How do teachers use research findings to improve their professional practice?

Helmsley-Brown, J. & Sharp, C.
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Evidence-based practice in education – what helps and what are the barriers?

Research in medicine regularly makes new and better treatments and procedures available to patients. What would you think if you were only ever offered the same treatments your doctor learned about on qualifying 20 years ago?

In a controversial speech in the1990s, David Hargreaves highlighted the way that medical professionals use research findings to inform the decisions that they make about treatment for their patients, in order to make sure they give the most appropriate care, with the greatest likelihood of success. He argued that the same was not true in schools and challenged education professionals to think about why there did not seem to be the same approach in schools to using research.

In order to explore these issues further the study looked at the following four key areas:

- how did local authority officers, heads and teachers use research findings for school improvement?
- which features of research encouraged teachers to use research findings in their own practice?
- what role did opinion-leaders, diffusion networks and change agents play in the dissemination and adoption of ideas for school improvement?
- did medical practitioners make greater use of research findings than heads and teachers and, if so, why?

To try to answer these questions, the researchers undertook a systematic search of the literature relating to teachers' use of research. Whilst they found evidence of barriers to research, they also found that teachers and school leaders viewed research positively and in some cases, used it to inform practice and policy. The study highlighted ways in which research could be made more accessible through networks or via individual teachers who were particularly open to change. These 'change agents' could help to disseminate research

findings to schools. The study found that although medical professionals were more likely to use research than teachers, there was no evidence that they used it more effectively.

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What made teachers engage with research?

The study highlighted a number of features which could motivate practitioners to become involved with research, including:

- direct relevance to their needs and interests;
- illustrations of activities which helped them relate the findings to their own work;
- help from an outside expert who could support and guide them in their use of research;
- research which built on what they knew already and on their own professional interests; and
- sufficient time to absorb and act on messages from the research.

The researchers found that practitioners preferred research and evidence that could have a direct impact on their practice. Teachers judged a study's merits on the basis of whether the findings could be translated into procedures that worked in their classrooms. Most teachers responded positively to credible case studies or examples.

Practitioners sometimes needed help to make links between their understanding of the research and their knowledge of teaching. It was important for them to have someone, such as an outside consultant or facilitator, who could make research readily available to them and support them to make sense of the findings for their own context.

Where practitioners could identify a specific purpose to research and were allocated time to reflect on it, they became more open to the possibility of making changes to their classroom practice and/or thinking about their teaching in a different way.

What were the barriers to practitioners' use of research?

Lack of access was a significant barrier to practitioners' use of research because:

- they found the volume of research daunting;
- they did not subscribe to the academic journals in which research was published; and
- they rarely had access to academic libraries unless they had undertaken academic study.

Teachers gave other reasons for not using research. They believed research:

- sometimes had ambiguous results or untrustworthy findings;
- was often full of jargon and statistics they did not understand; and
- was too theoretical and unhelpful or irrelevant to their teaching.

The study found that researchers received little training in how to present their research to practitioners.

Practitioners were less interested in research and tended to become defensive when they believed that the intention in sharing evidence was to impose a particular style or model on their teaching. In this case, they tended to challenge the validity of the findings for their unique context. This held true even when the person sharing evidence was a peer or colleague.

What factors linked research awareness to changes in practice?

The review found evidence that even when practitioners had read research findings, this did not lead automatically to changes in practice. The relationship between research awareness and practitioners' use of research was complex and unpredictable. The impact of research could be improved when there was genuine collaboration between practitioners and researchers at every stage in the research process. There was evidence that research could have an impact on practice as long as practitioners were involved in the identification of the research focus and were provided with a context in which they could learn strategies for improvement.

Collaboration and mutual support encouraged teachers both to engage with research and to implement new practice. 'Diffusion networks,' in which opinion leaders made

recommendations that were spread by word of mouth, were thought to offer an example of the effectiveness of human contact in promoting change. Several studies in the review were based on theories of the social construction of knowledge, of change as a social process and schools as social systems. Such studies emphasised that organisational and professional culture could have a more pronounced effect on the rate of changes to practice than individual practitioners.

The review highlighted an empirical study in Britain that found evidence that the two factors that had most impact on changes in classroom practice were resources and statutory requirements. Compulsory, funded change was more likely to be implemented than optional initiatives that were insufficiently funded. This study recommended that researchers aimed to convince policy makers of the value of their research findings.

Was research more widely used in medicine?

In exploring the relationship between the ways that research is used in education and in medicine, the researchers found that there were as many similarities as there were differences. For example, the professionals most likely to access research in medicine were surgeons, who did so because it is important for their career development to constantly update their skills. In education, the professionals most likely to access research were practitioners undertaking post-graduate study, which was more likely to be linked to their career development than to their practice.

GPs, nurses and teachers were less likely than surgeons to use research. GPs cited information overload and a lack of time as being the principal barriers to accessing research evidence. Nurses identified inadequate facilities and uncooperative doctors as their biggest problems in implementing evidence-based change.

Whilst education practitioners did seem to be less likely to use research than other professionals, the study found little evidence to indicate that other professionals use research more effectively.

What does this study tell us?

Practitioners and researchers had different expectations of research. Practitioners looked for new solutions to operational matters, while researchers looked for new knowledge. Practitioners valued findings that had a direct application in classrooms while researchers were rewarded for publication in academic journals that practitioners did not read.

Most practitioners believed that education research was largely quantitative and abstract and that it was not relevant to their specific context. Practitioners who undertook post-graduate study and accessed research in an academic context were able to appreciate and critique research knowledge and make sense of it for their own learning.

The researchers drew no conclusions from their study of medical practitioners' use of research.

How was the study undertaken?

The researchers undertook a systematic review of research evidence published during the period 1988 – 2001 from education and medicine in USA, Canada, Australia and Europe.

They searched multiple databases and revealed over 5000 references. Of these, 183 papers were identified as relevant to the review and 21 research publications were selected for detailed study.

In choosing their studies, the researchers used a best evidence approach, which prioritised findings from the best designed research. They used purpose, design, sample and methodology as criteria for selection.

They analysed summaries of each study to build up an evidence base in relation to each of the review questions.

What are the implications for practitioners?

The study found gaps between the expectations and perceptions of practitioners and researchers and suggested changes that could help to close these gaps.

In completing this digest, the authors began to ask questions about implications for classroom practitioners, school leaders and researchers.

Classroom practitioners might like to consider the following:

- The study showed teachers find it hard to find helpful research. Do you? Apart from other research on this website, would you find it helpful to investigate any of the links listed under 'Further reading'?

- Even research with clear findings may not be easy to translate into practice in your classroom. The study indicated that support from colleagues is invaluable in this process. What opportunities can you create within your school to discuss research findings with colleagues and to experiment with new approaches? Who might be most supportive? Who else wants to learn with you?

- Teachers who actively participated in research studies found this had positive effects on both their classroom practice and their professional development. What opportunities exist near you for dialogue between you, colleagues and researchers in Higher Education Institutes?

School leaders might like to consider the following:

The study identified school leaders as key facilitators in creating an organisational culture that values and uses research.

- To what extent does the culture in your school facilitate the use of research? Is it open to new ideas?

- Do you share research findings as a staff and discuss implications for classroom practice?

- Do you allocate time for staff to observe and learn from each other and to plan collaboratively? Would looking at relevant research enhance this process?

- Have you agreed, as a staff, what your school needs are and then looked for helpful and relevant material? Could your librarian help you with this?

Researchers might like to consider the following:

The study found that practitioners want research to be practical and directly useful to their classrooms. It also highlighted the effectiveness of social contacts in raising awareness of research findings and promoting good practice.

- Do you involve practitioners in the design and focus of research activities so you can more accurately identify the needs of local users?

- Do you consider the needs of practitioners when presenting your research findings?

- Do you write clearly, explaining essential technical terms and avoiding jargon?

- Do you explain statistical findings simply?

- Could you promote links between your own institution and local schools, for instance, by inviting practitioners to regular discussion groups on aspects of practice that interest them?

- Do you use opportunities offered by school to school networks to share your research findings?

Where can I find out more?

Reports on the impact of educational research that can be accessed online include:

Cordingley, P. (2000) Teacher perspectives on the accessibility and usability of research outputs. *Paper presented at the BERA Annual Conference.* University of Cardiff, September 7-9, 2000. Available at: http://www.ncsl.org.uk/mediastore/image2/randd-engaged-cordingley-perspectives.pdf (Accessed 23 March 2005).

Department of Education, Training and Youth Affairs (2000) *The impact of educational research: research evaluation programme.* Available at: http://www.dest.gov.au/archive/highered/respubs/impact/splitpdf_default.htm (Accessed 9 March 2005).

Fielding, M. et al (2005) *Factors influencing the transfer of good practice*. London: DfES (DfES RR615) [Online]. Available at: http://www.dfes.gov.uk/research/programmeofresearch/index.cfm?type=0&keywordlist1=0&keywordlist2=0&keywordlist3=0&andor=or&keyword=RR615&x=70&y=14 (Accessed 10 March 2005).

Kanefsky, J. (2001) Research impact and the ESRC teaching and learning research programme. *Paper presented at the BERA Annual Conference*. University of Leeds, September 2001. [Online]. Available at: http://www.tlrp.org/acadpub/Kanefsky2001.pdf (Accessed 10 March 2005).

Ratcliffe, M. et al *Science education practitioners' views of research and its influence on their practice*. [Online]. Available at: http://www.york.ac.uk/depts/educ/projs/P4Report2004 (Accessed 10 March 2005).

Wilson, R. (2004) Taking control: how teachers use research, *TOPIC,* Issue 31, [Item 2]. [Online] Available at: http://www.topiconline.org.uk/31_f.pdf (Accessed 25 April 2005).

Websites giving links to research and research summaries, including examples of practitioner research include:

The Teacher Research Grant Scheme reports from 1997 to 2000, available at: http://www.tta.gov.uk/php/read.php?sectionid=82&articleid=686 (Accessed 9 March 2005).

The following page on the DfES site gives a list of research publications that can be downloaded: http://www.dfes.gov.uk/research/index.cfm

The General Teaching Council website has a Research of the Month section with a variety of summaries of major research reports and illustrative case studies of particular interest to teachers. http://www.gtce.org.uk/research/romhome.asp

Numerous publications are available from NCSL, mainly on leadership. http://www.ncsl.org.uk/index.cfm?pageID=randd-research-publications

The following website helps teacher researchers to share their action research accounts of how they are improving their teaching and learning with their students. http://www.teacherresearch.net/

Connecting Research and Practice – education for sustainable development
The site contains information about the project, and practitioner case studies, showing how practitioners used research in different educational settings.
http://www.nfer.ac.uk/EUR/default.asp