

# What's So Hard About Evidence-Based Practice? Step 1: Finding Educational Research

By Pru Mitchell

## Introduction

With their passion for information literacy and critical thinking, library staff are natural advocates for evidence-based practice. The *Australian Professional Standards for Teachers* (Australian Institute for Teaching and School Leadership, 2014) require knowledge and understanding of research across all career stages (Standard 1.2). If the role of the library is to ensure the school community has the resources and knowledge it needs to improve learning, then an important part of this role is to ensure teachers and leaders have access to research related to learning. This article looks at how to keep up with research, especially ICT-related research, and to see dissemination of research as part of the library's mission.

## Evidence-based Practice

Evidence-based practice seems so self-evident that we may not stop to question what is meant by the term. It is unlikely that anyone advocating 'evidence-free education' would receive much of a hearing, nor would a school be likely to advertise an education program built around its own convenience. If our work is not built on evidence, what then is driving our practice? It must be guesswork or opinion – our own or others' – or perhaps clever marketing rhetoric about what is good for kids. Mind you, this can sometimes seem the case when checking the proportion of sessions at educational technology conferences that relate primarily to technology 'solutions'. We are lovers of story, and there is significant power in the well-crafted anecdote. It can see most teachers in a room nodding when a dynamic speaker tells a smattering of stories about how teaching strategy X or using product Y is going to solve their problems.

The draft *School Library Guidelines* released by the International Federation of Library Associations and Institutions in January 2015 endorse evidence-based practice as recommendation 15:

*Evidence-based practice should guide the services and programs of a school library and provide the data needed for improvement of professional practice and for ensuring that the services and programs of a school library make a positive contribution to teaching and learning in the school.*

So what is evidence based practice?

The *Australian Thesaurus of Education Descriptors* (Australian Council for Educational Research, 2014) describes evidence-based practice as an "approach to professional practice, particularly in the health science area, that is based on results of statistical research rather than on theories or individual experience". As the thesaurus is based on concepts found in Australian education research literature, this definition of evidence-based practice seems to indicate that the education research literature favours the scientific or experimental methods that have been a driving force in medical research. Evidence-based medicine places particular emphasis on systematic review of randomised control trials (RCTs), and a number of policy makers are advocating for adoption of this as the primary approach for education (Goldacre, 2013). The UK Evidence-Based Teachers Network (2014) takes as its position: "we do not reference original research because secure evidence only comes when all the research is combined in meta-studies".

While the collection of data is a hot topic currently in the education community, there is no consensus that experimental research is the epitome of evidence in education. Quinn (2014) argues strongly for the value of qualitative evidence. In response to the oft-quoted 'anecdote is not the plural of evidence' Quinn counters that "systematic, intentional, and careful recording of purposefully sampled anecdotes (stories) can become evidence when rigorously captured and thoughtfully analysed", especially by a professional researcher. Dylan Willam (2014) takes the view that "teaching will never be a research-based profession . . . that educational research can only tell us what was, not what might be". George Couros (2015) calls for an approach that balances attention to evidence with attention to innovation, considering an 'innovation mindset' as an important element of the educator's toolkit.

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## Research

In order to capture and weigh up evidence we rely on those who conduct and publish research. In 2004 Nimon called upon educators to reflect how casually we all use the term 'research' in everyday conversation.

*We talk about teaching students from the earliest years to 'research' a topic. It is important that as information professionals, we ourselves are aware of the difference between research in the loose sense of information retrieval and application to everyday questions and formal research as a study carefully structured and designed to generate new knowledge (Nimon, p. 54).*

Given the earlier discussion showing the opposing views of professional researchers as to approaches to research, it is not surprising that different teachers and different disciplines view research in different ways. The *Macquarie Dictionary* (2014) describes research in general terms as "diligent and systematic inquiry or investigation into a subject in order to discover facts or principles". English *Wikipedia* (2015) has separate articles for 'research and development', 'market research' and scientific research that it refers to as 'scientific method'. The *Schools Online Thesaurus* (2014) has two branches distinguishing between 'educational research' and 'scientific inquiry'. The Australian Curriculum Science learning area glossary (Australian Curriculum, Assessment and Reporting Authority, 2015) includes the following descriptions of research: "information research: study involving the collection of information from primary and secondary sources" and

*investigation: a scientific process of answering a question, exploring an idea or solving a problem that requires activities such as planning a course of action, collecting data, interpreting data, reaching a conclusion and communicating these activities.*

The *Australian Professional Standards for Teachers* (AITSL, 2015) require knowledge and understanding of research by all teachers. As well as stating in standard 1.2 that teachers should "demonstrate knowledge and understanding of research into how students learn and the implications for teaching", Standard 6.2 expects that highly accomplished teachers "plan for professional learning by accessing and critiquing relevant research" and at the lead stage teachers also "engage in research", and implement professional dialogue that is informed by "analysis of current research". There is an expectation that teachers and leaders have access to research.

**... educational research can only tell us what was, not what might be.**

There are a number of ways that teachers come to know about research. Sometimes it is passive consumption where news about research is delivered directly through marketing, headlines, social media, RSS feeds, alerts or subscriptions. In other cases readers come across research serendipitously when browsing online or print resources, or in

conversations with colleagues, and as part of professional learning activities. At times teachers engage actively and consciously, searching for research to address a specific need or interest.

Libraries have a role in each of these forms of research finding – from letting staff know about alerts, feeds and services that have these features built-in, to curating hot topics and pathfinders to save teacher time. Subscription database services such as Informit's A+ Education allow users to sign up to alerts to any new material indexed on a previous saved search, and Google Scholar supports personalised research alerts. School libraries support book clubs, journal clubs, and Professional Learning Networks as well as providing literature searches for staff or working collaboratively to collect research on topics related to school priorities.

## Finding Evidence

What are the challenges for policy makers and practitioners in identifying and accessing evidence? A major issue is that it is a time-consuming process to find, obtain, read, understand and apply research within their specific context. It assumes a particular set of resources and skills to successfully find the research that contains the evidence required to be evidence-based practitioners. How do teachers develop the skills to identify the exact problem they are facing, frame the research questions and develop appropriate search strategies that will find what they need – if it exists? A challenge for library staff can be supporting the paradoxical preference for self-service searching by the very people who are least able to define their topic, and least skilled at searching.

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## Indexing Evidence

Efficient finding of relevant research relies on indexing, whereby a human (perhaps supported by machine algorithms) reads each piece of research and categorises its key elements to aid retrieval by specific criteria, for instance type of research, topic of research, sample group and location of research. Indexing aims to provide the searcher with comprehensive recall of all the relevant research that is available on a particular concept regardless of what terminology the research report uses. The use of a thesaurus relevant to the field being indexed is as important in research as a controlled vocabulary and reference structure in library catalogues.

The indexer also strives for a high level of precision in the search results delivered to ensure that they match the context of the searcher. The quality of the evidence retrieved is a priority. There is no point wasting time searching and retrieving a piece of research which is suspect or spurious. If a journal publisher has seen fit to publish the research, perhaps even subjecting the research to peer review, and an indexing service has deemed it worth paying to index the research, this selection is to some extent a mark of quality.

## Accessing Evidence

A teacher who has the skills and an appropriate online index, database or search engine can successfully identify a rich set of research literature on their topic, only to be faced with the roadblock of accessing that literature. The click from search result to full-text is everyone's dream, but still not a reality in every case. Digital is by no means the default setting yet. Often it is expensive to access quality research, and for any subscription service a login is required. While there is a move toward more openly published research (see the [Australian Council for Educational Research's](#) repository of research, there remains plenty of high quality research that is only accessible through subscription, and education cannot afford to ignore that evidence.

Even with unlimited access to every indexing and database service that covers a topic, searchers become frustrated at the fragmented services with multiple databases using different search strategies. The varying quality of the interfaces, the indexing and the content retrieved causes busy practitioners to give up. This is an area where library services play a vital role and libraries can work together to improve access to relevant and high quality research. The school library is the most convenient access point for most teachers. School libraries, however, are not funded to hold research level collections as defined by the Australian Libraries Gateway (2009) collecting levels. A research library provides

*the major published source materials required for doctoral study and independent research, defined access to a very extensive collection of owned or remotely accessed electronic resources, as well as older material, systematically preserved to serve the needs of historical research.*

For Australian education researchers, the Australian Council for Educational Research's Cunningham Library serves this role.



## Cunningham Library

School library staff are challenged to make it as easy as possible for educators to find resources to support their teaching. The challenge for the team at Cunningham Library is to make it easy for researchers, educators and policy makers to find the research they need to support evidence-based education. Cunningham Library has a research level collection that blends physical and electronic resources, the latest journal literature and rich historical material on Australian education.

Schools that are serious about school improvement and evidence-based practice require ongoing access to quality research. Schools are able to join ACER's specialist education library and expand their access to the latest research and resources. Education journals and databases are beyond the reach of most school library budgets and joining forces with Cunningham Library is an affordable way to keep up-to-date with current education news and research, and linking your staff to research services. School membership provides access to curated information services on hot topics, and to commissioned literature searches that summarise results and evidence to save you time.

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Members also receive an account that provides access to physical resources in the Cunningham Library collection and to online research.

There is an option for *Synergy* readers to take up a free trial of Cunningham Library membership. Complete the online trial form and mention ***Synergy*** in the promo code box.



<http://www.acer.edu.au/form/library-free-trial>

**Cunningham Library Catalogue** is the gateway to Cunningham Library's extensive education collection.



<http://opac.acer.edu.au>

**EdResearch Online** contains details of over 48,000 articles from Australian education journals available for online purchase or free download from publishers. Articles cover all aspects of education and are sourced from over 500 Australian education journals. Download the full text of selected Australian journal articles from this complete article service.



<http://opac.acer.edu.au/edresearch>

## Research Conference

Learn about current education research directly from top Australian and international researchers: Encourage your school to take out a registration for the ACER Research Conference in Melbourne, 16-18 August 2015.



<http://www.acer.edu.au/rc>

## Cunningham Library Update

This free email newsletter is sent no more than once a term with information about new resources and services. School libraries can sign up online at <http://www.acer.edu.au/form/cunningham-library>.

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