Evidence based practice: Observations from the Medical Sciences, implications for Education.

Wesley Imms, University of Melbourne
Christine Imms, LaTrobe University

Evidence-based practice (EBP) is slowly gaining recognition in education as a method of ensuring that quality research can stem from classroom practice and that practice can be informed by research. Developed successfully through the Medical Sciences, what really is EBPs transferability to education? This presentation will cover the following points: What is the EBP framework; Issues of applying EBP in education; Lessons from the health sciences; Skills and knowledge required for growth in EBP.

Parallels will be drawn between Health Sciences’ long standing use of EBP and the current Australia-wide Boys Education Lighthouse Schools project (BELS). The BELS project, which demands of teachers a high degree of accountability in terms of measurable outcomes from their practice, will be used to explicate how EBP serves both the research and practice needs of teachers, and ways that it can provide accessibility to, and quality in, research in schools.

When EBP is integrated into professional practice it can provide a vehicle for drawing together researchers, teachers, consumers and policy makers.

Introduction
EBP at times a contentious issue in education. In theory EBP has enormous value in terms of helping teachers structure quality change in their schools using valid research. In practice problems concerning the nature of EBP and teachers resistance to researching have hindered its effective use in education. This paper will draw on another discipline’s experiences with EBP to explore common problems and the possibility of pre-determined solutions. It will present an example of EBP being used in a very practical way by a cluster of schools. It will make the argument that Education may benefit from lessons learned by other disciplines, that current discussion tends towards over problematizing EBP issues, and that a less rigid interpretation of
this approach allows for substantial benefits for quality, research driven, teacher implemented changes in schools.

What is the EBP framework?
Evidence based practice (EBP) is the integration of the best research evidence with clinical expertise, the clients preferences & values and clinical circumstances (Sackett, Rosenberg et al. 2000). The skilled EB practitioner considers research evidence in context. He/she is able to evaluate the quality of research reported in the literature (thus discarding poor quality research) and is also able to interpret the value of research findings to individuals or specific circumstances –making reasoned, evidence-based adjustments of the results for their likely effect within a given circumstance. This includes determining how or whether the evidence can be applied to an individual.

The driving forces for EBP were information overload and a rapidly changing knowledge base. In addition, shifts in community expectations from practitioner-as-expert to client-centred practice, which promotes consumer involvement in decisions and an expectation that health care decisions would be made with explicit knowledge (that is, evidence). Current health practices require us to be able to engage clients in informed decision making. This includes being able to translate research findings and evidence for individual clients – interpreting the likely effect of disease, intervention, or prevention for the individual

Ultimately EBP is a tool, or a model. The three pillars of practice (Law 2002) – Clinical expertise – Evidence – Client values & beliefs - are represented in the figure\(^1\) which also includes the particular circumstances of the client. No one element is more critical to practice than any other.

Skills & knowledge required for growth in EBP
There are six basic steps to undertaking EBP. The first is to reflect on your practice and ask clinical questions: Why do I do it this way? When should I use this form of intervention versus an alternative? Which children respond to this type of intervention and which should be

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\(^1\) Adapted from Sackett et al (2000).
approached differently? How do I know this intervention works – how will I measure the outcomes?

Once a question is posed we must **look for an answer**. Common sources of information are professional colleagues, knowledge gained during professional training (no matter how long ago) text books or past practice experience. In medicine, being out-of-date happens quickly and is potentially dangerous. Asking an experienced and informed colleague is a useful strategy, asking a colleague who is no more up-to-date than you is less helpful. Textbooks are also suffering from currency issues – time to publication is now problematic, especially as the internet and professional electronic databases can make new knowledge and evidence available in a very short period of time and to an enormous audience. On-line textbooks are becoming more common with the onus on publishers and authors to keep the content up to date and available to consumers. Of great value to the coal-face practitioner is access to electronic databases to search for current or recent research evidence to inform practice.

Using electronic databases to ensure you obtain the answers that are hiding in them in a timely, comprehensive and efficient manner takes skill; skill in **asking your question** in the most helpful manner, skill in constructing a **searching strategy** and skill in applying the strategy across varied databases. Unfortunately there are many databases, each an electronic library with its own rules around indexing and all operating in an electronic climate that seems to feel the need to change the face of the page on a regular basis thus confusing us even more. Once you have searched using the well-recognised the PECO format (Richardson, Scott et al. 1995), you then have to **locate full-text articles** of those deemed relevant. This is one element that is changing very rapidly in health sciences; the availability of full-text articles on reader friendly PDF is phenomenal but by no means universal.

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<th><strong>Searching strategies:</strong></th>
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Having obtained a pertinent research article you have to read it critically to determine its value and utility (Greenhalgh, 2001). There are structures and guidelines to assist **critical appraisal** that enable the reader to make decisions quickly as to the worth of the article. Appraisal is based on knowledge of sound methodologies for the research question being addressed, being able to read, understand and *interpret* the results (rather than skipping to the conclusion to take the authors’ word for it). It is imperative that the reader understand the difference between statistical significance and clinical (practical) importance and how to interpret the clinical importance even when the researcher does not discuss it. Having found articles that report good quality research
with important findings the onus is now on the clinician (practitioner) to make decisions about practice – Do you need to change your practice in light of the research findings? If so, how? Is the change a wholesale one – i.e. do we stop doing sensory integration therapy with children with coordination difficulties – there is no current evidence for its effectiveness – and take up the emerging intervention called cognitive orientation to occupational performance which has very positive but still emergent evidence to support its efficacy]. It is really hard for clinicians to stop doing what they have always done. Or, as is more often the case, is the application of the evidence a case-by-case proposition – and if so we need to teach practitioners how to apply and adjust research findings to suit individuals.

The final stage in the EBP process is of course to evaluate any change of practice has occurred to check its efficacy – are we better off? This stage may lead you to the production of evidence – researching your practice and contributing to the knowledge base of practice.

This is the evidence-based self-directed learning spiral.

If these are the EBP skills & processes where are we at in health sciences?

Experiences of EBP in the health sciences
EBP is a relatively new phenomenon. While the concepts and processes are not new (being informed by structured observations is not new), the term EB Medicine and the drive to produce practitioners that are evidence-based emerged in the early 1990s. The first paper published is reported to have come from McMaster University in Canada in 1992 (Sackett, Rosenberg et al. 2000; Law 2002). By 1998 there were 1000 articles and this month a quick search of Medline located over 16000 directly reporting on EBP. EB Medicine was expanded to EBP to be more inclusive of all medical fields.

Initial responses to EB Medicine were not all positive. It appeared that clinicians heard only part of the EB Medicine model. Evidence based medicine was understood to be the “conscientious and judicious use of the current best evidence from clinical care research in the management of individual patients” – the interpretation and application of this definition was on only doing things in practice that had research evidence to support them. This led to real fear about the loss of ability to practice in ways that experience showed to be helpful because of a
lack of evidence. This fear was justified – organizations, managers, funding bodies increasingly
demanded evidence to support funding of services. Not only was evidence required, but in the
eyears it was believed that only particular kinds of evidence were deemed worthy. This
phase in the introduction of EBP was marred by a limited application of sound principles – only
evidence from randomized controlled trials was thought to be acceptable. This was inappropriate
and the misunderstanding has for the most part been de-bunked.

The emphasis of EBP is on
• understanding what sort of evidence is appropriate for the practice (clinical) question
being posed,
• undertaking the right kind of research to answer the question,
• developing skills in understanding & interpreting the research data generated; whether
it be numeric-data or word-data, and
• being able to carefully apply the results, where they are appropriate, in conjunction with
the other EBP elements (expertise, client values, clinical circumstances).

While we no longer feel that only a particular kind of evidence is acceptable, we still find
ourselves in a race against time – will ‘they’ cut the funding before we have time to produce the
evidence?

We have never considered that every practitioner should be a researcher, but suddenly we are
living in a climate where every practitioner must be an EB Practitioner and to be an EB
Practitioner you must have a working knowledge of research methods in order to understand and
interpret what you read. Suddenly research and practice are much more closely aligned. In the
search for evidence to support our practice we are faced repeatedly with a distressing lack of
evidence or even more frustratingly, with evidence that is very poorly constructed and, as such of
no help at all. The really good thing about this is the sudden driving of research agendas by
practitioners in collaboration with academics. This is the scholarship of practice model working
well.

So how do we rapidly move a profession from a position where practice is guided
by past wisdoms and understandings of health, to where wisdoms and
experiences are explored in a thoughtful and systematic manner that enables new
knowledge to be generated, theory to be
substantiated and old less useful ways of practicing discarded? It is painful. But it is happening.

Moving forward with evidence based practice.

New practitioners – old practitioners – Studies of how practitioners use evidence to inform and guide practice show there is a difference between novice and experienced practitioners. New practitioners are comfortable with the basic skills of EBP; constructing questions, searching for evidence, locating evidence and appraising it (Jette, Bacon et al. 2003). They are less comfortable with the application of the evidence to particular clinical circumstances – this is of course understandable – that part is best undertaken with some experience under your belt. Experienced practitioners may be skilled at making judgments about when & how to apply evidence to individual clients, but they are not always comfortable with the requirements of EBP – of using computer technology to access databases, of reading critically and appraising the value of studies. Arguably, they grew up in the time where if it was written it was correct – this is not true (it never was) thus skipping the methods and results section of research papers to get the author conclusions was considered valid. We can not speed up the process of gaining clinical experience, but we can, and do, teach the skills of EBP and the essential skills of being a reflective practitioner and of clinical reasoning.

It has been relatively easy to change the skills of the new graduates – over the past few years at La Trobe University we have changed how and what we teach in this area and our students graduate knowing they are expected to be EB Practitioners and with the skills to find and appraise evidence.

Clinicians in the field face a different problem – they have the experience, are usually tuned in to the clients’ particular circumstances and, as client centred practice was the previous decade’s revolution, are skilled at ensuring that clients and families participate in goal setting and clinical decision making. We need to assist practitioners to gain the skills and knowledge required to be EB Practitioners. There are at least three ways of doing this; continuing education, supervision of student practitioners and academic clinician liaisons. Training in the skills of searching, appraising and integrating evidence into practice are required for those who did not experience this in their professional training.

Interestingly, there is some suggestion that supervision of student-practitioners also facilitates the integration of EB practices (Craik and Rappolt 2003). Students ask questions, demand reasons for practice methods, and reflective practitioners try to answer. Together they can work at finding
and integrating sound evidence into practice. Good examples of academic-clinician liaisons to facilitate knowledge sharing include asking practitioners to pass on their burning clinical questions for small groups of students to answer (we need 36 of these questions each year for our final year students to tackle, for example), and partnerships that enable the practice based problems and issues to be the focus of research within the university community at undergraduate, post-graduate and academic levels.

**Knowledge, skills and attitudes.** Research shows there has been a change in attitude – EBP is seen positively, EBP is seen as helpful and therapists believe they should increase their use of evidence to inform practice (Jette, Bacon et al. 2003; Philibert, Snyder et al. 2003). The key barriers to being an EB Practitioner continue to be TIME, skills and support.

Time is our biggest problem and we have tried to manage it using various strategies – the first strategy relates to the second problem. We need to acknowledge that part of being an EB Practitioner involves getting some specific skills and those skill-based abilities benefit from practice - skilled searchers, skilled appraisers are faster than non-skilled. There has also been a burgeoning focus on evidence summaries. Evidence summaries come with a variety of names, such as, critically appraised papers (CAPS), critically appraised topics (CATS), Evidence Corners, CAT-banks and RAP-libraries. Journal sections, databases (such as the Cochrane Library) and websites that publish appraised and summarised good quality recent research make available to busy clinicians a digestible amount of information quickly. The availability of evidence summaries is critically important to bridging the research-practice divide. In our discipline based Australian Occupational Therapy Journal we have a Critically Appraised Paper (CAP) section with its own editorial committee. Our job is to select key practice themes, search for good quality research evidence - both quantitative and qualitative - summarise the evidence and locate experts in the field to write a brief commentary on the value and application of that particular piece of research to practice.

Another important element required to bridge the research-practice divide is in the hands of the researchers – they must commit to good quality research and once conducted translate their findings from statistical or analytical jargon to practice-based utility; assist the user of the evidence to make the connections between the findings and what should happen in practice as a result. Journal editors have a critical role here – in occupational therapy it has become much more difficult to publish poorly conceived, executed or reported research – this is good. Clinicians also report that they need support to be EB Practitioners – support from colleagues, support from management and systems. Some of the support is attitudinal and some practical; for example, availability and access to the internet and electronic databases. Clinicians feel
vulnerable both in the face of particular research findings, and when there is little or no research available.

In summary, health sciences have embraced evidence based practice, understanding it to encompass clinical expertise, research evidence and client values and circumstances. We are working towards the reality of the scholarship of practice model where evidence informs practice and practice informs research. We are engaged in a period of rapid change in how and what we teach, both for students and professionals. Learning how to make research evidence available and clinically useful is important and has been helped by the publication of evidence summaries and by teaching practitioners how to interpret the results of research for individual circumstances.

Issues in applying EBP in Education

Parallels between the Health Sciences and BELS
The Sackett (2000) model, refined as it has been over recent years by practitioners in the applied sciences (see Footnote 1), has proved its effectiveness for use in “real life” clinical situations. To what extent, however, do the contextual situations of the medical practitioner working with an individual or a small group of clients on therapy interventions also reflect the situation of the educator working with students in classrooms? How effective might the Sackett (2000) model, as adapted by Occupational Therapy, be for education?

Boys Education Lighthouse Schools Project (BELS). During 2004 and 2005, researchers working in the Centre for Applied Educational Research (CAER) at the University of Melbourne were faced with a dilemma to which this model was considered a solution worth exploring. Having secured management of Stage 2 of the Boys Education Lighthouse Schools Project (BELS), the CAER staff was faced with the requirement to ensure that measurable outcomes resulted from a large number of school implemented strategies, designed and run by busy teachers.

Initiated by the Department of Education, Science and Training (DEST), the $8m BELS project aimed to improve boys’ learning outcomes through a “dissemination of best practices” model. Informed by the findings from BELS Stage 1 reported in Meeting the Challenge (Government of Australia, 2003), and a range of commissioned reports including Boys: Getting it right (Commonwealth of Australia 2002), and Addressing the Educational Needs of Boys (Lingard 2002), DEST acknowledged that considerable “best practices” pedagogy for boys was already in place in selected schools in Australia, and that schools and teachers with this knowledge required support to pass such practices on to the wider educational community. This was to be the
The purpose of the BELS initiative; 50 Lighthouse schools were selected through a rigorous selection process that confirmed their epistemological and pedagogical acumen in terms of the education boys. Each Lighthouse school gathered to it a cluster partner schools, up to 10, and designed and ran a project or projects relevant to their expertise with this group over an eighteen-month period. Their progress and findings would be published for the benefit of all schools in Australia.

The dilemma referred to earlier was inherent to the operational requirements stipulated by DEST. The BELS project was not deemed to be research focused (Commonwealth of Australia, 2003b). However, by the end of 2005 demonstrable improvements for boys from each of the strategies was required. The logic underlying this requirement was sound. Teachers have traditionally been reluctant to embrace research-driven change in the classroom (Hemsley-Brown & Sharp, 2002); to do so for BELS might jeopardize effective dissemination of existing best practice. Also, for BELS to be deemed successful, the strategies would need to indicate their effectiveness to schools outside of the BELS project, and their sustainability beyond the course of funding. Thus, it was important for teachers to demonstrate in a clear and succinct manner any specific advantages for boys’ learning stemming from their strategies, and provide proof of the effectiveness of the strategies. Therein lay the dilemma; providing at the end of the project explicit and accurate outcomes from over 200 individual strategies (many Lighthouse schools ran different strategies with each of their cluster schools, or ran a multitude of strategies with the whole cluster) without enforcing on teachers the use of a robust research agenda, was a challenge that the CAER team was required to meet.

The National Quality Schools Framework (NQSF). CAER’s solution was to utilise a report writing strategy developed as part of the National Quality Schools Framework (NQSF) (Commonwealth of Australia, 200X). Supported by an extensive array of web-based resources, the NQSFs four stage report required schools to (1) provide the context for their project, including an evaluation of the participants, the educational need being addressed, and a summary of available baseline evidence; (2) document objectives for the strategy, and plans to assess how well these objectives were met; (3) state the strategies being used to address the objectives; and (4) evaluate the impact of the strategies, based on evidences collected during the project and those provided in the three previous reports. These documents, referred to as YCP 1 - 4 (Your Cluster Project), were required from clusters at set dates throughout the project and were quality assured by the CAER team. Eventually posted on the NQSF website within a BELS partition, the YCPs effectively implemented an evidence based framework on all cluster activities within the BELS project.
Of interest to the topic being considered by this paper, it was at the next level of implementation that difficulties were encountered. Two situations occurred consistently. First, clusters experienced difficulty implementing their plans in a practical way. Few clusters had at their disposal sufficient research skills to plan and implement strategies in a manner that would allow for “sound” data collection. Also lacking in most instances was cluster ability to analyse data sufficiently well to enable sound determination of the effectiveness of their strategy. Secondly, some staff resisted deviating from established practices. What was planned by Lighthouse schools and documented in the YCPs was not necessarily followed through at the “grassroots” level.

In most cases, the CAER team resolved these issues through an exhaustive series of face-to-face workshops with every cluster, conducted throughout the eighteen months of the project. In addition, university affiliated consultants with research expertise were appointed by the BELS project to each cluster to provide research supervision and assistance. However, in one cluster, Beachside in suburban Melbourne, the Occupational Therapy model described previously was also trialed as a possible way of integrating EBP into classroom practice without unduly focusing on rigorous research practices. It was jokingly referred to as “EBP by osmosis”, characterized by discussions concerning research without mentioning the “R” word.

**EBP by osmosis.** Beachside’s project focused on year 5 – 9 transition issues with boys. Five schools were involved, each keenly interested in explaining to others the good practices that they had developed in terms of transition strategies, but also wanting to develop improved skills based on proven strategies from other schools. Full information concerning these strategies can be viewed in detail on their NQSF webpage (XXX). Early in the project a workshop was held during which the structure of the BELS project was discussed, and the expectations of clusters made clear. The requirement on teachers to provide solid evidence concerning the effectiveness of their strategy was warily received. During discussions, teachers commented that while being experts in their classroom, they had not ever seriously attempted to catalogue their practice or disseminate it to the wider educational community. To do so required skills removed from their training and daily practices. This perceived shortfall was addressed during this workshop by providing a short overview of evidence-based practice, summarised from the material provided in the previous section of this paper. It was explained that EBP has three basic characteristics: (1) EBP strategies are always based on established evidence that they should (in theory) work; (2) EBP strategies are assessable, meaning that methods of measuring impact must be pre-planned; and (3) EBP strategies serve to further inform the field.
Regardless of this summary’s simplicity, teachers remained daunted by the implications of the process it described. Theories of EBP were not of any particular interest to most teachers. Their questions tended to focus on the actual application of EBP; how, within the context of their own project, were they to organize and undertake the steps required? Common to their comments was the plea, “Please, just tell us what we have to do!” A method of implementing these characteristics into Beachside’s project was then brainstormed. To simplify this process, an adaptation of the Sackett (2000) model, in which clinical terminology was exchanged with more familiar educational terms, was presented and discussed at length.

Through discussion and group work, a strategy was agreed upon for addressing each of the four domains included in the model. Research evidence to inform and guide the cluster project would be drawn from two sources; a literature review of transition research, and analysis of transition practices using as a lens a model of “boy-friendly curriculum” developed during research on boys’ engagement in schooling (Imms, 2003).

The cluster was rich in teaching expertise relevant to transition. However, while teachers knew that they were addressing boys’ needs well in the classroom in terms of teaching practices, they had little evidence beyond the anecdotal to prove this. It was decided that such proof would be “harvested” through a survey of staff that sought to catalogue these practices, and a survey of students to identify which pedagogical approaches were most useful to them.
A great deal of discussion centred on the resources available to the project. It was agreed that considerable transition information already existed in the form of normal school data; entry transition surveys at grade 7, attendance and behaviour records, year 6 into 7 pathway records, etc. This information could be organized and catalogued before and after the project to provide yet another window concerning the effectiveness of their transition practices. One of the most significant challenges lay in identifying and measuring the effectiveness and impact of the transition programs already in place. These practices were, in fact, the cluster’s most valuable resource, being the reason they were first selected for the BELS project. It was argued that these were not always overt strategies; good transition practices were often integrated within the “normal” curriculum. How might they be adequately measured for impact? The solution lay in a model of “boy-friendly curriculum” previously discussed. Consisting of five areas of practice, each with a number of explanatory categories, it was argued that these items could be used to gauge the “boy-friendliness” of a program of study. A 29 item, colleague administered, “audit of boy-friendly curriculum” was designed. It would prove to be the method of not only selecting the best transition strategies for inclusion in the project, but also an effective professional development process, and a focal document for many discussions concerning the direction and purpose of the BELS project.

**Student needs** in terms of transition was widely discussed. A survey for students was designed, intended to catalogue boys’ fears, expectations and knowledge of the transition process. In some regards, this element of the EBP model was made redundant by events. The literature review, and the year 7 entry level transition survey run by the only secondary school the cluster effectively met this aim. However, after a great deal of discussion, it was agreed that boys’ needs from transition focused considerably on their social and emotional well-being. A commercially produced survey designed to measure these variables was implemented pre- and post-project.

**To what degree were the characteristics of EBP met?** To review, the three characteristics stressed that: (1) EBP strategies are always based on established evidence that they should (in theory) work; (2) EBP strategies are assessable, meaning that methods of measuring impact
must be pre-planned; and (3) EBP strategies serve to further inform the field. The majority of work done during the early phases of this eighteen-month project focused on the first characteristic. However, these efforts also established some of the procedures required to meet the second and third items.

**Impact of Occupational Therapy approaches to EBP.** Of interest from this process was the role played by the EBP model, borrowed from the discipline of Occupational Therapy. Prior to the model’s introduction, the tasks involved in fulfilling the three key characteristics of EBP appeared overwhelming to teachers. Even when skillfully organized into the YCP documents, teachers were often intimidated by the fact they were being asked to measure, qualify, justify and analyse experiences they had always “simply done”. The model served to bridge a critical gap in the EBP process. While the YCPs documentation which planned and described the progress of the project constituted an EBP structure in principle, for most clusters this was often done by a single member of the group, or in some cases by a hired consultant, thus it was questionable if the YCPs alone would ensure true EBP by teachers at the “grassroots” level. Ownership of the analysis and reporting of results from the cluster project were often removed from many participants’ roles in BELS. The Beachside case study, where the adapted Sackett (2000) model was utilized, provided some pleasing indications that this need not be the case; EBP could easily be implemented at practitioner level. What the applied sciences, and in particular Occupational Therapy, has shown, is that *certain ways of applying* EBP could bridge the perceived gap between theory and practice. The isolated instance of the Beachside cluster’s project was informative in this way; it provided a teacher friendly structure whereby teachers could categorise and organize the actual process of making their BELS project evidence based. It allowed teachers to allocate tasks to those with skills in a particular area. It facilitated focused discussion on research methods. It allowed staff to recognize the wealth of resources and data that pre-existed in the cluster, relevant to their project. It provided a mechanism for involving teachers in planning a well-designed research project, the whole time stressing to them how close to their normal activities good research is.

It is important to realize that at the time of writing this paper, the Beachside cluster project is not complete. Of the three characteristics of EBP described earlier, only the first (ensuring practice is rooted in sound evidence) has been addressed in any depth. While the other two characteristics are certainly integral to this (for example, ensuring strategies are measurable requires appropriate pre-planning), these characteristics will receive, as the project advances, a degree of attention that cannot be reported in this paper. However, in spite of its in-progress status, some significant flow-on effects relevant to EBP are being identified. The session where results from the literature review were reported was a memorable workshop. It prompted spirited discussion,
and reinforced to the teachers the practical value of academic research. The audit promoted considerable discussion of the items being assessed (in this respect, the results of audit were not the most valuable outcome of this task). After twelve-months in this BELS project, the Beachside group is now actively questioning research methods. They have requested a workshop on research methods, there is evidence of greater use of literature by its members, the group appear more inclined to use results from research to guide their teaching, and they are now asking to play a more significant role in analysis and report writing.

Arguably, the Occupational Therapy model, supported by the overarching YCP structure, has promoted research training by osmosis. It has allowed a method of involving teachers in designing and implementing research without the need to first undertake intimidating research methods training. It has facilitated a process of involvement by all members of the group. It has encouraged the development of “good habits” that became “good research”. It has encouraged in teachers the recognition of the value of EBP. This process was, effectively, “backdoor” EBP; a process that demonstrated to practitioners the benefits of research in a real life situation. Is this wishful analysis on the part of the authors? Perhaps, but one outcome has been clear; from this cluster, we have witnessed inexperienced researchers, who are also unquestionably skilled practitioners, successfully meeting the evidence requirements set by government policy – not an achievement to be under estimated.

**Conclusion**

What then might be some key conclusions to be drawn from this isolated but intriguing case study? The most immediate lesson is that teachers do not need to be convinced to embrace rigorous research methods in order to become effective practitioners of EBP. Research by osmosis can occur when the key elements of EBP are de-problematised and made relevant to real-life situations, and when sufficient professional support can be allocated to teachers during their projects. However, the luxury of good funding and official support is not always to be enjoyed to the extent it existed in the BELS project. What realistic steps should education implement to make teachers better users of EBP? Those with experience working with the Sackett (2000) model suggest from their own experience the following points.

**Implications for professional training.** New graduates need to have attitude, skills and knowledge that enable them to be EB Practitioners. Curriculum can accommodate this by teaching in specifically designed subjects and by integrating the skills into current subjects. EBP skills are readily taught through the various evaluation / assessment tasks students must do in any practice-based subject. Educators in the field need ready access to continuing education workshops to gain the skills they need.
Implications for professional practice. Facilitating the integration of evidence to practice requires skills of practitioners, resources such as evidence summaries, internet access\(^2\) and subscription to databases, support for the thoughtful application of evidence to change practice both from management and policy developers – not through fear but through careful consideration of where evidence is applicable and where it is not. EBP will not always be cheaper. Time will always be the enemy. Development of strategies and resources to facilitate translation of evidence to practice is imperative – we have some strategies but not enough.

Implications for research. There continues to exist a lack of evidence that EBP actually makes a difference. How do we examine this ethically? Researchers have always had a responsibility to undertake useful research; while we don’t want to end up spending all our research time demonstrating empirically what is already known, we do need to respond to practice-driven questions. An overall research strategy should allow researchers to study highly novel creative ideas, to answer questions driven directly by educational need, and to meet the need for funding bodies to feel they are supporting substantiated practice.

References


