

Medical Models for Teachers' Learning; asking for a second opinion

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Abstract

Recently there has been renewed interest in basing teachers' professional learning on medically derived models. This interest has included clinical practice models and evidence-based teaching as well as the use of various forms of 'Rounds' which claim to derive from medical rounds. However, many arguing for these approaches may not have a detailed knowledge of the actuality of professional learning in medicine but may be basing their ideas on idealised models drawn from popular conceptions. In addition, the model used by some calling for medically derived teacher learning is biomedicine, an area in which parallels with Education are difficult. This paper argues that mental health and public health provide a better analogue for Education than biomedicine. It considers some of the lessons that can be drawn from research on evidence-based practice in these areas. The paper concludes that a way forward is neither uncritically to assume the superiority of medical models of professional learning nor to rely only on empirical evidence from Education but to enter into dialogue with colleagues in mental and public health about shared concerns and experiences in professional learning.

Key words: Clinical practice; evidence-based teaching; instructional rounds

Introduction

Claiming that teachers' professional learning would benefit from being modelled more closely on medical learning is not new. Such claims date back at least to the 1960s (e.g. Hazard, Chandler & Styles 1967) although earlier examples can surely be found. However, recently such claims have enjoyed an energetic resurgence and appear to receive support from both policy makers and academics in Anglophone world including England, Scotland, the USA and Australia (Alter & Coggeshall 2009; City et al 2009; Grossman 2010; NCATE 2010; Burn & Mutton 2013; Conroy, Hulme & Menter 2013; McLean-Davies et al 2013; DfE 2015a).

Attempts to adopt medical models for teachers' professional learning take a number of related forms. One form is models of collaborative professional development explicitly modelled on a conception of medical rounds such as Instructional Rounds (City et al 2009), Learning Rounds (National CPD Team 2011) and Teacher Rounds (Del Prete 2013). More broadly, Professional Learning Communities (PLCs) and Teacher Learning Communities (TLCs), although their origin has been traced by some to business rather than medicine (Bottery 2003), place a strong emphasis on collaborative empirical observation and the generation of data, which bears a strong resemblance to models that more explicitly claim allegiance to medical practice. In fact the line between PLCs and Rounds has been blurred by a number of researchers and it is, therefore, reasonable to see them as related practices or at least as practices driven by similar concerns and assumptions.

Another form that this renewed interest takes is an emphasis on the value of evidence-based practice in teaching modelled on the evidence-based practice of medicine (Grossman 2010; NCATE 2010; McLean-Davies et al 2013; DfE 2015a).

Combining both Rounds approaches and evidence-based teaching is a renewed interest internationally in clinical practice models for initial (and continuing) teacher education (Alter & Coggshall 2009; NCATE 2010; Burn & Mutton 2013; Conroy, Hulme & Menter 2013; McLean-Davies et al 2013; DfE 2015a) . Clinical practice models place an emphasis on both collaborative working and learning and on the generation and use of a shared evidence base. In fact it is the emphasis on evidence-based practice or teaching that anchors all of these approaches.

What underpins much of this desire to model teachers' professional education on medical practices seems to be an unquestioned acceptance that professional learning in medicine is more effective than professional learning in teaching. Such claims can be found explicitly from both within and outside Education. For example in the USA, City at al (2009) claim that "medicine has ... the most powerful practice for analysing and understanding its own work" (32). Teaching, they claim, "has no such culture-building practice" (ibid 33) and is "essentially an occupation trying to be a profession without a professional practice" (ibid 33). Similarly, a paper hosted on the Department for Education website in England, Ben Goldacre (medical doctor and popular science author and commentator) argues that

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 ... Medicine has leapt forward with evidence based practice ... I want to persuade you that this revolution could - and should - happen in education (Goldacre 2013: 7).

A similar comparison between medical learning and teachers' learning, to the disadvantage of teachers, is also evident In Shulman's (2005) arguments about the educational power of

signature pedagogies, which medicine (along with some other professions) has but which teachers' learning supposedly lacks.

Informing Goldacre's (2013) clarion call for teaching to adopt evidence-based practice appears to be a comparison of the progress that each area has made ("Medicine has leapt forward with evidence based practice ... I want to persuade you that this revolution could - and should - happen in education"). It is true that medicine has made great progress in the prevention, diagnosis and treatment of illness whereas education seems stuck debating the same issues in each generation and, if popular representations are to be believed, progress has gone into reverse with declining standards, underperforming, failing and coasting schools (DfE 2015b), and ever easier examinations. Whereas the 'giant evil' (Beveridge 1942) of disease has apparently been conquered or is in retreat, the 'giant evil' of ignorance seems to be gaining strength. The reason for these differences in success, in Goldacre's view it seems, can be traced directly to differences in models of professional learning. If the renewed zeal among educationalists for clinical practice models is anything to go by, educationalists also seem to accept this analysis. Models of professional learning more closely based on medicine, it seems, will result in greater educational success, not only in terms of professional learning but also in terms of pupil progress. Both PLCs and clinical practice models focus intently on measurable pupil outcomes as an indicator of effective professional learning.

Some researchers have commented on the role of political and social discomfort in encouraging educationalists to consider new approaches to professional learning (e.g. Bullough 2000). This discomfort can be experienced both as a result of difficult questions about why sufficient progress is apparently not being made in schools and, more narrowly, about the value of the contributions that teacher education academics and institutions make to effective teaching and to improving teaching. Specifically in relation to the adoption of

medical models in teaching, Grimmer, Fleming and Trotter (2009: 5) write about “mimetic isomorphism” under the influence of “macro-political neo-liberalist pressures” in which a group seeks legitimacy by imitating another group which is seen as more successful and, perhaps, having more status. Similarly, Schwab (1969) has written about signs of crisis in the field of Education, when it is clear that Education has lost its way and perhaps its confidence. One of these signs of crisis is “ceding the field” to other disciplines. So perhaps the apparent acceptance that medicine has a superior model for professional learning that should be adopted by teaching is one form of that ceding and an indication of a loss of confidence among the Education community.

However, a number of questions can be raised about the validity of this comparison between teachers’ professional learning and professional learning in medicine. One of these questions is how well those advocating medical models for teachers’ learning understand the details and reality of medical learning. In relation to Rounds approaches to teachers’ professional learning, Roegman and Riehl (2012) argue that the conception of medical education that informs this model of professional learning is based on “anecdotes, visits and conversations with doctors or mass media portrayals of medical rounds” (926) rather than a detailed and research informed knowledge of the actuality of medical learning practices.

In fact, in medical education itself, researchers have argued that although medical rounds are viewed as a ‘flagship’ (Sweet & Wilson 2011) or a ‘cornerstone’ (Hebert & Wright 2003; Tariq *et al* 2010; Prado 2011) practice within medical education this is only in their idealised form (Balmer *et al* 2010). In practice the conduct and effectiveness of medical rounds is under researched (Gonzalo *et al* 2009; Van Hoof *et al* 2009; Dewhurst 2010; Walton & Steinart 2010; Prado 2011). Those who have researched them have found them to be: out of date (Sweet & Wilson 2011), reflecting tradition and inertia rather than consideration of effective learning (Hebert & Wright 2003; Balmer *et al* 2010); inconsistent (Walton &

Steinart 2010); made dysfunctional by hierarchies of status (Manias & Street 2001; Coombs & Ersser 2003; Walton & Steinart 2010); too narrowly focused (Birtwistle, Houghton & Rostill 2000); inefficient in making the best use of learning opportunities (Balmer et al 2010; Dewhurst 2010; Walton & Steinart 2010; Prado et al 2011; AlMutar et al 2013) and based on teacher centred transmission models of learning (Walton & Steinart 2010). In addition, different participants have different views of their effectiveness and effects. Nurses, junior doctors (i.e. the learners) and patients (i.e. the final beneficiaries) being less satisfied than senior doctors (Birtwistle, Houghton & Rostill 2000; Tariq et al 2010; Claridge 2011; Sweet & Wilson 2011; AlMutar et al 2013). Admittedly, these concerns relate specifically to medical rounds as a form of professional learning in medicine rather than evidence-based practice or other forms of clinically based learning. However, what they indicate is that it is unwise to uncritically accept the idea that professional learning in medicine is based on superior practices, or even on the practices that we, as outsiders, think it is. If we want to learn from professional learning practices in medicine there is an opportunity in engaging with them in more empirically based detail so that we can learn from their actual problems as much as from their imagined idealised form.

A second question is whether the comparisons between teaching and medicine are being made with an appropriate form of medical practice. At least implicitly, although on occasion explicitly, the form of medical practice that teaching is compared to in terms of professional learning seems to be biomedicine, that is medicine concerned with medication, surgery or other physically based treatments for physiological conditions. For example, the model of medical rounds belongs to biomedicine, particularly in the popularly imagined form referred to by Roegman and Riehl (2012). The idea of clinical practice as imagined in clinical practice models for teacher education is also based on the biomedical model of teaching hospitals. Writing about clinical practice models tends to adopt much of the discourse of

medicine such as diagnosis and intervention (OECD 2011; Kriewaldt & Turnidge 2013; McLean-Davies et al 2013). Some proponents of this model report, approvingly, that teachers and student teachers begin to adopt this discourse even though it seems “uncomfortable” at first (Kriewaldt & Turnidge 2013; McLean-Davies et al 2013). Similarly, Goldacre’s (2013) ‘huge prize’ awaiting teaching that will allow it to ‘leap forward’ like medicine is based on the progress made in biomedicine.

In contrast to biomedicine, areas like mental health and public health have had more mixed success, with some health problems in both areas apparently increasing rather than declining over the years (NHS Confederation 2014; Health and Social Care Information Centre n.d.). Arguably the apparent failure of mental health and public health professionals to make the progress that biomedicine has made has less to do with the shortcomings of those professionals (or their professional education) and more to do with the ways in which many mental health and public health problems are linked to wider societal trends such as employment, poverty and inequality, which are not under the control of those professionals but whose effects they have to respond to. There is also the question of the extent to which the intended beneficiaries of mental and public health practice need to willingly accept and participate in that practice in comparison to biomedicine. Admittedly, in biomedicine there are cases where cultural differences have prevented communities from participating in, for example, vaccination programmes. There is also the well established placebo effect that depends on patients accepting the value of the medical establishment and practices. However, the gold standard of proof in biomedicine, precisely requires that interventions work whether or not recipients believe in them or even realise they are in receipt of them. In contrast, public health often depends on influencing the behaviour of populations in ways that require them to accept the ‘intervention’. Similarly, if it is not medication, mental health treatments require the active acceptance and participation of their intended beneficiaries.

The need in both public health and mental health for ‘clients’ to accept and participate in practices for them to be effective means that the effectiveness of such practices depends on a number of issues such as how these practices relate to, for example, clients’ sense of their own identity, biography, aspirations and community in a way that is less important in biomedical interventions. In this way public health and mental health provide a better analogy for Education than biomedicine. This is also true because of the ways in which progress in Education, like progress in public health and mental health, can be linked to wider social trends such as poverty, security and equality.

The closer analogue between Education and mental and public health means that, if Education is to consider adopting a medically based model for professional learning, it is likely to find a more relevant model in these areas than it is in biomedicine. I have already argued that one of the weaknesses in arguments in favour of medically based models for teachers’ professional learning is that they are based on generalised (often popular) notions of medical learning rather than on detailed evidence of actual medical learning practices. So, these arguments, despite arguing for evidence-based practice, are, in themselves, not evidence-based but based on an argument from “eminence” (that is, the perceived status and success of medicine) or “eloquence” (that is, an argument that sounds rhetorically persuasive despite a lack of evidence) (Lilienfield et al 2013). It is also worth noting that empirical evidence for the effectiveness of medically based models in Education is limited (Alter & Cogshall 2009; NCATE 2010; Burn & Mutton 2013; Conroy, Hulme & Menter 2013). Given this limited evidence base, educationalists interested in what medical learning has to offer may benefit from a greater detailed knowledge of research and practice in comparable professional areas in health.

In the remainder of this paper, I will explore some of the research literature on evidence-based practice in public health and mental health to consider what professional learning in Education might learn from professional learning practices in these two areas.

What might Education learn from evidence-based practice in Public Health and Mental Health?

The first issue of potential interest to educationalists is that, although in the wider health care context (i.e. beyond biomedicine) evidence-based practice (EBP) “is now considered the way to do things” (Lee, Fitzpatrick & Baik 2013: 264), there is still considerable reluctance among some practitioners in mental health and public health to accept or implement the model and considerable difficulties even where the model is accepted (Newnham & Page 2010; Hunt et al 2012; Jacobs et al 2012; Mays et al 2013; Latham et al 2013; Lilienfeld et al 2013). As a result much research and practice effort has been put into developing and adapting the biomedically derived model of EBP so that it is relevant to the different nature of health practice in these areas. In general terms, it is possible that educationalists might learn something from exploring the challenges, conceptual, practical and attitudinal, that mental and public health have experienced in implementing EBP and how they have attempted to respond to these challenges.

One of the specific challenges to the biomedically derived model of EBP from mental and public health is to problematise the fundamental concept of ‘evidence’ that it uses (Kirmayer 2012; Lee, Fitzpatrick & Baik 2013). Firstly, the concept of evidence, as constructed in biomedical EBP, entails an apparent commitment to a positivist ontology and epistemology. Whereas this might be pragmatically sustainable in biomedicine, it sits uncomfortably in the world of mental and public health and their concerns with individuals and communities

understandings of themselves and their experiences. Secondly, the social phenomena that exist or are considered significant, and what counts as evidence about them, tend to be constructs of the ontologies and epistemologies of specific (culturally situated) disciplines (Kirmayer 2012; Lee, Fitzpatrick & Baik 2013). Evidence generated in terms of these disciplinary ontologies and epistemologies in turn appears to ‘objectively’ confirm the constructs of the discipline. This is particularly problematic when researching and acting in the social world (rather than the biological) where a diverse range of disciplines and sub-disciplines might be competing to explain the ‘same’ phenomena. Which disciplines or sub-disciplines dominate in any explanation put forward as authoritative is as likely to be influenced by cultural, institutional, political or financial power as anything else (Kirmayer 2012; Lee, Fitzpatrick & Baik 2013). Specifically, the influence of ‘value for money’ on EBP decisions is commented on by a number of academics and practitioners in the area (Newnham & Page 2009; Lee, Fitzpatrick & Baik 2013; Mays et al 2013). In addition, the illusion of truth and objectivity imparted by the acceptance of a positivist notion of evidence obscures the ideological nature of these explanations. So the apparently neutral and helpful idea of evidence becomes a way to mask the inescapably ideological nature of social explanations and prescriptions and to silence alternative explanations, some of which might come from the supposed beneficiaries of the prescriptions.

A further problem with the biomedically derived concept of evidence for mental and public health, according to Kirmayer (2012) is that it can lead to nomothetic rather than idiographic ways of understanding the identities and experiences of individuals and communities such that stereotypes are constructed, which in themselves can be harmful and which also fail to take account of the complexity and diversity of specific individuals and communities.

So Kirmayer (2012) and Lee, Fitzpatrick & Baik (2013) raise fundamental ontological and epistemological questions about the applicability of the biomedically derived concept of

evidence to the social contexts of mental and public health. However, even if we set these questions aside, other questions are raised about the applicability of available evidence in mental and public health. These centre on the extent to which evidence derived from one group of individuals or community is relevant to different individual for groups (Green 2008; Lee, Fitzpatrick & Baik 2013). For example, is evidence generated from white middle class individuals or communities applicable to black working class individuals or communities? In biomedicine, medication that will, for example, reduce blood pressure in white middle class patients will also reduce it in black working class ones. However, will the same mental health intervention to increase self-esteem be effective in both or the same public health intervention to change eating habits?

Questions about both ontology, epistemology and applicability across diverse individuals and communities have led to the development in public and mental health of models of EBP that might be termed dialogical bottom up and top down models (Green 2006, 2008; Hunt et al 2012; Jacobs et al 2012; Kirmayer 2012; Layde et al 2012; Lee, Fitzpatrick & Baik 2013). These involve 'practice based evidence' (Green 2006) as well as evidence-based practice. This can mean that practitioners in these areas start from working with individuals and communities to discover their concerns, their perspectives on their needs and their preferences for action. These perspectives and preferences are then used as a basis to critically examine existing evidence for practice to help decide what might be a relevant approach. This is in stark contrast to a model of EBP in which a supposedly authoritative prescription for practice dominates the decision making process and may be applied universally irrespective of individual and contextual differences. This latter model is arguably closer to many of Education's historic experiences of evidence-based practice in which prescriptions for practice are delivered from central authorities to schools and teachers.

Recognition of the diversity of contexts, identities and experiences and the development of dialogical bottom up and top down models also leads to questions about where to focus efforts and emphasis for developing EBP (Green 2008; Lilienfeld et al 2013). Should the effort be primarily on generating a centralised body of authoritative evidence or should it be on developing practitioners who are sufficiently skilled, confident and knowledgeable to find and critically analyse available evidence and generate new evidence relevant to their context?

Centrally related to these questions of the applicability of evidence across diverse contexts and the role of practitioners in evaluating and generating evidence is the distinction in medical and health EBP between ‘efficacy’ and ‘effectiveness’ research (Newnham & Page 2010; Hunt et al 2012; Jacobs et al 2012; Layde et al 2012; Lilienfeld et al 2013). There may be no direct equivalent of this distinction in most Education research, however it can provide a helpful framework with which to consider the implementation of evidence-based practice in Education. Efficacy research seeks to establish the effects of treatments in tightly controlled standardised conditions. Effectiveness research, the next step, seeks to establish their effects in the complexity, diversity and messiness of real world situations. Importantly, effectiveness research should feed back into the overall evidence base for the treatment such that it might modify views of the value of the treatment and whether it is a preferred or recommended course of action. In terms of the relationship between Education research and practice, this means that practitioner research in relation to centrally recommended educational strategies would systemically feed back into those recommendations. Currently it is not always clear that there is any established system for localised research to feed into regional or national educational prescriptions. Much practitioner research in schools of the kind practised in Rounds and PLCs seems to focus on fidelity of implementation rather than contributing to broader policy (Bottery 2003, Servage 2008, 2009). Lilienfeld et al (2013) also contrasts evidence-based practice (EBP) with empirically supported therapies (ESTs).

They characterise EBP as an approach to decision making that leaves final authority for the decision with the practitioner whereas ESTs is an approach that puts emphasis on the claimed authority of the evidence for treatment and, therefore, could result in prescriptions for practice that do not take sufficient account of individual and local circumstances or the expertise of the practitioner. We could ask whether evidence-based practice in Education sometimes begins to look more like an ESTs approach than an EBP approach.

In public health there is growing recognition that successfully developing evidence based practice works best in (institutional) networks and that the diversity of institutions in the networks is an indicator of likely success (e.g. universities as well as ‘front line’ services) (Hunt et al 2012; Mays et al 2013; Mercken et al 2015). In general, the most successful examples in public health of professional learning through an EBP/clinical model suggest that it will not be enough for government to leave individual schools or teachers to implement ‘clinical’ approaches to professional learning but substantial investment is needed in infrastructure and capacity (Latham et al 2013). In Education this might mean, for example, investing in the professional development of teachers to support the enhancement of skills for critically evaluating existing research and for carrying out practitioner research. It might mean creating sufficient time in teachers’ working weeks for meaningful enquiry to be undertaken. It might mean developing the infrastructure that would enable practitioner research to feed back into policy guidelines. Or it might mean supporting the development of institutional partnerships.

Conclusion

Internationally, at least in many parts of the Anglophone world, many policy makers and academics would like teachers’ professional learning to be improved by emulating medical models of learning. However, many advocates of this approach show limited knowledge of

the actuality of medical learning practices. Those who advocate medically derived models often stress the centrality of evidence-based practice, yet their prescriptions for the improvement of teachers' learning are often not based on evidence but on eminence or eloquence.

If we think that teachers' professional learning can be enhanced by what we can learn from professional learning in the medical professions, this needs to be as a result of engaging in detail with the existing research evidence on medical learning rather than attempting to apply idealised models. This also means learning from the failures and the problems, not just the imagined successes. This is particularly important as the evidence base for the effective development of Rounds, evidence-based teaching or clinical practice models in Education itself is small, so it can usefully be supplemented by the experiences of other professions. Furthermore, we need to learn by engaging more with appropriately analogous areas of medical practice (e.g. mental health and public health) rather than with those for which a comparison is problematic (e.g. biomedicine).

Admittedly, EBP in biomedicine can be more sophisticated than I might have acknowledged here. EBP models can take account of patients' diversity in terms of other lifestyle and health factors and can also take account of patient preferences for treatment. Also, there have been calls from within medicine (e.g. Reid 2008: 63) to recognise that diagnosis and treatment, rather than "imposing rigid norms of practice", should be a mutually responsive dialogue with the unique identity, history and circumstances presented by each patient that should engage "with the patient's own stories, beliefs ... their experience of illness and the influence of their culture and environment". In relation to medical education, practitioners such as Reid (2014: 110) have also argued for the importance of supplementing the "positivist paradigm" of health sciences education with education in medical humanities that will give students "an appreciation and respect for different ways of seeing and describing

the same phenomenon” to enable doctors’ “slipping in and out of different paradigms”. However, it tends to be the popular simplified conception of biomedical EBP (i.e. one ‘proven’ ‘authoritative’ solution for all cases) that dominates (at least) policy makers’ conceptions of the value of medically derived models for educational practice. A better understanding of the debates in medical education and the development of EBP in areas like mental and public health provides a useful alternative model that is more relevant to Education.

Sometimes it seems as if policy makers use the idea of EBP as a stick with which to beat the Education establishment (what former English Education secretary Michael Gove called “the blob” (Gove 2013)) for their supposed failure to make progress (Blunkett 2000). This, it seems, is because Education is in the grips of a relativistic, ‘politically correct’, woolly impressionistic relativism lacking intellectual rigor, which is used to excuse (or perhaps causes) failure. Although this particular discourse comes from England, it is an experience not unfamiliar in other Anglophone countries and connected to what in the USA Connelly and Clandinin (1995) have called the ‘conduit’ down which the “rhetoric of conclusions” is channelled into schools.

Many of the issues raised in relation to EBP in mental and public health (cultural diversity, identity, problems with positivism, the politics of power) will be no surprise to Educationalists. However, it is instructive that these are also issues for learning and practice in the health professions. If policy makers want us to learn from practice in medicine, they must not airbrush these issues out of existence by appearing to claim that evidence is a neutral technical antidote to the ideologically motivated special pleading and confusion of the Education establishment.

Recent studies in the communication and management of uncertainty (Babrow 2001; Brashers 2001) argue that we need to question whether uncertainty should always produce concern and therefore be seen as something we need to reduce rather than as an inevitability that we have to work with (and sometimes as a positive). An interest in the mechanisms of EBP in Education suggest that policy makers (and some academics) see EBP as a way of replacing troubling uncertainty with the reassuring certainty of ‘scientific’ evidence rather than accepting the uncertainty is inevitable in Education.

Babrow (2001) identifies that uncertainty can be either ontological (i.e. uncertainty about the nature of the world) or epistemological (i.e. uncertainty about whether we have enough information about the world). Approaches to professional learning that arise from an interest in EBP privilege epistemological uncertainty and its reduction by generating more data within a positivist paradigm while apparently occluding ontological debate about alternative representations of the world and whose interests they serve. Discussions about ontological uncertainty would foreground different representations and theoretical paradigms for understanding teaching and learning and the inescapably values-based rather than evidence-based nature of many education decisions (Biesta 2010). Brasher (2001: 489) counsels us to remember “the costs associated with recommending uncertainty reduction as an optimal decision-making strategy”. In Education, one of these would be to close off alternative paradigms for making sense of educational experiences and outcomes.

The purpose of this paper is not to argue against the value of evidence-based teaching or to deny that Education can learn from the health professions. It is rather to argue that we should neither assume the superiority of medically derived professional learning on the basis of limited awareness of empirical evidence of actual practices, nor should we ignore the evidence that exists in health and just look at educational evidence, particularly as that is still limited. Education can surely learn from the health professions, but this through an

understanding of, and dialogue with, the messiness of actual practice and debate in these areas rather than adopting a largely poorly understood model because we think it is superior. Clearly a paper like this can only scratch the surface of considering what the medical, public health and mental health literature has to offer Education but it is intended a small step in this direction.

References

- AlMutar, S., AlTourah, L., Sadeq, H., Jumanah, K. and Marwan, Y. (2013) Medical and surgical ward rounds in teaching hospitals of Kuwait University: students' perception, *Advances in Medical Education and Practice*, 2013: 4, 189-193
- Alter, J. and Coggshall, J.G. (2009) *Teaching as a Clinical Profession: Implications for Teacher Preparation and State Policy*, retrieved from: <http://www.gtlcenter.org/sites/default/files/docs/clinicalPractice.pdf> accessed 11th August 2015
- Babrow, A.S (2001) Uncertainty, Value, Communication, and Problematic Integration, *Journal of Communication*, 51 (3), 553-573
- Balmer, D.F., Master, C.L., Ricards, B.F., Serwint, J.R. and Giardino, A.P. (2010) An ethnographic study of attending rounds in general paediatrics: understanding the ritual, *Medical Education*, 44, 1105-1116
- Beveridge, W. (1942) *Social Insurance and Allied Services*, London: HMSO
- Biesta, G.J.J. (2010) Why 'what works' still won't work: from evidence-based education to value-based education, *Studies in the Philosophy of Education*, 29, 491-503
- Birtwistle, L., Houghton, J.M. and Rostill, H. (2000) A review of a surgical ward round in a large paediatric hospital: does it achieve its aims? *Medical Education*, 34 (5), 398-403
- Blunkett, D. (2000) 'Influence or irrelevance: can social science improve government?', *Research Intelligence*, 71, pp12-21.

- Bottery, M. (2003) The leadership of learning communities in a culture of unhappiness, *School Leadership and Management*, 23 (2), 187-208
- Brashers, D.E. (2001) Communication and Uncertainty Management, *Journal of Communication*, 51 (3), 477-497
- Bullough, R.V. (2000) Pedagogical content knowledge circa 1907 and 1987: a study in the history of an idea, *Teaching and Teacher Education*, 17, 655-666
- Burn, K and Mutton, T (2013) *Review of 'research-informed clinical practice' in initial teacher education*, BERA, retrieved from: <http://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Paper-4-Research-informed-clinical-practice.pdf> accessed 11th August 2015
- City, E.A., Elmore, R.F., Fiarman, S.E, and Teitel, L. (2009) *Instructional Rounds in Education; a network approach to improving teaching and learning*, Cambridge, Massachusetts: Harvard Education Press
- Clandinin, D.J. and Connelly, F.M. (1995) *Teachers' professional knowledge landscapes*. New York: Teachers College Press
- Claridge, A. (2011) What is the educational value of ward rounds? A learner and teacher perspective, *Clinical Medicine*, 11 (6), 558-562
- Conroy, J., Hulme, M. and Menter, I. (2013) Developing a 'clinical' model for teacher education, *Journal of Education for Teaching: International research and pedagogy*, 39 (5), 557-573

- Coombs, M. and Ersser, S.J. (2004) Medical hegemony in decision-making – a barrier to interdisciplinary working in intensive care? *Journal of Advanced Nursing*, 46 (3), 245-252
- Del Prete, T. (2013) *Teacher Rounds; A Guide to Collaborative Learning in and from Practice*, Thousand Oaks: Corwin
- Dewhurst, G. (2010) Time for change: teaching and learning on busy post-take ward rounds, *Medical Education*, 10 (3), 231-234
- DfE (2015a) *Carter Review of Initial Teacher Education*, London: DfE
- DfE (2015b) *Intervening in failing, underperforming and coasting schools*
Government consultation, London: DfE
- Goldacre, B. (2013) *Building Evidence into Education*, retrieved from www.gov.uk/government/news/building-evidence-into-education accessed 11th January 2016
- Gonzalo, J.D., Chuang, C.H., Huang, G. and Smith, C. (2010) The Return of Bedside Rounds: An Educational Intervention, *Journal of General Internal Medicine*, 25 (8), 792-798
- Gove, M. (2013) *I refuse to surrender to the Marxist teachers hell-bent on destroying our schools: Education Secretary berates 'the new enemies of promise' for opposing his plans*, Daily Mail 23rd March 2013, retrieved from <http://www.dailymail.co.uk/debate/article-2298146/I-refuse-surrender-Marxist-teachers-hell-bent-destroying-schools-Education-Secretary-berates-new-enemies-promise-opposing-plans.html> accessed 11th January 2016

- Green, L.W (2006) Public Health Asks of Systems Science: To Advance Our Evidence-Based practice, Can you Help Us Get More Practice-Based Evidence? *American Journal of Public Health*, 96 (3), 406-409
- Green, L.W. (2008) Making research relevant: if it is an evidence-based practice, where's the practice-based evidence? *Family Practice*, 25: i20-i.24
- Grimmett, P.P., Fleming, R. and Trotter, L. (2009) Legitimacy and identity in teacher education: a micro-political struggle constrained by macro-political pressures, *Asia-Pacific Journal of Teacher Education*, 37 (1), 5-26
- Grossman, P. (2010) *Learning to Practice: The Design of Clinical Experience in Teacher Preparation*, retrieved from: [http://www.nea.org/assets/docs/Clinical_Experience - Pam_Grossman.pdf](http://www.nea.org/assets/docs/Clinical_Experience_-_Pam_Grossman.pdf) accessed 11th August 2015
- Hazard, R.H., Chandler, B.J. & Stiles, L.J. (1967) The tutorial and clinical program for teacher education, *Journal of Teacher Education*, 18 (3), 269-276
- Health and Social Care Information Centre, at www.hscic.gov.uk, accessed 11th January 2016
- Hebert, R.S. and Wright, S.M. (2003) Re-examining the Value of Medical Grand Rounds, *Academic Medicine*, 78 (12), 1248-1252
- Hunt, J.B., Curran, G., Kramer, T., Mouden, S., Ward-Jones, S., Owen, R. and Fortney, J. (2012) Partnership for Implementation of Evidence-based Mental Health Practices in Rural Federally Qualified Health Centers: Theory and Methods, *Progress in Community Health Partnerships: Research, Education and Action*, 6 (3), 389-398
- Irby, D.M. and Wilkerson, L. (2008) Teaching when time is limited, *British Medical Journal*, 336, 384-387

- Jacobs, J.A., Jones, E., Gabella, B.A., Spring, B. and Brownson, R.C. (2012) Tools for Implementing and Evidence-Based Approach in Public Health Practice, *Preventing Chronic Disease*, 9: 110324. DOI:<http://dx.doi.org/10.5888/pcd9.110324>
- Kirmayer, L.J. (2012) Cultural competence and evidence-based practice in mental health: Epistemic communities and the politics of pluralism, *Social Science and Medicine*, 75, 249-256
- Kriewaldt, J and Turnidge, D. (2013) Conceptualising an approach to clinical reasoning in the education profession, *Australian Journal of Teacher Education*, 38 (6), 103-115
- Latham, J., Murajda, L., Forland, F. and Jansen, A. (2013) Capacities, practices and perceptions of evidence-based public health in Europe, *Euro Surveill.* 18 (10): pii=201421
- Layde, P.M., Christiansen, A.L., Peterson, D.J., Guse, C.E., Maurana, C.A. and Brandenburg, T.B. (2012) A Model to Translate Evidence-Based Interventions Into Community Practice, *American Journal of Public Health*, 102 (4), 617-624
- Lee, H., Fitzpatrick, J.J. and Baik, S-Y (2013) Why isn't evidence based practice improving healthcare for minorities in the United States? *Applied Nursing Research*, 26, 263-268
- Lilienfeld, S.O., Ritschel, L.A., Lynn, S.J., Cautin, R.L. and Latzman, R.D. (2013) Why many clinical psychologists are resistant to evidence-based practice: Root causes and constructive remedies, *Clinical Psychology Review*, 33, 883-900
- Manias, E. and Street, A. (2001) Nurse-doctor interactions during critical care ward rounds, *Journal of Clinical Nursing*, 10, 442-450

McLean Davies, L., Anderson, M., Deans, J., Dinham, S., Griffin, P., Kameniar, B., Page, J., Reid, C., Rickards, F., Taylor, C. and Tyler, D. (2013) Masterly preparation: embedding clinical practice in a graduate pre-service teacher education programme, *Journal of Education for Teaching: International research and pedagogy*, 39 (1), 93-106

Miller, H.L. and White, A.G., (1968) A Study of Teaching on Ward Rounds, *The Journal of Educational Research*, 61 (10), 466-477

National CPD Team (2011) *The Learning Rounds Toolkit; Building a Learning Community* retrieved from http://issuu.com/nationalcpdteam/docs/the_learning_rounds_tool_kit_updated#download accessed 12th December 2014

NCATE (2010) *Transforming Teacher Education through Clinical Practice: a national strategy to prepare effective teachers*, retrieved from: <http://www.ncate.org/LinkClick.aspx?fileticket=zzeiB1OoqPk%3D&tabid=715> accessed 11th August 2015

Newnham, E.A. and Page, A.C. (2010) Bridging the gap between best evidence and best practice in mental health, *Clinical Psychology Review*, 30, 127-142

NHS Confederation (2014) *Key facts and trends in mental health*, London: NHS Confederation

OECD (2011) *Building a High Quality Teaching Profession: Lessons from around the world*, retrieved from: <http://www.oecd.org/edu/school/programmeforinternationalstudentassessmentpisa/bui>

[Idingahigh-qualityteachingprofessionlessonsfromaroundtheworld.htm](#) accessed 11th

August 2015

- Prado, H.M., Falbo, G.H., Falbo, A.R. and Figueiroa, J.N. (2001) Active learning on the ward: outcomes from a comparative trial with traditional methods, *Medical Education*, 45, 273-279
- Reid, S (2008) Music as a metaphor for the medical consultation, *South African family Practice*, 50 (1), 62-64
- Reid, S. (2014) The ‘medical humanities’ in health sciences education in South Africa, *South African Medical Journal*, 104 (2), 109-110
- Roegman, R. and Riehl, C. (2012) Playing Doctor With Education: Considerations in Using Medical Rounds as a Model for Instructional Rounds, *Journal of School Leadership* 22 p. 922-952
- Schwab, J. T. (1969) The practical: a language for curriculum. *The School Review*, 78 (1), 1–23.
- Servage, L. (2008) Critical and transformative practices in professional learning communities, *Teacher Education Quarterly*, Winter 2008, 63-77
- Servage, L. (2009) Who's the “professional” in a professional learning community? An exploration of teacher professionalism in collaborative professional development settings, *Canadian Journal of Education*, 32 (1), 149-171
- Shulman, L. (2005) *The Signature Pedagogies of the Professions of Law, Medicine, Engineering, and the Clergy: Potential Lessons for the Education of Teachers*, Delivered at the Math Science Partnerships Workshop: "Teacher Education for

Effective Teaching and Learning" Hosted by the National Research Council's Center for Education, February 6-8, 2005 Irvine, California

- Sweet, G.S. and Wilson, H.J. (2011) A patient's experience of ward rounds, *Patient Education and Counselling*, 84, 150-51
- Tariq, M., Motiwala, A., Ali, S.U., Riaz, M., Awan, S. and Akhter, J. (2010) The learners' perspective on internal medicine ward rounds: a cross-sectional study, *BMC Medical Education*, 10: 53
- Ure, J. (2010) Reforming teacher education through a professionally applied study of teaching, *Journal of Education for Teaching: International research and pedagogy*, 36 (4), 461-475
- Van Hoof, T.J., Monson, R.J., Majdalany, G.T., Gianotti, T.E., and Meehan, T.P. (2009) A Case Study of Grand Medical Rounds: Are We Using Effective Methods? *Academic Medicine*, 84 (8), 1144-1151
- Walton, J.M. and Steinert, Y. (2010) Patterns of interaction during rounds: implications for work-based learning, *Medical Education*, 44, 550-558
- Watson, C. (2014) Effective professional learning communities? The possibilities for teachers as agents of change in schools, *British Educational Research Journal*, 40 (1), 18-29
- Zeichner, K. (2010) Rethinking the connections between campus courses and field experiences in college- and university-based teacher education, *Journal of Teacher Education*, 53 (3), 190-204