

# Research for Teachers

January 2012



"This article is one of a series intended to help ETFO members become more aware of current research findings directly relevant to teaching in elementary schools."

## # 7 HOW TEACHERS CAN USE RESEARCH

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Education research has an important contribution to make to practice, but teachers face two big challenges in getting the most value from research evidence. First, how can teachers learn about the findings and implications of high quality research? Second, how do teachers turn the rather general findings of research into practices that work in very different schools and classrooms?

The good news is that there is a growing base of reliable evidence on many aspects of education practice. For example, John Hattie's (2009) careful analysis of a very large number of studies on student learning found that among the most powerful influences were how teachers engage with students to focus on specific learning and how teachers and student seek and provide feedback to each other so that students become active participants in the learning. These practices showed very powerful effects on student learning across dozens if not hundreds of studies. The research reviewed by Hattie also supports practices such as students' self reporting of their own achievement. There are many other areas in which a solid base of research can guide practice – including but not limited to those in this series produced by ETFO.

On the other hand, some education ideas that are popular are not supported by evidence – for example, retaining students in grade (Hattie, 2009; Jimerson, 2009), or separating students by gender (Mael et al., 2005). And in other areas, there simply is not enough evidence to know, or the research is equivocal, with different studies producing conflicting findings, leaving teachers uncertain as to which practices they should consider adopting.

So how are educators to form judgments about recommendations that are 'based on research'?

First, one should not come to conclusions based on one or two studies, and even less should anyone rush into full scale adoption of particular practices just because they have worked in a school somewhere else. Promising results should not be ignored; those practices should be given further trials with careful evaluation to see if the same benefits also occur in other settings. But single studies or instances are not strong enough to be the basis for wholesale adoption of a new practice. In other words, education needs a more rigorous process of testing new ideas, and then adopting those that do show consistent benefit.

Second, one has to be skeptical of studies that are done by the promoters of an idea or product. Often in education the studies supporting a program or approach are done by those advocating that program. Yet we have much evidence that studies done or sponsored by promoters are much more likely to produce positive evidence – as is the case for studies of drugs sponsored by drug companies compared with independent studies of the same drugs (Lexchin, Bero, Djulbegovic, & Clark, 2003).

Reliable evidence exists when many studies find similar results even when done by different people and using different methods.

It is not reasonable to think, though, that individual educators will have the time or expertise to read all these original studies in order to form an opinion. Fortunately there is no need to do so. There are already many careful syntheses of research on various topics available, such as the one you are reading now. Many other summaries of research are readily available online; searches using terms such as ‘meta-analysis’ or ‘research synthesis’ or ‘research review’ plus a specific topic will turn these up.

Many groups and organizations work to bring research findings to the attention of teachers in various forms, from videos to toolkits, to handbooks to tip sheets. Work done by the Research Supporting Practice in Education (RSPE) research team at OISE is finding literally hundreds of such resources available on the internet, all claiming to be ‘research-based’. Some of these organizations are Canadian, including the Ministry of Education, Ontario College of Teachers, teacher federations, principal organizations, and external groups such as the Canadian Education Association. Universities and individual academics also do this kind of ‘knowledge mobilization’ work. Organizations in other parts of the world also produce summaries and syntheses with relevance to Ontario educators.

Here, again, educators are faced with the challenge of judging which work is credible. A first consideration is whether the sponsoring agency has a particular interest in reaching certain conclusions. Work done by independent sources that do not have a stake in the results is most likely to be reliable in summarizing a body of research. If that is not the case, one has to look more deeply into the evidence behind the conclusions – for example by seeing how consistent it is with other resources from other organizations. Again, consistency of findings from multiple sources is an important indicator of credibility.

To what extent do the findings of research transfer across settings? There are two aspects to this question. First, findings on many aspects of education will transfer well from one setting to another – for example the effects of feedback on work to and by students are highly likely to apply across countries, subjects, and grade levels. Findings around motivation, engagement, student understandings of subject matter, and so on are all likely to have high validity across settings because these basic human and educational processes do not vary much from place to place.

On the other hand, a research conclusion is, for teachers, only the start of the matter. Research findings are by their nature general while teaching is always a matter of specifics – these students doing this task at this particular time. Knowing that formative feedback is a powerful way to improve student learning does not tell teachers just how to use this finding in their own work. Teachers have to find ways to apply this knowledge to their own subjects and students, and to their own approaches to teaching and learning. Understanding that formative assessment is a practice well grounded in evidence does not dictate a specific approach to using formative assessment.

This means that the application of research is always a matter of professional skill and judgment. Just as in other professions, in teaching research evidence helps to direct the work but rarely prescribes it in any detail.

Finally, because teaching is a collegial activity, teachers will get the greatest benefit from research if they engage with colleagues. One of the clearest findings about the use of research evidence is that reading

about a finding does not, by itself, lead to much change in practice (Nutley, Walter, & Davies, 2007). When discussion of research implications becomes a group activity, it is more likely to lead to changes in teaching practice as teachers support each other in thinking through how new knowledge can be applied to their settings (Levin, 2011).

For more information on many of these issues, see [www.oise.utoronto.ca/rspe](http://www.oise.utoronto.ca/rspe), which also has links to a variety of other related sites and to an annotated bibliography.

## Further Reading

Hattie, J. (2009). *Visible learning*. London: Routledge.

Jimerson, S.R. (2009). Meta-analysis of grade retention research: Implications for practice in the 21st century. *School Psychology Review*, 30(3), 420-437.

Levin, B. (2011). Mobilising research knowledge in education. *London Review of Education*, 9(1), 15-26.

Lexchin, J., Bero, L., Djulbegovic, B., & Clark, O. (2003). Pharmaceutical industry sponsorship and research outcome and quality: Systematic review. *British Medical Journal*, 326, 1167-1170.

Mael, F., Alonso, A., Gibson, D., Rogers, K., & Smith, M. (2005). *Single-sex versus coeducational schooling: A systematic review*. Washington, DC: U.S. Department of Education.

Nutley, S. M., Walter, I., & Davies, H. T. O. (2007). *Using evidence: How research can inform public services*. Great Britain: The Policy Press.