

Harnessing knowledge to practice:

accessing and using evidence from research

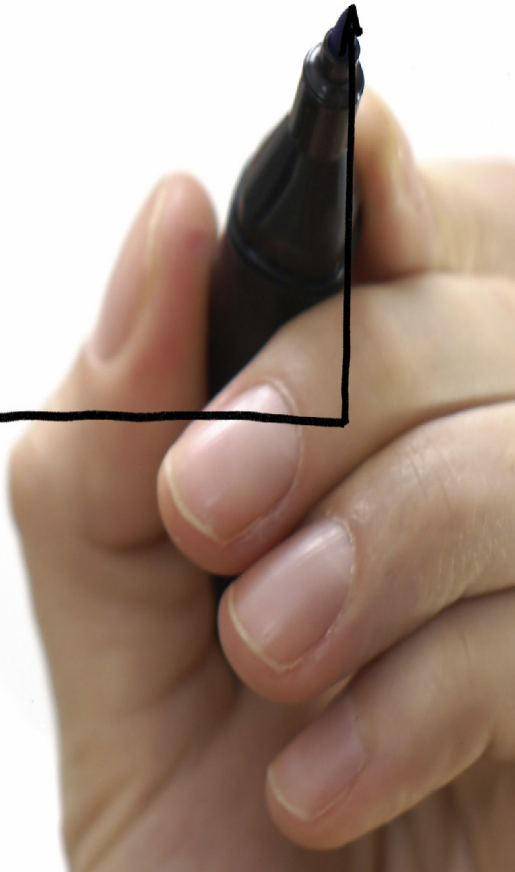
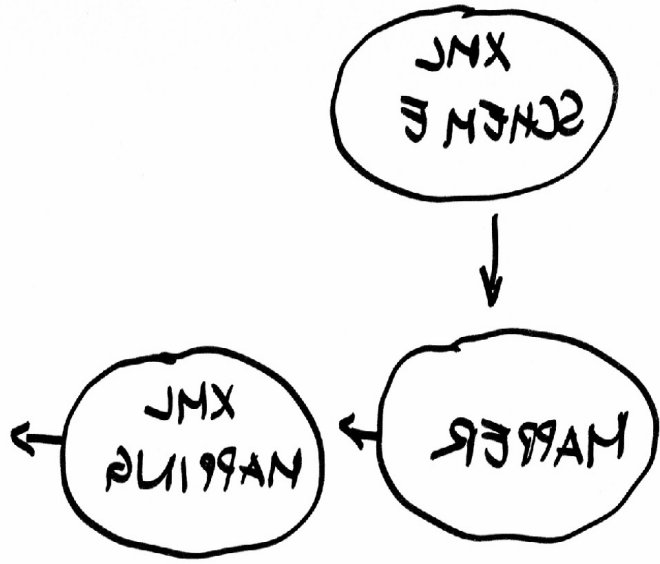
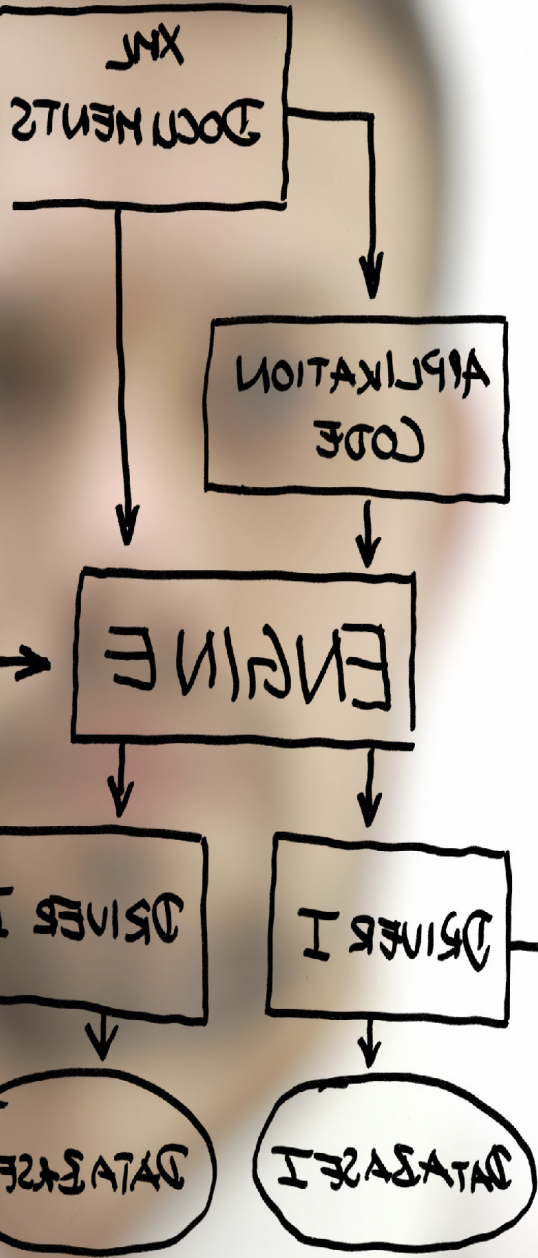
Centre for the Use of Research and Evidence in Education
(CUREE)

data
metrics standards
impact evaluation
evidence results
research



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Foreword

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This Innovation Unit publication addresses a key challenge for education in the future – how to ensure that the workforce who are teaching pupils have access to the latest knowledge about pedagogy and can apply it in practice for the benefit of children’s learning.

With a few notable exceptions, there has often been a gap between education research and educational practice. In *Harnessing knowledge to practice*, the CUREE team outline the barriers that exist and look at attempts that the system has made to overcome them. They examine some of the recent investment into putting research to work in classrooms and what different educational agencies are doing to support this process. Finally, they ask what is next for evidence-informed practice.

The Innovation Unit has been involved in a number of key developments referred to by the authors. The Unit funds The Research Informed Practice Site (TRIPS) and is one of the main sponsors of the National Teacher Research Panel (NTRP) activities, including the panel’s national conferences. It also supported the initial

bulletins from the National Education Research Forum (NERF) as well as being involved in the Forum itself. Providing the best education possible to meet the future needs of each and every child, needs the best possible evidence base upon which to make decisions about policy and practice. Some of the knowledge will come from the research community, but teachers who engage in research themselves also have a contribution to make. In an era where there is increasing emphasis on Development and Research (D&R), as opposed to Research and Development (R&D), the importance of practitioner-led innovation and experimentation, as the publication points out, has a key role to play. In this regard, The Innovation Unit’s Next Practice Education programme, currently underway, will contribute valuable information to whole system’s evidence base. You can find out more about The Innovation Unit and its work at **www.innovation-unit.co.uk** or by typing “innovation unit” into your favourite search engine.

Anne Diack was a member of the National Education Research Forum, 2000-2004.



1. Identifying barriers and the ways to overcome them

The challenge: creating an evidence-based culture in education

In 1996, Professor David Hargreaves famously issued the education world with a challenge. He reminded the audience at the annual Teaching Training Agency (TTA) lecture how medical practitioners use research findings to inform the decisions they make about treatments to ensure the greatest likelihood of success. Schools, he argued, did not build on research evidence about best practice. Hargreaves challenged education professionals to think about the implications of this for pupils, for teaching and for learning. Provocative and stimulating, his comments were welcomed in some quarters, contested in others; particularly in parts of the research community.

Since then, there have been considerable changes in the research landscape. These relate less to the

research itself – although, as we shall see, there has been change there too – than to the development and spread of resources created specifically to attract teachers' interest, and support their access to research. Much of the investment in these resources has come from the former Department for Education and Skills (DfES), now the Department for Children, Schools and Families (DCSF) and the national education agencies – including The Innovation Unit. This growing recognition that practitioners need support in accessing and interpreting the evidence base has also fed into aspects of the regulatory environment to encourage the spread of evidence-informed practice. Examples include: the new professional standards for teachers,¹ Teacher Learning Academy (TLA)² and the new national framework for coaching and mentoring, all of which

¹ See www.teachernet.gov.uk/teachingandlearning/professionalstandards.

² TLA is a rapidly growing teacher professional development programme developed by the GTCE.




highlight the contribution of evidence from research and from teachers' own classrooms to continuing professional development (CPD). Although not exactly an everyday experience, evidence-based practice is far more common than in 1996.

Teachers themselves are also much more likely now to be involved in research activity than they were in 1996. The National Teacher Research Panel (NTRP), itself a manifestation of the changing environment, has presided over three national teacher research conferences since 2002. Rapidly increasing numbers of research study lessons and a range of award schemes for practitioner research have also produced a growing body of evidence of the benefits for pupil learning, and teacher professional development, when teachers use research evidence as a springboard from which to scrutinise and develop their practice. With an effective communications infrastructure, the process can be infectious – like laughter rather than flu (nobody chooses to catch flu, but most of us are intrigued and enthused by laughter). Take the case of a teacher

who researched the role of handwriting in raising achievement. She found her work much in demand by colleagues in her own school. Other schools that had heard about the benefits for pupils and/or read the summary report on the Web wanted to find out more. Her school now facilitates visits from teachers from other schools who want to see the teaching strategies in action. They recognise the benefits to their own pupils and teachers in demonstrating and exploring how new approaches work.

Developing and using resources to support teacher use of research and evidence is not a straightforward process. There is no 'one size fits all'. Teaching and learning are always context specific because they involve building on what people know and can do already. Teachers' learning needs, like those of their students, differ significantly and so do the things they need from research.



Overcoming the barriers: developing resources to support evidence-informed practice

We know from research in health about getting evidence into practice that a key lever is to focus on addressing the obstacles to the take-up of new practice. In education, there are significant barriers to widespread take-up of research findings by teachers. They cluster in three distinct groups: Access, Opportunity and Relevance.

i) Access

The way in which most academic research is funded, produced, written, labelled and stored is often a barrier.

Getting access to research quickly and easily is difficult for teachers. It takes time to scan databases for likely research. While researchers and academics searching databases for journal articles can take advantage of institutional subscriptions to download articles directly to their PCs, few schools can afford such subscriptions. So, for teachers, retrieving full texts of articles can be a costly exercise.

Identifying potentially useful articles can be difficult too. Journal article titles and abstracts are intended to act as gateways to research but, very often, particularly for the uninitiated, they are more likely to act as gatekeepers. Many journal article titles are opaque. They can be eye-catching and entertaining, whimsical, political or couched in obscure research jargon. None of these is likely to offer a straightforward route for hard-pressed practitioners. They give little indication of the article's content and can be open to misinterpretation (Bell et al, 2002). Take the title *The Political Arithmetic Tradition in the Sociology of Education* – how many of us would guess that this is a lively study of how student backgrounds affect their learning? Or *Young lives: Learning and Transformation* – some theoretical considerations might lead you to think that the paper is a 'think piece', whereas in fact, it reports a four-year longitudinal study of young people's experiences of learning.

Abstracts can be similarly opaque. They are usually written to secure entry to a journal or conference many months in advance of the writing of the paper




itself. This probably helps to explain the poor match between the content of abstracts and the papers they set out to describe. Abstracts geared to practitioners' needs would focus on efficiency. They would be structured to include information on a consistent basis. That would include information about the objective of the study, its design, the setting, the participants, the intervention (if any), the measures used, the results and the conclusion, and would provide this in a consistent order so that practitioners can scan them efficiently to find what they need or decide to move on. The vast majority of abstracts currently fall a long way short of this ideal (Bell et al, 2002).

The last ten years have seen the development of a range of research-informed resources that address these issues and which are located in places practitioners regularly visit (such as The Innovation Unit and General Teaching Council websites – see references section of this booklet). Section 2 considers how far these have succeeded.

ii) Opportunity

The next cluster of barriers comes in the form of the demands and practicalities of life as a classroom teacher. As Ofsted recently observed, carefully planned opportunities for in-school professional development still feature rarely on-site, whereas off-site 'courses' remain the norm (Ofsted, 2006). Hargreaves' challenge was a useful stimulus, but the medical comparator can go only so far in the educational environment. Unlike doctors, teachers don't deal with just one patient at a time. They work with large groups of students who have different needs, and who all affect each other's learning. Researchers can focus on specific parts of this mix but teachers have to interact with it all, dynamically and quickly. Scrutinising and trialling new practice requires time and planning. Similarly, making sense of research takes time and resources. Classroom activities need planning around the evidence base, opportunities for collaborative planning with colleagues and time to reflect on the teaching processes and learning outcomes of doing something differently.



A number of the resources developed since 1996, including the recent activities series arising from the Teaching and Learning Research Programme (TLRP), have been specifically designed to create opportunities for practitioners to develop aspects of evidence-informed practice. Section 3 of this booklet explores such support for the process of putting research to work in more depth.

iii) Relevance

Journal articles often adopt a complex writing style where jargon and technical terms predominate. Practitioners can also find it difficult to find the information they want (such as the detail of classroom activities and teaching strategies) because such details are either buried, or omitted. Academic papers often focus on inputs and outcomes, and the big question of how approaches work (known in the trade only as the lateral variable) remains hidden inside a 'black box'. They also tend to dwell on the research process rather than the findings (Bell et al, 2004).

It can be hard to see, sometimes, how what is reported can be attractive to teachers who may be teaching in very different types of school or with students of different backgrounds and with different learning needs. Most teachers are not interested in doing research, using research and evidence or changing practice for its own sake, and are enthused and motivated to adopt new ideas when they have evidence that they help pupils. Data about learning outcomes, especially learning gains, for example, is almost always interesting to teachers. Information about where the research took place and who was involved also helps them to get a grip on the scale and nature of the work and to relate it to their own professional contexts. These things are not always routinely or accessibly reported through the traditional research publication routes.

The past decade has seen rapid growth in research about teaching and learning, increasing significantly the relevance of published work to practitioner concerns and interests. In Section 4 of this booklet we take a closer look at this investment – and *what happens next*.





2. Mapping some of the recent investment in making research accessible

The challenge: getting evidence into practice

Hard on the heels of the Hargreaves challenge came the Hillage report (1998), which explained the context and background against which Hargreaves was making his challenge and identified topic areas and funding issues in more detail. Hillage's team concluded that practitioners' actions and decisions are insufficiently informed by research. Where the research does address policy-relevant and practical issues it tends to:

- be small scale and incapable of generating findings that are reliable and generalising
- be insufficiently based on existing knowledge and therefore incapable of advancing understanding
- be presented in a form or medium that is largely inaccessible to a non-academic audience, and

- lack interpretation for a policy-making or practitioner audience.

It is not within the remit of this booklet to dwell on the first two of these findings – although it is worth noting that teachers themselves, in particular the NTRP, were later to call for research that was more clearly focused on teaching and learning (Cordingley and NTRP, 2000). The teachers saw relevance as the principal vehicle for attracting their interest and highlighted the importance of evidence about learning outcomes in attracting teachers' interest. Reports exploring the specifics of practical teaching and learning approaches were especially welcome. The relative lack of pedagogical research was particularly problematic in the context of teachers' expressed needs for relevance and for a focus on teaching




and learning. The National Foundation for Educational Research (NFER) noted in its 1996 review of the Research Assessment Exercise (RAE) research submissions that only about a quarter of educational research was designed to generate evidence about teaching and learning, including the curriculum – a finding that was seized on by the then TTA, which issued the first in a series of pamphlets on teaching as a research and evidence-informed profession (TTA, 2000).

The Hargreaves challenge, the Hillage report and the ensuing debate helped create the conditions that paved the way for the launch of the £38m TLRP funded by the Economic and Social Research Council (ESRC). The fruits of this programme are now feeding into the system. For a while, at least, the debate seemed to have concentrated funds as well as minds. But there is, in 2007, no sign of any continuing investment in teaching and learning research through a managed programme at the conclusion of the TLRP. At a time when there is increasing evidence that teachers and schools are waking up to the benefits of research-informed practice, the spotlight seems either to have moved on or run down its batteries.

In respect of the presentation and interpretation of research for practitioners, with which this booklet is principally concerned, Hillage commented that “Lack of impact may also reflect the absence of an effective mediation infrastructure, ie people and processes through which research is interpreted and assimilated into actions and decision-making.” He cited the following obstacles:

- use of academic journals as the main research output (generally seen as a by-product of the government’s Research Assessment Exercise, designed to distribute research funding on the basis of academic excellence) and their inaccessibility to non-academic audiences
- lack of encouragement given to dissemination to practitioner and policy-making audiences by many research funders
- absence of time and intermediary support available to both policy makers and practitioners to help them access research.



The overwhelming impression, the study found, was one of “rampant ad hocery”. There seemed to be little evidence of a comprehensive dissemination strategy by researchers, funders, policy makers and those acting on behalf of practitioners.

By 2000, teachers were making themselves heard on the issue. In addition to relevance and a focus on teaching and learning, the specific and practical challenges for getting evidence into practice noted by the NTRP (Cordingley and NTRP, 2000) included:

- attracting teachers’ interest in research
- enabling teachers to access research
- securing credibility for research in the eyes of teachers
- supporting teachers in interpreting the implications of research for their own contexts.

Other studies (such as Hemsley-Brown and Sharp, 2003, and Ratcliffe et al, 2004) concurred. They found that teachers want:

- convincing findings (derived from studies using rigorous methods) which are potentially generalisable to other contexts
- studies that are directly relevant to their needs and interests
- illustrations of activities that help them relate the findings to their own work
- practical implications of the findings made clear
- accessible, straightforward writing.



Over ten years on, how are we doing?

The year 1996 was a watershed. Since then, a number of initiatives have spawned designed to address the aforementioned problems. The government and the national agencies have recognised the difficulties practitioners face in accessing useful research evidence and interpreting the findings. Many of them commission research themselves and have also recognised the need to find effective routes from research to practice and have invested in these. Some of the resources are now well established.

Devised by enterprising health professionals, *Bandolier* is a monthly bulletin first published in 1994, which perhaps pioneered making the evidence of the effectiveness (or lack of it) of medical interventions accessible to healthcare practitioners. *Bandolier* takes the findings of high quality research and presents them simply – it highlights the things the research showed worked and those that did not. *Bandolier* appears first in hard copy and after six months is made available on the Internet. The site houses more than just previous issues

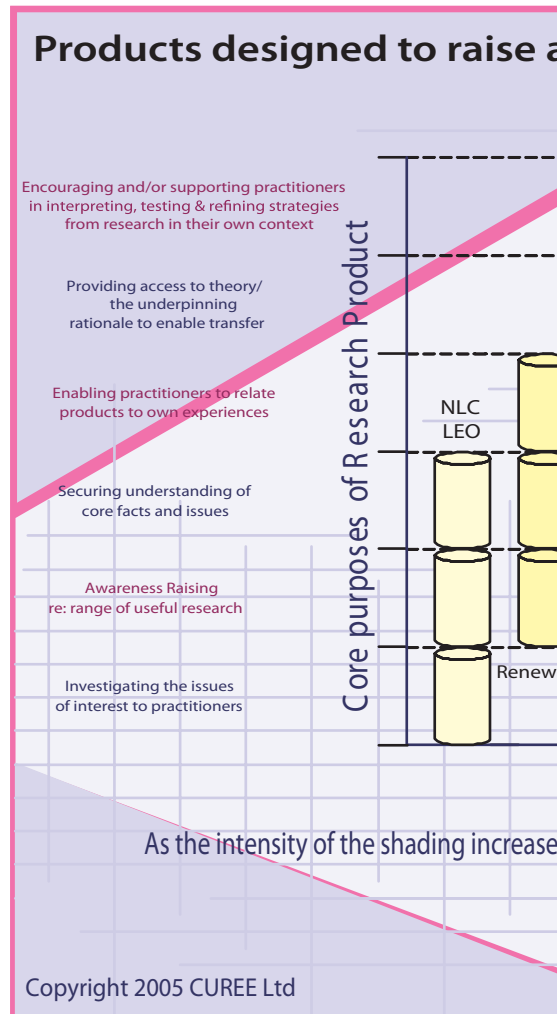
of *Bandolier* – it acts as a reference point of research in a number of key areas, such as treatment for migraines. Currently, the site receives around a million visits a month from all round the world. *Bandolier* was conceived because its creators recognised that medical professionals needed accurate and reliable knowledge made available to them in a readily accessible form. It has rapidly become the source of preference for a wide range of health professionals – from consultants to practice nurses. This was the model adapted by the National Education Research Forum (NERF) (2000-2006) for commissioning the Evidence Bulletin which attracted a wide following, from local authorities, schools and individual teachers, to colleges and higher education (HE) practitioners. It provided a termly summary and synthesis of evidence on topics identified by practitioners as important. The learning evidence was presented together with news, cartoons and notes on putting the evidence to work.

Bridging research and practice is harder than it looks. Simply communicating information may help to raise awareness but it is unlikely to stimulate behaviour

change. The 'mediation infrastructure' for which Hillage called now involves a raft of resources that are crafted with as much attention to pedagogy – to the needs of the professional learner – as to the quality and relevance of the research. In developing and producing the resources described in **Figure 1**, the national agencies use teams that combine the skills of researchers, information scientists, teachers and journalists, because all these skills are needed in the mix. Between them they have built a range of complementary research resources designed to act as a bridge between research and practice. The resources aim to address the barriers to the take-up of research evidence and to support teachers to make evidence-informed changes through:

- identifying what practitioners want to know
- searching out and appraising research studies capable of extending and improving existing teaching and learning practices and challenges
- raising teachers' awareness of research and its potential uses

- making research accessible, interesting and relevant
- making the evidence base explicit
- providing access to theory to enable transfer of practice



- encouraging teachers to interpret, test and refine strategies from research in their own context
- providing tools and activities to extend knowledge, skills and understanding in practitioners' own contexts.

Not every resource focuses on every need – and each also relates to the remit of their sponsor. But as **Figure 1** shows, the array of resources is beginning to create a critical mass in response to each of these purposes.

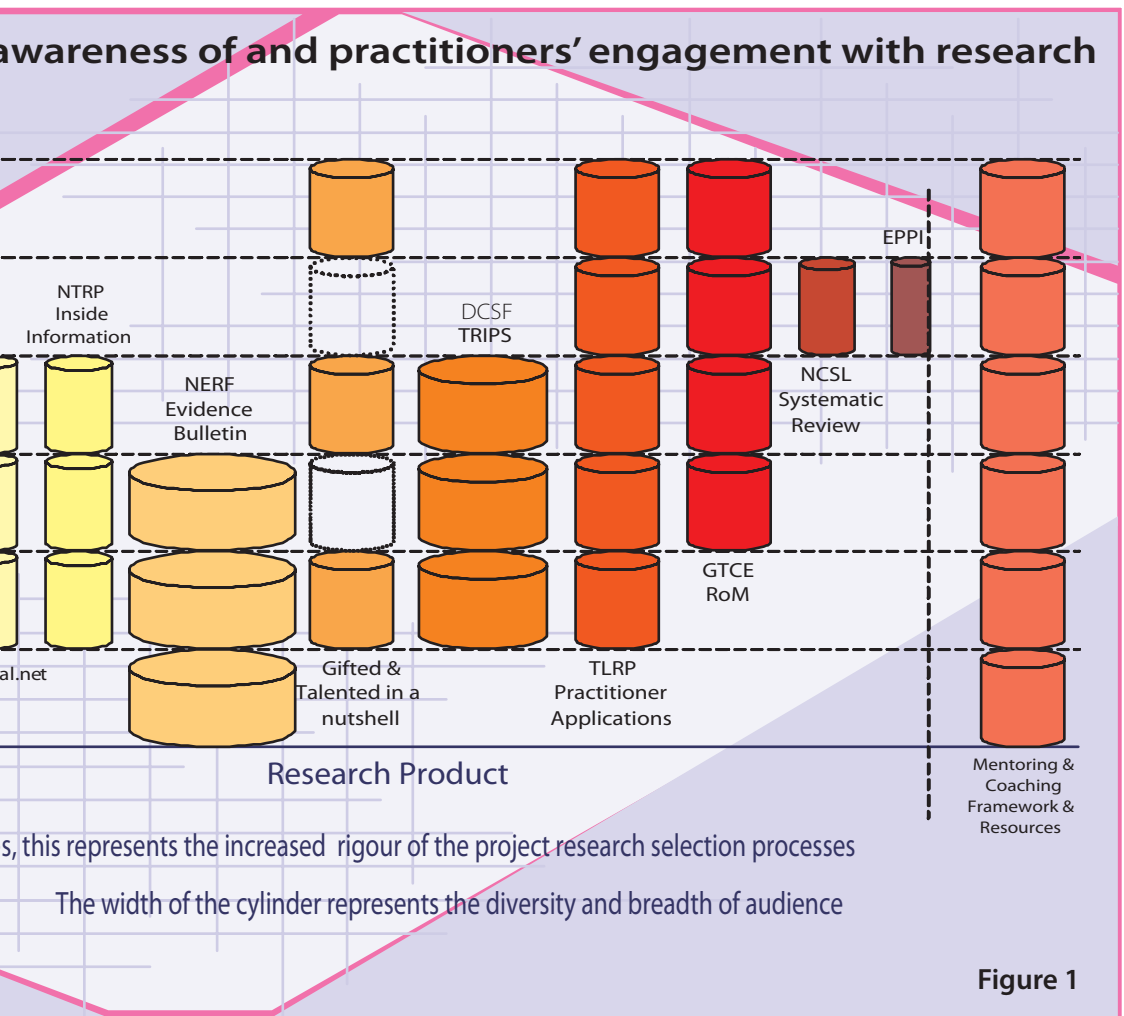



Figure 1



Who's doing what across the different national agencies?

Different national agencies have taken responsibility for bridging the gap between research and practice in different ways. Some focus on making recent research accessible, some on synthesising, weighing and calibrating evidence and some on raising teachers' interests in research. Taken together they create a nationally sponsored infrastructure. Initiative examples include:

- **The Research Informed Practice Site (TRIPS)** – digests are designed to put the most up-to-date evidence from research journals into teachers' hands (The Innovation Unit & DCSF)
- **Research of the Month (RoM)** – summaries of large-scale research likely to have long-term relevance, linking findings to small-scale practitioner work (GTCE)
- **Renewal.net** – education policy and research briefs designed to answer the questions of local partnerships in deprived areas about key aspects of teaching, learning and schooling based on current evidence (Neighbourhood Renewal Unit)
- **EPPI-Centre systematic reviews** – designed to draw together and calibrate all the research on selected topics in a robust way using teams of researchers, with practitioners as a key intended audience (DCSF, TDA and GTCE)
- **Mentoring and Coaching Framework and Resources** – these form a range of multimedia materials and resources for practical use in a range of settings, which are largely informed by research findings (The Innovation Unit, DCSF and TDA)
- **Inside Information** – booklets bringing together teacher research into useful publications for teachers, addressing practical issues such as working with teaching assistants.

In addition to government agencies responding to the needs of teachers, some organisations have practitioners in mind too. For example, the NFER produces *Practical Research for Education* (PRE), which is a hard copy bulletin with articles, based on research, for teachers on practical issues for the classroom. This is a priced publication – but some articles are available free online.





3. Supporting the process of putting research to work in the classroom

How do these initiatives support evidence-informed practice?

The resources attempt to:

- encourage and/or support practitioners in interpreting, testing and refining strategies from research in their own context
- provide access to theory/the underpinning rationale to enable transfer
- enable practitioners to relate research findings to own experiences
- help to secure understanding of core facts and issues
- raise awareness regarding the range of useful research
- investigate the issues of interest to practitioners.

Each resource fulfils a number of these functions as demonstrated in **Figure 1**.

Accessibility and raising awareness

All the bridging resources make research accessible by working through the lenses of practitioner use, adopting a practitioner-friendly style, tone and format – deconstructing obscure jargon, writing in plain English and highlighting practical implications.

For example, TRIPS digests offer teachers, governors and parents (who generally do not have ready access to research journals) access to clearly presented, robust research findings. TRIPS digests are short web summaries of research studies published in peer-reviewed journals. They are grouped into themes and topics such as English and mathematics. Opaque, unexciting titles that offer little information about what the study is about are changed into more informative and jargon-free titles to attract practitioner readers. So, for example, the journal article with the title *Enhancing mathematical problem-solving among third-grade students with schema-based instruction* was



retitled *Helping pupils classify and tackle mathematics problems*. The digests are an example of personalisation in professional learning because they address different teachers' learning needs. All primary teachers are aware of the need for effective literacy teaching, to take just one example, and TRIPS offers a menu from research of tried and tested approaches to suit different issues and contexts. Individual studies are chosen because they:

- report doable approaches
- use robust measures, such as multiple data sources or comparison with control groups
- contain illustrations of processes and practices that have the potential to promote reflection and future action for teachers, or which contain useful messages for school leaders and others concerned with the quality of education.


The 90 digests currently available on TRIPS cover the 20 or so themes that are of most concern or interest to teachers, such as assessment for learning, behaviour, ICT, inclusion, pupil grouping, literacy, mathematics,

science, pupil voice and thinking skills. Digest authors conclude by highlighting aspects of the research findings and drawing out some of the implications for practice to help practitioners relate the evidence to their own issues and contexts.

The digests have proved to be a popular resource. The site receives somewhere between 9,000 and 10,000 unique visits a month, or 114,000 visits a year.

EPPI-Centre systematic reviews

('EPPI reviews') offer a different route to awareness-raising about current research evidence. The Research Evidence in Education Library (REEL) is an online collection of systematic reviews in education. The reviews use rigorous methods that are replicable, transparent and free from major sources of bias. What is unique about these systematic reviews is that they can raise awareness of the current state of research findings about a particular topic by synthesising the findings from individual studies. Thus far the EPPI reviews have made important contributions to practitioner knowledge in several realms of pedagogy, including assessment for learning,



ability grouping and thinking skills and in the realm of CPD. Originally focused on the needs of international researchers, the specifications from EPPI-Centre for review outputs have recently been revised to make the reviews more accessible and relevant to a wide range of people concerned with education, including teachers. Other resources, such as TRIPS digests and GTCE Research of the Month (RoM) summaries have used the findings from these reviews to reach out to a wider practitioner audience.

Teaching and Learning Research Programme (TLRP) projects use a variety of tools for communicating findings for practitioners. These include short research briefings and longer research summaries, drawn from each project's final report. More detailed publications are also available from each project. Summary books from most projects contribute to the *Improving Learning* series, and some projects produce materials for practitioners in the *Improving Practice* series. TLRP analyses the work of all projects to identify key themes and to produce commentaries on contemporary issues.

Learning Exchange Online (LEO), funded by the National College for School Leadership (NCSL), ran until 2006 (website still available) and aimed to raise awareness of research likely to be of interest to groups of schools working in networks to enhance teaching and learning. Abstracts of research (including case studies, think pieces and research-based resources as well as peer-reviewed journal articles) provided key information so that practitioners could decide whether they wanted to know more. The studies that attracted the most interest were then written up into short digests presented in bite-size chunks and organised around a concept map. Suggestions for how the research findings could connect with practitioners' own contexts were also made along with suggestions for further reading.

Enabling practitioners to relate research to their own experiences

Research resources are made useful to practitioners by modelling real world contexts through mapping case studies, creating tools (such as the mentoring and coaching framework) from findings,




presenting illustrative vignettes, asking good questions about implications for practice and creating activities to stimulate thinking, engagement or experimentation.

For example, **Research of the Month (RoM)** summarises large-scale, applied, empirical research studies. The summaries are targeted primarily at classroom teachers but they have also been useful to higher education professionals with responsibilities for initial teacher training (ITT) and postgraduate CPD. They are made freely available on the GTCE's website. Like many of the other resources, RoM summaries use questions to tailor the content to practitioner interests and explicitly draw out some of the implications of the research findings for practitioners and schools. What makes them unique is the use of a number of case studies of classroom-based research (many of which are conducted by teachers) to help teachers relate the RoM summary findings to their own contexts. Teachers who have spotted links with their own practice and pupils in a case study can be encouraged to find out more about the research and CPD materials.

There are now 40 RoM summaries available. They cover a range of themes, such as early years' practice, science, literacy and mathematics teaching, inclusion, and CPD. They also include benchmark studies of learning and the work of education psychologists and philosophers such as Lev Vygotsky and John Dewey. Each RoM summary explores the nature of effective classroom practice in some detail. For example, a RoM summary about assessment for learning (based on a study by Black et al, 2003) explored how a group of teachers helped their students to become active rather than passive learners. Through working with the researchers, teachers became aware of shortcomings in their approaches to questioning and marking and how they could use peer and self-assessment as a means of helping students to learn effectively.

RoM summaries can be surprising too: the findings about parental involvement reported in a study by Desforges and Abouchaar (2003) for example, were particularly important ones to bring to practitioners' attention because they were counter-intuitive. Many schools put a great deal of effort into



getting parents to come into school. However, the study showed how parent-child conversations in the home are more valuable, in terms of enhancing children's achievement at school, than parents' involvement in school activities. RoM summaries set out to increase practitioners' understanding of the importance of trying to involve parents in extended and meaningful conversations with their children at home, as well as involve parents in school activities as they have traditionally done. Through the case studies, RoM summaries aim to offer some practical suggestions for ways of enhancing the conversations parents have with their children at home.

Altogether, there were around 5,500 unique visits on the RoM website each month in 2005-6 (amounting to 66,000 over a year) with an average of 222 visits for each RoM summary per month (2,600 per year).

Renewal.net, funded by the Neighbourhood Renewal Unit, is targeted at a wider audience than both RoM summaries and TRIPS, that includes not only teachers but all those working in public and voluntary

services in neighbourhood renewal areas. The remit is different too. The documents are designed primarily to help other services interface with schools and colleges through providing detailed information about the issues and problems which local partnerships are facing in the most deprived neighbourhoods in the country. In education, these might include truancy, children in care, teenage pregnancy, underachievement at school and bullying. They offer research-based approaches to solving such problems plus advice and practical examples of how schools, local authorities and people working on renewal projects can jointly go about tackling them. These include case studies of joint working across local agencies and children's services.

Renewal.net provides an evidence-based resource that is particularly relevant to the *Every Child Matters* agenda, where multi-agency partnership working is a prerequisite to success. Around 2,500 documents were downloaded each month in 2005, amounting to around 30,000 downloads over the year.



National Teacher Research Panel (NTRP) is an independent group of practising teachers who work to:

- ensure that all research in education takes account of the teacher perspective
- ensure a higher profile for research and evidence-informed practice in government, academic and practitioner communities
- increase the number of teachers engaged in and with the full spectrum of research activity.


Panel members participate in many national advisory groups and research steering committees. Their own experience of research (through their own and others' work) makes them ideally placed to bridge the gap between the research and practice worlds.

The panel's publication series, *Inside Information*, draws on teachers' own research to produce practical guidance for teachers. For example, one issue focuses on best practice for newly qualified teachers (NQTs). The publication features case studies

of classroom research conducted by teachers, together with suggestions for how NQTs could test out the research with their own classes as part of ongoing enquiry. *Inside Information* is an example of teachers learning from each other.

Supporting practitioners in interpreting and applying research evidence in their own context

Practical advice about getting started in adapting and adopting new strategies is a key step in supporting practitioners to change their practice. Some researchers have been suspicious about providing such resources, distrusting the illustration of practical activities as superficial tips for teachers. Their concern is that teachers should have access to the underpinning rationale and a picture of the complexity of the evidence as understandable and rational. But change in practice, in its early stages, involves doing things differently and teachers need help in getting started. A number of resources try to do just this by drawing out the implications that prompt reflection and stimulate experimentation. Research



findings have also been used as the basis for building activities for CPD sessions and creating funding schemes to promote coaching and/or action research.

Examples of CPD activities and processes

Practitioner activities which are designed to be ‘tasters’ for the findings from the TLRP, funded by the ESRC. Nuggets of evidence drawn from TLRP projects are offered as a starting point. They are accompanied by suggestions for reflective activities that immerse practitioners in evidence about their students’ current experiences. The 250-word tasters conclude with follow-up activities for teachers to carry out in their own classrooms, both on their own and with the help of a colleague or mentor, and suggestions about where to find out more. There are currently around 180 such activities.

Gifted and Talented in a Nutshell.

These activities on the National Academy of Gifted and Talented Youth (NAGTY) website are based on research evidence and designed to help anyone

interested in Gifted and Talented (G&T) education explore some of the key issues at primary and secondary level. They range from the thorny problem of identification of G&T students to ways of adapting standard textbook exercises in class.

The Mentoring and Coaching

Framework, which features on the Training and Development Agency for Schools’ (TDA) website, pulls together the evidence from research about effective mentoring and coaching into a set of principles and skills which are now in widespread use in the work of all national agencies and increasingly in schools. A set of video and practical materials and resources to support activities in classrooms and staff and departmental meetings accompanies the framework.

The Teacher Learning Academy’s (TLA)

core dimensions reflect its commitment to ensuring that teaching is informed by the evidence of a professionally relevant knowledge base. Engaging with the knowledge base is a prerequisite for teachers embarking on a TLA accredited programme, as



are coaching, mentoring, sharing and influencing practice. There are now over 400 trained TLA Leaders located in schools in over 70 different local authorities. The TLA Leader role and the development of hubs of schools to support the learning of teachers through the TLA is at the heart of the strategy for ensuring that more teachers have the opportunity to achieve professional recognition.

In schools with well-developed, professional learning strategies, resources like those described above are well used to support ongoing enquiry and coaching-based development.

In the many schools just starting to develop strategic approaches to CPD and to use research and evidence, external awarding schemes can act as a useful stimulus at the same time as building a critical mass of practitioner research on a hot topic. Current schemes include:

Creativity Action Research Awards (CARA) were conceived and funded by Creative Partnerships, and bring together classroom teachers and creative practitioners to investigate, through creativity-based projects, the

effect creativity has on pupil learning and motivation. Results from the action research projects are evaluated and the findings made available to schools across the country.

National Centre for Excellence in Teaching Mathematics (NCETM)

is making a grant scheme available to cover teacher research or teacher development projects associated with any aspect of mathematics teaching. The centre intends that grants will normally be linked to research about teaching approaches or to professional development innovation.

The Gatsby Teacher Fellowships programme

seeks to identify teachers of maths, science and design and technology who can make a significant contribution to the effective and inspirational teaching of their subject. The fellowships are normally for a year and provide an honorarium and support funding to allow the holder of the award to carry out curriculum development and, where appropriate, gain further professional qualifications.



Focusing on what's relevant

Most practitioners are not interested in research unless it has something to say about issues or problems close to their practice. Topics selected for use in these resources are not just snatched from a hat, but are based on real practitioner concerns and interests. These are uncovered systematically through using feedback from focus groups, monitoring website visits, surveys, and analysing practitioner research questions. Huberman (2002) points out that there is a strong case for making this process more systematic. Sustained collection and analysis of teachers' own research questions for the various grant schemes, from Postgraduate Professional Development (PPD) and from the TLA, would provide important evidence for informing the research priorities and plans for research in higher education institutions.

NERF Evidence Bulletin is modelled on *Bandolier* and enables practitioners from early years to FE and HE to access the findings of a large number of studies quickly and easily. The Bulletin drew on evidence from focus groups and surveys to identify the topics closest to practitioners' daily concerns. Researcher-writers distilled the evidence from research studies in these areas and presented the findings in a series of lively one-page syntheses. Over two years and six issues a cumulative body of evidence, in areas from dialogic learning and thinking skills to literacy and numeracy, was built up. Other topics teachers wanted to know more about included ICT, grouping, parental involvement, assessment and behaviour management.





4. Where next?

Gateways to research

A simple search on Google may not necessarily help practitioners to find the resource that best suits their needs quickly and easily. It may produce too many responses. It will also fail to provide the teacher with any clues about the quality of the resources.

To explore how far the Internet can help to overcome this problem, a number of the national agencies have got together to create gateways to research resources. The UK Educational Evidence Portal (EEP) is the work of a consortium of organisations, including CfBT Educational Trust, British Education Index, DCSF and TDA and supported by Microsoft Education. EEP aims “to provide all professionals involved in education and learning access to a range of research and evidence materials held in a variety of online sources”. The project is informed by a research review (Rickinson, 2005), which found that the Internet is a popular source of research information for practitioners, but that poor search

skills can limit its effectiveness, and by a survey (Sheffield & Saunders, 2004), which suggested that the time practitioners needed to find research resources is likely to be disproportionate to the time available to read and digest them.

The Teacher Training Research Bank (TTRB) (supported by the TDA and managed by Canterbury Christ Church University, The Institute of Education, The British Education Index and 3T Productions Ltd), aims to help practitioners involved in initial teacher education (both teacher educators and those training to teach) to access the research and evidence base. It provides summaries and reviews written by expert teacher educators on a range of products, including TRIPS digests, TLRP projects and DfES research reports together with links to related resources.



1996 to 2006: building evidence over time

Research (other than research reviews) tends to be published piecemeal. This means that evidence enters the public domain at a particular point in time. Resources like TRIPS, RoM summaries, evidence bulletins and others have the capacity to collect a body of evidence in any given area over time. Since Hargreaves' original challenge there are some aspects of teaching and learning about which we can be a lot more confident than we were before the various resources enabled us to accumulate evidence of relevance to practitioners thematically. This also enables us to pinpoint the gaps in our collective knowledge about teaching and learning for teachers.

To take just one example – the cluster of TRIPS literacy digests provides clear evidence for teachers about the importance of effective early years' education and parental involvement. There is strong evidence that getting children off to a good start lays the foundation stone for later learning and success in life, and that adult-child interactions at home make all the difference. Collectively, the digests show

teachers how the home environment enhances children's learning. Based on a number of studies, including Sammons et al (2004) and Sénéchal & LeFevre (2002), the digests show that children's early literacy learning is enhanced when:

- adults support children's reading and writing activities at home
- adults encourage a range of learning activities including painting and drawing
- teachers give children opportunities to build on what they do at home
- teachers use elements of popular culture to motivate children's reading
- adults ask children questions that probe their thinking about what they are doing and thereby encourage reflection.

Importantly, the digest authors use the research evidence to draw out the implications of the accumulated evidence for practitioners – addressing the question "what can schools and teachers do to help parents support their children's learning?".



Improving the evidence base

The resource base

The research resources we have discussed are just a snapshot of the developments that have taken place over the last ten years. They are certainly steps in the right direction, but there is a lot more to do before teaching is informed by research and evidence at any sort of scale. This is partly, still, a function of the supply. One of the reasons for the disparity between health and education when it comes to evidence is the relative lack of confidence in the system as a whole in answering ‘what works?’ questions in teaching and learning in some areas of the curriculum.

The situation identified by Hillage was addressed in part by the advent of the TLRP but, for the school sector at least, this three-year investment is ending just as the findings are coming into the public domain. The education community needs to think now what will come in its place. No follow-up investment is currently planned for the school sector. The vast majority of studies and evaluations robust enough to be included in UK-generated research

syntheses tend to have been conducted in the United States and elsewhere.

Although there is an increasing commitment to evaluating new initiatives, evaluation processes and links with student learning outcomes are rarely built in at the point at which the initiative is planned. This is generally more a reflection of the scale of the investment and the longer timescales required for longitudinal evaluation than any lack of interest in evaluation.

What do teachers want from research?

Teachers will engage with research when it speaks to their concerns and interests. The professional development topics identified by teachers as needed in the next 12 months in the GTCE 2006 survey were:

- using ICT in teaching (57.6% of all teachers)
- strengthening and/or updating skills and knowledge in curriculum subject areas (50.8%)
- addressing underachievement in groups of pupils (45.4%)
- teaching pupils with SEN (45.3%)



- teaching gifted and talented pupils (44.5%).

And top of the list, always, for the *NERF Evidence Bulletin* topics, was behaviour management.

This agenda is not a million miles away from current policy priorities. For example, all the topics fit well into the personalisation agenda highlighted in the 2020 Vision report (Gilbert, 2007). But how do these practitioner concerns relate to the current research landscape? How are relevant research findings being brokered into practice? Following the pioneering work of NERF, a number of other organisations are picking up the mantle of focusing on getting research to practitioners. CfBT is investing in knowledge reviews for teachers. The Institute for Effective Education (IEE), based at the University of York, will undertake primary research on teaching and learning as well as reviews of existing research.


There has probably never been a better time for raising awareness of high quality evidence about teaching and learning. Over 50 per cent of schools are in organised and funded development networks of one sort or another. Mentoring and coaching, which

explicitly encourage teachers to draw on evidence, are on the national policy agenda and in every school's sights. Targeting research through issues that are owned by teachers, investing in and making more effective use of the growing body of resources designed to bridge the gap between research, policy and practice, are important next steps.

We could start by asking some serious questions.

Where next for evidence-informed practice?

In her review of personalised learning published early this year, Christine Gilbert identified the means and processes for knowledge creation, capture and transfer as a system-wide priority. She suggested that the key to transforming pupils' learning and achievement was to develop a strategy for systematic innovation in teaching and learning. Many teachers are experimenting with small-scale innovation to tackle issues and concerns they encounter daily in their classrooms. Collecting data on the hundreds of recent and current teacher research interests or questions would make a good starting point.



Responsibility for bridging the gap between research and practice – the mediating infrastructure – needs to be collectively owned across the system. Do we need to develop a national framework for a research and evidence-informed education system that clarifies the core principles and skills and illustrates them in practical ways and with tools teachers can use?

How do we build an evidence base that is robust, cumulative and accessible?

The need for different parts of the education system to articulate better with one another is widely acknowledged. National agencies are, on the whole, trying hard to do this but without the necessary tools and information. A shared evidence base is a good springboard, particularly as the school sector becomes increasingly differentiated. An Internet portal will bring resources together and is a step in the right direction. But it will be only as good as the resources it contains. Busy practitioners will need help in digesting and interpreting them. People need to understand the implications of and connections between research findings and to be able to assess the quality of

the evidence for themselves. To this end resources need to be themed, appraised, collated, accumulated over time and mapped and presented in ways that are accessible and meaningful. Policy makers, practitioners, governors, parents and students and other colleagues from children’s services need help in personalising these important resources for their own purposes.

True ‘knowledge transfer’ also means understanding the underpinning principles behind an innovation. Too often, disseminating the captured knowledge translates into communicating it and we end up with ‘ten tips for teachers’, a necessary starting point for engaging attention but an insufficient one for securing change. Using research about effective teaching and learning to create reflective or experimental activities for teachers to undertake in their own classrooms not only promotes classroom innovation and contributes to the strategic development of school-based professional development, it also helps to transfer practitioner understanding about why something works and so build ownership and control.



What support is needed for schools?

It is already becoming clear – according to Ofsted and to higher education professional development providers – that the role of the CPD Co-ordinator is helping schools to take a more strategic approach to professional learning. But, as Gilbert points out and as this booklet has explained, schools still lack access to relevant research and evidence. They need an intelligence service. Given the extent of networking, perhaps this is the kind of information management service that could be provided on a network, cluster or LA basis.

Over the past decade thousands of interested teachers have been engaging with research and evidence in different ways. The next step should be to move beyond natural enthusiasts and convertible sceptics and actively to promote the use of research and evidence to all teachers, using effective marketing strategies such as the TDA's recruitment advertising campaign. The commercial world expects to spend just as much on marketing as on product development. It understands the scale of the challenge of getting people who can benefit from resources to do so.

But use of research and evidence is a means to an end. The responses to the Gilbert Review on personalisation, to the challenges of the *Every Child Matters* agenda and The Innovation Unit initiative to develop and promote Next Practice all represent significant and important challenges and also substantial opportunities and investment streams. The last ten years of developing support for research and evidence-informed practice is well positioned to inform and enrich such work – provided that the next ten years sustains the development trajectory outlined in this booklet.



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Bandolier – Evidence-based health care:

www.jr2.ox.ac.uk/Bandolier

CUREE: www.curee.co.uk

The Innovation Unit – Next Practice:

www.innovation-unit.co.uk

Learning Exchange Online (LEO):

www.ncsl.org.uk/networked/networked-leo-search.cfm

Mentoring and Coaching National Framework:

www.curee-paccts.com/dynamic/curee48.jsp

National Teacher Research Panel:

www.standards.dcsf.gov.uk/ntrp

Neighbourhood renewal:

www.renewal.net

NERF Evidence Bulletin:

www.nerf-uk.org/bulletin

Practitioner Applications:

www.tlrp.org/pa

Research Evidence in Education Library:

<http://eppi.ioe.ac.uk>

The Research Informed Practice Site (TRIPS):

www.standards.dcsf.gov.uk/research

Research of the Month (RoM):

www.gtce.org.uk/research/romtopics

Research Assessment Exercise (RAE):

www.rae.ac.uk

Teacher Training Research bank:

www.ttrb.ac.uk

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The Innovation Unit is one of the country's leading organisations for innovation in education. We act as a catalyst for change drawing on talent from both the public and private sectors to improve education and other related services. We combine the expertise of people who work in schools with the ambition of policy makers. We have extensive experience in school leadership, education system reform, policy making, universities, the BBC, local authorities and the private sector. We also draw on a network of thought leaders from the UK and around the world.

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www.innovation-unit.co.uk

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