in the UK has been the clarion call of several government agencies (Davies, Nutley and Smith, 2000; Sanderson, 2002). From the early research strategy documents of the Department of Health (DoH, 1991, 1993, 1997, 1998) to the Secretary of State for Education’s speech to the ESRC (DfEE, 2000) inviting policy to be social-science-based, the message has been loud and clear. We need a better research base to inform policy and practice.

This contemporary surge of interest in evidence based policy and practice has been traced by several authors (see, for example, Coe, Fitzgibbon and Tyms, 2000; Sebba, 1999) to the formation of the Cochrane Collaboration in 1993 and the Centre for Evidence-Based Medicine in Oxford in 1995. A similar development to Cochrane in relation to social and educational policies, the Campbell Collaboration, named after the late Donald Campbell, an experimental methodologist and advocate of the ‘experimenting society’, (Campbell, 1977) was formally established in Philadelphia, USA in February, 2000 http://campbell.gse.upenn.edu). Other authors (Sanderson, 2003; Davies, Nutley and Smith, 2000) locate the trend in the ‘what works’ agenda promoted by the current Labour government, the emphasis in this policy on effectiveness and the measurement of outcomes and belief in the rationality of ‘scientific knowledge’ to influence policy decisions.

Parallels with education have been led by Hargreaves (1996) and stimulated a debate on the differences and/or similarities between medicine and teaching, the nature of the practices these professions are engaged in and the relevance of the Cochrane type evidence to inform adequately professional practice. (See, for example, Hammersley 1997, 2001; Elliott, 2001; Hargreaves, 1997; Evans and Benefield 2001).

The reasons for this resurgence of interest in evidence-based policy and practice seem to have arisen from a number of factors. Davies, Nutley and Smith (2000, p. 1) point to the ‘rise in the number of organisations seeking explicitly to advise or influence government in their actions’, and ‘increasing public and political scepticism towards actions of professionals delivering public services’. To this one could add the accountability, monitoring culture that dominates many professions and the political attention given to several reports in the late
nineties denouncing the quality of educational research (see for example, Tooley and Darby, 1998; Hillage et al., 1998). From a different perspective related more to the nature of practice, Eraut (2003) attributes the roots of the evidence-based practice movement to research on decision making and, particularly in medicine, to clinical decision analysis (Weinstein and Fineberg, 1980).

The parallel with medicine has been complicated in a number of ways. First, there has been a tendency, by some authors, to see evidence-based practice in education following the ‘gold standard’ model of the Cochrane collaboration. However, this model only applies to treatment and is only available for a percentage of decisions that need to be made in the medical context (Eraut, 2000). This may be a false trail to pursue, and not only for this reason. The assumptions underlying this model do not match the nature of practice in education, as several authors in this volume point out. The context is different and the variables impossible to control in any strict sense.

Second, not all authors in the evidence-based practice debate acknowledge sufficiently that the clinical decision-making process in medicine involves incorporating a myriad of factors into a professional judgement (not simply RCT evidence where available). The oft-quoted definition of evidence-based medicine, for example, by Sackett et al., (1996) makes this point clearly. Evidence-based medicine is:

The conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. (Sackett et al., 1996)

With this definition, the complexity of evidence-based practice is acknowledged and the parallel with how decisions are made in education is more closely aligned. Sebba (1999) and Davies (1999, p. 117) also indicate that a range of evidence, both qualitative and quantitative, need to be considered in a concept of evidence-based practice. Beyond the methodological debate, there are many other factors—social, personal, moral and political—that need to be integrated in coming to a professional judgement about the relevance, appropriateness and use of evidence to inform policy and practice in particular contexts.

In the late 1990s, a number of other terms came to be adopted to reflect this broader intention. For example, Sebba (1999) and Hargreaves (1999) began to use ‘evidence-informed’ to indicate not only that a range of evidence may be useful to inform practice but also that the judgement of the user of research is important in this process. In relation to decision making in professional practice, Greenhalgh and Worrall (1997) introduced the concept of ‘context-sensitive’ medicine to make the point that there are other contextual and personal factors (in addition to research evidence) that need to be taken into account in making clinical decisions. Eraut (2003) adopts the term practice-based evidence to refer to the process of using evidence in professional decision making in medicine and other professions. McNamara (2002) and Simons et al., (2003) in this issue similarly prefer the term practice-based evidence.

Third, in the plethora of discussion that has surrounded evidence-based practice, distinctions have not always been clear between evidence-based policy (and the forms evidence can take), such as systematic reviews, meta analyses, randomised controlled trials (RCTs), experimental design interventions) and evidence-based practice. This may include the above evidence, where it is available, and other forms of evidence such as narrative, case
study, interview or observational studies that are useful in reaching professional practice decisions.

In fact, Davies, Nutley and Smith (2000) in their authoritative book on evidence-based policy and practice use EBP to describe both evidence-based policy and evidence-based practice. Yet they note the difference in the origin of the two concepts. Evidence-based policy, they indicate, stems from the ‘what works’ agenda referred to earlier and evidence-based practice from a concern to ensure ‘that what is being done is worthwhile and that it is being done in the best possible way’ (Davies et al., 2000, p. 2). The latter they contrast with the trust and belief in judgements of professionals that has characterised previous decades. The emphasis on ‘best’ suggests not only that practitioners may not be doing what is worthwhile (which may be the case) but also that there is a ‘best’ way. However, in the context of trying to improve practice, there may be no ‘best’ way for all. As several researchers point out in this issue, the relationship between research evidence and improving practice is complex, situational and related to the locus, origin, nature and relevance of the evidence for the person and for practice.

Finally, Eraut (2003) draws our attention to the nature of evidence used by practitioners in medicine and other professions and the decision-making processes in which it is used. Professional practice, he says, both generates and uses evidence. There are various different ways and contexts in which these interact, but whatever the inter-relationship, the distinction between the context of evidence generation and the context of evidence use remains important.

The process of evidence generation is situated within the context, practices and thinking patterns of its creators; while the process of evidence use is situated within the context, practices and thinking patterns of its users. Even when the agent is the same the pattern of thinking may differ according to their role at the time. (Eraut, 2003).

One of the papers in this issue provides an illustration of how teachers as both creators and users of evidence manage this interaction to influence their practice.

The evidence-based practice movement has grown over a decade and there is now a broader understanding of the range and scope of possible evidence that could be used to inform practice. However, the problematic nature of the generation and use of evidence and the forms this can take has not always been as prominent as the advocacy for its use. In particular, as several authors in this issue note (see Oliver and Conole and Sanderson), there is a dominant emphasis in the government agenda on studies of effectiveness, of ‘what works’, in support of this intention, a focus on formal systematic research inquiries of large sample populations, whether of the randomised controlled trial (RCT) design, quasi-experimental or meta-analyses. This has led to a preponderance of effort, advocacy and resources being directed to trying to establish an evidence base to inform policy and practice along these lines. Several papers in this issue offer a critique of this approach for evidence-based practice in education, as a prelude to indicating ‘what does work’ for education, though the argument for experimental intervention in education is also presented.

CONTRIBUTIONS TO THIS ISSUE

The five papers in this issue are located in one way or another in the context of evaluation and the role of evidence in this process. In the field of evaluation there has been a tradition
of using evidence to inform decision making since evaluation first became a separate field of inquiry in the late sixties (Norris, 1991). This is by no means a technical rational process, nor has it always led to informed policy decisions, certainly in the short term. (See, for example, Weiss, 1999). In many respects, the current debate revisits these issues in the context of the government’s modernising agenda.

The first two papers (by Fitz-Gibbon and by Sanderson) explore the use of evidence in evaluation in policy-making historically and contemporaneously but from different perspectives. The second two (by Simons, Kushner, Jones and James and by Woods) focus more on practice through analysis of field based evaluation projects of policy, curriculum and pedagogical initiatives. The fifth (by Oliver and Conole) explores the interface between research, policy and practice from a critical policy analysis viewpoint drawing out the implications for e-learning. These are points of emphasis only. All examine the relationship to some extent between research, policy and practice in the current political context.

Fitz-Gibbon advocates the adoption of the experimental model, the logic of which she argues is not always understood, as a major source of evidence to help assess the effectiveness of educational policies. This case for experimentation is historically situated in a brief review of the history of experimentation in the US and the UK. First, she argues that as policies raise different issues from practice because of their mandatory status, justified intervention in schools and classrooms requires a secure evidence base—often the use of controlled experiments. Second, she draws our attention to a distinction she claims is often not made between surveys (‘passive observational studies’) and experiments (‘intervention studies’) which leads to systematic confounds. In illustrating through case examples the misleading nature for policy of findings from surveys that only infer causal relationships, rather than provide data for them, she also strengthens her argument for controlled intervention experiments.

The paper then focuses upon three developments that she considers could potentially transform the evidence base—the use of computers and indicator systems, statistical developments—of effect sizes and meta-analysis—and new forms of local accountability and management based upon performance tables and other comparative data sets.

Sanderson’s paper critically examines the assumptions underlying evidence-based policy, arguing that the increased emphasis on the use of ‘scientific knowledge’ as evidence for policy making can lead to an ‘instrumental rationality’ which ignores the moral dimension in policy making and in practice. His paper acknowledges the perennial concern there has always been with the use of scientific knowledge in policy making, but raises critical questions about its current advocacy—whether the means are at the expense of appropriateness of the ends and whether democratic debate about the ethical and moral issues raised by policy choices is being devalued.

The role of evaluation in providing the evidence is examined, casting doubt in particular on the conception of theory-based evaluation to derive causal relationships. Sanderson argues that we need to broaden our concept of policymaking to incorporate an understanding of practical reasoning if we are to help practitioners understand their practice better and make wise moral-political judgements in the diverse social situations in which they work. In the final section he questions just how much ‘what works’ really does matter in a broader conception of policy-making in education which leads to his conclusion that it is not ‘what works’ that matters but rather what is an appropriate course of action in particular circumstances.

In the first of the two papers offering evidence from evaluation field studies deliberately aimed at providing an evidence base for teaching and learning in education, Simons, Kushner, Jones and James examine the nature of evidence that teachers generate in conducting their
own research and how they engage with research conducted by others. The evidence is drawn from a policy evaluation study of a national programme where teachers, supported by Higher Education and Local Education Authorities were at the centre of producing research evidence to improve teaching and pupil learning.

In documenting the process through which the consortia conducted research, the authors demonstrate the complexities of involving teachers in conducting and using research in the practical realities of teaching. Engaging teachers in and with research is a process that takes time and is dependent upon many factors. Gaining confidence through building relationships and sharing the conduct and analysis of research is as important in the uptake of research evidence as is knowledge of the evidence and research techniques.

From an analysis of how teachers came to be engaged in and with research, they identify the concept of 'situated generalisation' to explain that evidence needs to retain its connection with the context in which it was generated if it is to be effectively used by teachers to improve their practice.

This fourth paper by Woods also provides evidence from a field based study, this time one focused upon pupil perspectives as a source of evidence. In the current debate on evidence-based practice, pupils' voices are not often centre stage. The paper examines the potential of using pupil perspectives as evidence to improve curriculum, pedagogy and pupil achievement. The study combines a school-based-University collaborative approach to research with continuing professional development aimed at identifying problems to inform subsequent practice and school improvement.

The importance of the substantive focus of the paper—gender and underachievement—is located in the current literature on the topic and in a discussion problematising the concept of evidence-based practice. The central part of the paper then reports pupil perspectives on the major themes, demonstrating that we have much to learn from listening to their voices. However, in the case reported pupil perspectives were not always taken account of by the teachers in school improvement, curriculum or pedagogy. While some of their views were incorporated into practice, the more contentious were not. Even when evidence is generated in a known environment and relevant for the context, implementation is still dependent on other factors—social, personal and political.

The final paper, by Oliver and Conole, shifts the context to higher education and examines whether we should embrace 'e-learning' as a way of improving links between policy, research and practice. Adopting discourse analytic approaches to policy analysis, viewing both 'e-learning' and policy as socially constructed practices, the authors review and critique the rise of 'e-learning' in higher education and the evolution and fundamental tenets of the evidence based practice movement. They do this from three perspectives—methodological, epistemological and ethical.

First they criticise the notion of science that underpins the dominant model of evidence-based practice (which they claim has been privileged in the current debate), arguing that especially in 'e-learning' a focus on quantitative models is contested. No single model has arisen to explain how 'e-learning' works. The emphasis on quantitative not only causes problems methodologically but also 'distorts the practice it seeks to measure'. Second, they criticise the philosophy of the positivist tradition which they say still drives the evidence-based practice debate. Third, they criticise the centralist model of knowledge building and dissemination embedded in the dominant model of evidence-based practice, which they argue effectively prevents practitioners from involvement in the generation and interpretation of knowledge. In the final section, the authors discuss the implications for 'e-learning' in
Evidence-based practice: panacea or over promise?

Higher Education, arguing that a more inclusive conception of evidence-based is needed that can incorporate practitioners, researchers and policy makers’ agendas.

BRIEF SUMMARY OF THEMES

While each of these papers has a distinctive focus, there are several common themes. First, it is clear that the majority of the authors find the prevailing concept of evidence-based policy and practice (Feuer et al., 2002; Davies et al., 2000) inadequate for the improvement of practice. The technical-rationalist concept of policy making embedded in the ‘what works’ agenda is too narrow a focus to adequately inform professional practice. It does not connect with the reality of professional decision making nor acknowledge or empower professional practitioners to improve their practice.

Second, all authors are convinced that a broader range of evidence is required to inform policy and practice, though they differ to some degree on the nature of that evidence. Third, several have shown that the path to adoption of research evidence to inform practice is not necessarily a direct or technical-rational process. Relevance and a connection to practice is a crucial component for use. Fourth, the majority caution that we should continue to see evidence-based practice as problematic and situational, not ideological. Finally, all agree that further methodological developments are needed.

All are convinced, from whatever persuasion they stem, that we should strive to improve the validity and quality of evidence, but that this is not simply an issue of methodology. We should use experimental evidence where it is available and where it is sound. We should also seek to develop other forms of valid evidence to improve practice and influence policy. We should be responsive to contexts of use and differences of purpose. We should be wary of going online too soon, and only with one form of evidence.

Evidence-based practice is not a panacea to influence policy or improve practice or standards in education. Too many other factors are involved—where the research is generated, by whom and on what design, the purpose for which it is required, the context of its use and the agency of individuals. Practitioners, researchers and policy-makers, whatever their preferred methodologies, will also make their own judgements of relevance and validity for purpose. The relationship between effective research evidence and improved practice is complex, as several authors in this issue have pointed out. Let us strive to produce the ‘best contextually sensitive evidence’ we can to improve policy and professional decision making, but let us not overpromise.

NOTES

1 Several authors have pointed out (see, for example,) Hargreaves (1997); Coe, Fitz-Gibbon and Tymms (2000) that ‘evidence-based’ medicine has a history tracing back to the nineteenth century. See also, Sanderson (2003) in this volume and Nutley and Webb (2000) for earlier links between knowledge and rational public policy decision making. However, the current interest in ‘evidence-based’ is the focus of this volume.

2 In education, the DfEE has taken a central role in funding The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) based at the Social Science Research Unit, University of London, Institute of Education. The Centre has been set up to conduct and support
systematic reviewing of the educational research literature ‘and assessing them in an explicit and standard way so as to produce accessible syntheses of research findings’ (Research Intelligence, November 2000, No. 73).

The Curriculum, Evaluation and Management Centre at Durham University has also been prominent in the promotion of evidence-based education both through a series of conferences on Evidence-Based-Policies and Indicator Systems, and the setting up of an ‘Evidence-Based Education Network’ to encourage teacher participation and spread the idea of evidence-based education. In addition, the Centre believes there is a need to go beyond the systematic review of existing research evidence (as in education there are many areas where the research does not exist) to conduct multiple, randomized, controlled trial (RCTs) of intervention in real life settings (Coe, Fitz-Gibbon and Tymms, 2000).

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