Practitioner engagement in and/or with research and its impact on learners

This new systematic review explores what's known about how practitioners in schools and colleges get involved in or with research, and about the impact which that has on their learners. This includes finding out about**:**

- the obstacles to practitioner engagement in and/or with research;
- the forms of support that help practitioners overcome the obstacles;
- the range of approaches practitioners use to engage in and/or with research; and
- the extent to which practitioners apply research within their own contexts.

By engaging *with* research we mean practitioners accessing publicly available evidence, interpreting it and adapting it to their own contexts. By engaging *in* research we mean practitioners carrying out enquiries that:

- address a research question;
- use instruments (observation and interview schedules etc) to enable them to explore adverse as well as positive effects of an intervention/new teaching strategies; and
- analyse and reported on the evidence collected.

In all the studies surfaced by our review, the practitioners who engaged in research themselves also engaged with published research. The latter stimulated or informed and shaped the practitioners' own research activities. In a number of studies teachers were engaged *with the research of others* rather than *in* their own research.

The links between practitioner engagement in and with research and learner outcomes

25 research reports were included in the synthesis of studies in education. They reported the impact on learners of practitioners' engagement in and/or with research as positive and spread fairly evenly among improvements in:
- knowledge and skills;
- behaviour for learning; and
- attitudes/motivation for learning.

Approaches to supporting engagement in and with research were very similar and involved co-construction, modelling and mentoring. Specialist support, contextualisation and peer support were common features of all programmes in the studies.

The kinds of research activity the practitioners were engaged in

- **Researcher led**

At one end of the spectrum, in the education studies the research was entirely planned, analysed and reported on by researchers, with practitioners actively involved in implementation, in data collection and review. Teachers were introduced to research findings and the underpinning rationale or theory, by researchers. They were offered extensive support, often via enquiry-rich development activities, to interpret findings and adapt them for their own contexts. We saw practitioner engagement in this case as engaging *with* rather than *in* research.

- **Practitioner led**

At the other end of the spectrum in education, the research activities were wholly planned, implemented, analysed and reported by practitioners. In the teacher initiated and directed studies, the teachers drew upon a range of support from a wide range of sources, including HEIs, Local Authorities and specialist organisations. In the Masters based studies, the guiding hand of the HE tutors was evident in the consistencies between the methodologies adopted by the authors of the studies from the same institution. Whilst the nature of the support varied between studies, the processes undertaken by practitioners were very similar. Practitioners were involved in data collection through a range of methods, usually including observation, review of practice and refinement of the approach, analysis and reporting. Thus it involved engagement both *in* and *with* research.

Aspects of research

The kinds of research education practitioners were engaging in and with varied, but included research into:

- assessment for learning, including self and peer assessment;
- using the web as a learning tool;
- improving social skills through the use of co-operative learning strategies;
- making group work effective;
- increasing student motivation;
- professional development in behaviour management;
- teaching literacy, mathematics, and social sciences;
- inquiry based learning in science; and
- creativity in the curriculum.

The obstacles to education practitioner engagement in and/or with research

Our synthesis of education studies highlighted four obstacles.

- **Time** – this included having to rush to complete the research within a specified time frame (largely the degree related research) and having to put in time during holiday periods. One study, for example, reported that teachers perceived the action research process as "time-consuming and overwhelming". Another highlighted the need for more time for initial training in the new strategies the teachers were to implement as part of the research.

- **Facilitation and/or external support –** ranging from too little support to changes in key personnel, facilitators having no knowledge or background in action research, or no expertise in facilitating research.

- **Research methods and processes** – this included difficulties with elements of the research process (including defining the research question, writing the literature review, developing a methodology and organising the findings), difficulties with analysing data (for example, finding a way of analysing writing in order to make measurable comparisons between pre and post tests and pinpointing and calibrating the exact results of observations), and having a large volume of data to analyse.

- **Diverse Foci –** teachers found it difficult to engage in research if they had to focus their efforts on too many different things at once, such as learning about and implementing a number of new teaching strategies or simultaneously acquiring both content and new Web skills.

There was a notable difference between the FE studies and the school-based studies in terms of obstacles. The FE studies we looked at found that student attitudes, diversity of experience, beliefs, resistance to change and confidence levels presented themselves as obstacles to engaging in and/or with research. Support mechanisms however were similar to those in the school sector detailed below.

Support that helped education practitioners overcome the obstacles

Practitioners drew support from external assistance, peer collaboration, or both. Institutional support was critical too.

- **External critical friends**

Good facilitators offered feedback, guidance, resources and tenacity. Effective support from researchers in studies where teachers were part of an externally facilitated research project included modelling and training. One study for example, referred to the researchers as 'mentors' who modelled the intervention strategies and provided technical support via email. Another study described how the researchers provided teachers with initial training in the intervention strategy and a manual that outlined specific learning goals and strategies which they then used collaboratively.

- **Peer collaboration**

This type of support included teachers jointly practising the new teaching strategies, jointly planning and reflecting together and talking to others about the project. It also included institutional resources and supports, and joint workshop and feedback sessions.

- **Institutional /leader support**

Studies which focused on teacher learning found that institutional support was critical to the success of their interventions. The studies pointed to the need for schools/leaders to:
    o be knowledgeable about the professional development opportunity that action research offers;
    o realise that support during the implementation steps of an action research study, specifically, during the data analysis phase, is essential to the teacher's and school's success; and
    o provide a supportive culture that enables teachers to learn new practices (such as assessment for learning strategies), feel safe about taking risks and have opportunities to learn from mistakes.

One study for example, reported how action research projects were negotiated with the headteachers and teachers were supported by their schools in the use of assessment data, lesson observations and surveys. The teachers in this study (who were involved in science-based action research) benefited from both institutional support and external expertise, including LA advisors, HEI academics and an interactive science centre.

Approaches education practitioners used to engage in and/or with research
- **Co-construction**

There was strong evidence of links between teacher engagement in and with research and significant changes in practice with a positive impact on student achievement. Teacher co-construction (i.e. teachers working together to interpret and implement interventions in their own contexts) was an important part of the process. What was important was that the collaborative inquiry focused on student learning needs from which teacher learning needs were identified. This

gave teachers an understanding of what it was they needed to learn to improve outcomes for students and a compelling reason to engage in research. The most powerful element of the process was checking whether any changes in practice were having the desired impact on valued student outcomes.

- **Using the research of others**

Nearly all the studies involved engagement with research as a starting point for engaging in research. Themes which sparked the projects included AfL, research on the use of the Web in educational contexts, approaches to professional development, reading strategies, thinking skills, and groupings in mathematics teaching.

Review Methods

The Review Team screened over 8,000 titles and abstracts for this review, from which 224 studies focusing on practitioner engagement in and/or with research and including evidence of learner outcomes were identified. These 224 were subject to a second filter agreed with the sponsors and with the Advisory Group. This involved the application of consistent criteria related to design and methods and was applied to all studies, whether they were classroom-based teacher action research projects or large-scale researcher manipulated interventions. We also excluded all studies which involved only one practitioner. Following the application of robust and transparent weight of evidence criteria, 25 studies with medium or high weight of evidence remained for synthesis. We used systematic and explicit approaches for assessing the methodological robustness of the studies at the in-depth review stage.

None of our 25 included studies were conducted in a further education (FE) setting. We identified a group of FE practitioner studies for contextual purposes because our Steering Group was particularly interested in this setting. We have highlighted the potential differences and issues for these without including them in the synthesis.

What are the implications?

- **Implications for teachers**

  - Practitioner engagement in and with research was linked to a range of positive outcomes for learners – and to a selection of new approaches with a proven track record. *When you next need to tackle something new, e.g. in relation to the School Development Plan why not scan the research web resources specifically designed to keep teachers up to date with evidence about what works, to locate approaches with a track record relevant to your aspirations for yours pupils?*

  - Focusing on student learning needs helped teachers to identify what they needed to learn to improve outcomes for students and gave them a compelling reason to engage in research. The most powerful element of the process was checking whether any changes in practice were having the desired impact on valued student outcomes.

    This suggests finding out from your students what their needs are through for example interviews, focus groups, and/or questionnaires and/or observing them carrying out activities. Doing this will help you fine tune existing approaches and signpost areas for further development. You could then use some of the same mechanisms for distilling pupils' experiences to explore the impact of your own development on your pupils' learning and achievement. Don't forget that teachers in these schools all benefitted from working

alongside colleagues and from a degree of specialist support. Who could work with and help you as you work?

Implications for leaders

- Practitioner engagement in and with research was linked to a range of positive outcomes for learners.

  This means that all teachers would benefit from engaging in and with research as part of their own professional development. CPD of this kind would help teachers become discerning users of research and be able to identify approach when an enquiry is most appropriate. Could you kick start this important capacity building process by modelling engagement in and with research as a tool for tackling a particular school improvement focus? Could you model use of research by explicitly asking for evidence about the potential effectiveness of the different approaches and ideas your colleagues bring to you?

- The review highlights the importance of external specialists as a support to teachers engaging in and with research.

  An implication of this is that schools/clusters would benefit from exploring sustainable partnerships with organisations who can offer access to a network of external specialists. This role might include supporting teachers in engaging in research with practical tools and technical back up, providing access to relevant research, and supporting schools in interpreting the implications of relevant research for the context.

- Studies which focused on teacher learning found that institutional support was critical to the success of their interventions.

  Teachers are likely to benefit from support with planning, implementation and data analysis, so this could be a useful focus for peer tutoring and mentoring. Support could also take the form of:

  - *fostering a school culture in which teachers feel safe about taking managed risks and learning from mistakes when learning new practices, and*

  - *ensuring opportunities for engaging in and/or with research are effective and focused on both teachers' needs and those of their learners.*

Finding out more

- In all the education studies, the practitioners who engaged in research themselves also engaged with published research. The latter stimulated or informed and shaped the practitioners' own research activities.

  A number of resources are available on the web which are geared towards supporting teachers in accessing, and engaging in and/or with research. Colleagues interested in encouraging engagement in and or with research might like to scan these resources and / or sue the route map on CUREE's web site (put in web link) to locate the ones that relate best to their interests. The resources include:

  - *Research digests available on The Research Informed Practice site (TRIPS) (www.standards.dfes.gov.uk/research/). These consist of short (four to five web page) summaries of recent and practical research papers from refereed education research journals.*

  - *Research Bites (www.teachernet.gov.uk/docbank/index.cfm?id=13558). These are web based PowerPoint presentations that take two and a half minutes to view and offer a speedy introduction to the research reported in the TRIPs digests.*

- *The GTC's Research for Teachers (RfT) summaries (www.gtce.org.uk/teachers/rft/). These resources involve substantial practitioner oriented presentations of cornerstone empirical studies and also strands of theoretically driven empirical work by Vygotsky, Dewey, Bruner, Dweck etc. They are organised to 'tell the story' of key findings, have hot links to core concepts and/or findings to illustrative summaries of high quality teacher research. A series of CPD tools and resources complement and mediate the substantial collection of evidence.*

- *Research tasters (www.tlrp.org/pa/ for the schools sector and www.tlrp.org/ls/ for the FE sector). Each research taster highlights a research finding or insight of practical relevance and suggests a reflective activity for gathering evidence and implications for further exploration. It also provides selected web-links to further information.*

If you would like to explore some of these findings in more detail you might like to come along to a CUREE session on the 3rd Dec 2010 where the implications will be explored further alongside other highly current and intriguing research findings. Contact serena.dong@curee.co.uk for more detail.