

Using research evidence well in education

This article has been provided by a team consisting of **Connie Cirkony, Mark Rickinson, Mandy Salisbury, Joanne Gleeson, Lucas Walsh, and Blake Cutler**, who are working in a pioneering research project, the *Monash Q Project*. The Q Project is an ongoing study addressing the question of how research about teaching and learning filters, in a usable form, into teaching practice. The article provides a theoretical framework for the research question and follows this with a single illustrative case study taken from their ongoing data collection.

Background

In Australian education, there have been increasing calls for the development of an evidence-based approach and a research-rich profession (Australian Productivity Commission, 2016; White et al., 2018). A national evidence institute has recently been established to “work with teachers and researchers to curate and translate evidence of what works in the classroom” (Australian Education Council, 2020). There is also widespread discussion about evidence-informed practices amongst educators,

including members of Learning Difficulties Australia (e.g., Capp, 2019).

This article focuses on a specific question that is integral to these developments – *What does it mean to use research evidence well in education?* This question is important because improving teaching and learning through evidence-informed approaches requires clarity not only about what counts as quality evidence, but also about what counts as *quality use*. To date, there has been wide-ranging debate about the former (e.g., Nutley, Powell & Davies, 2013), but little discussion about the latter.

Against this backdrop, this article shares some early ideas about how quality evidence use might be conceptualised and operationalised in relation to education. The ideas presented are based on findings from the early phases of the Monash Q Project, a five-year study led by Mark Rickinson and Lucas Walsh focused on “quality use of research evidence” in Australian schools. We start by providing some background on the project, before outlining our *Quality Use of Research Evidence (QURE) Framework*. We then outline a brief example of quality use in practice, using the experiences of a special education teacher working in a school seeking to improve evidence-informed teaching. We conclude with some suggestions for reflecting on how we use evidence and how we support evidence use.

Monash Q Project

The Q Project is a partnership between Monash University and the Paul Ramsay Foundation. It involves close collaboration with teachers, school and system leaders, policy-makers, evidence brokers, researchers and other key stakeholders across Australia. The project’s overarching goal is ‘to understand and improve high-quality use of research evidence in Australian schools.’ It involves four main strands:

- **Strand 1: Conceptualisation of quality use (2019-2020)** – synthesising what is known about high-quality evidence use in health,



social care, policy and education to develop a ‘quality evidence use’ framework for Australian educators.

- **Strand 2: School-based investigation of quality use (2020-2021)** – examining the evidence use practices in at least 100 schools across four Australian states to generate practical examples of high-quality evidence use in different contexts.
- **Strand 3: Development of professional learning (2022-2023)** – co-designing and trialling with up to 100 educators across four Australian states, a professional learning process to support high-quality evidence use in practice.
- **Strand 4: Engagement and communication campaign (2019-2023)** – bringing together key stakeholders within Australian education to spark strategic dialogue

and drive system-level change around evidence use in education.

This article introduces the conceptual framework from Strand 1, along with a specific school-based example from the early work of Strand 2.

Quality Use of Research Evidence (QURE) Framework

Our systematic analysis of relevant literature in health, social care, policy and education revealed no well-established existing definitions of quality evidence use (Rickinson et al., 2020a). Drawing on ideas from all of these fields,

however, we characterised quality evidence use as the:

thoughtful engagement with and implementation of appropriate evidence, supported by a blend of individual and organisational enabling components within a complex system.

As shown in Figure 1, this definition sees quality evidence use as:

- comprising two **core components** (*appropriate evidence and thoughtful engagement and implementation*);
- being supported by three **individual enabling components** (*skillsets, mindsets, relationships*), and three **organisational enabling components** (*leadership, culture, infrastructure*); and

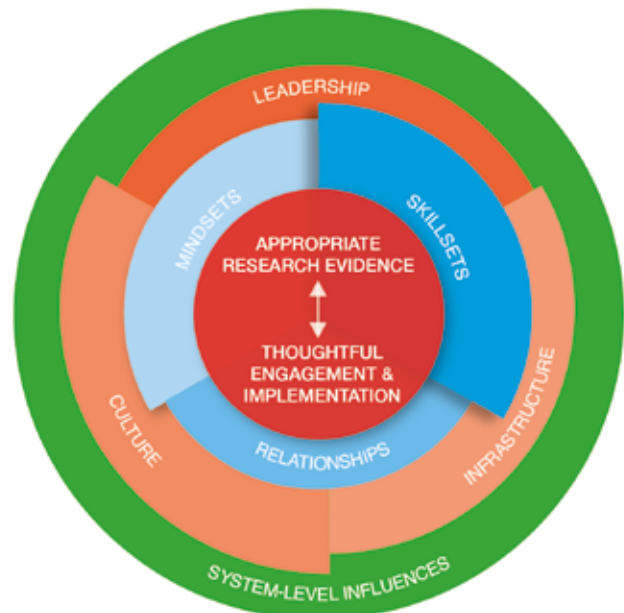
components (*leadership, culture, infrastructure*); and

- influenced by the wider **system**.
- This framework seeks to define and elaborate on what ‘quality use of research evidence’ might mean in education, and is intended as a resource for anyone who is interested in improving the use of research evidence within and across all levels of schools and school systems.

Core Components

This framing works from the starting point that quality evidence use needs to encompass the nature of the evidence

Quality use of research evidence in education is defined as...
 the thoughtful engagement with and implementation of appropriate research evidence, supported by a blend of individual and organisational enabling components within a complex system.



CORE COMPONENTS	ENABLING COMPONENTS - INDIVIDUAL LEVEL	ENABLING COMPONENTS - ORGANISATIONAL LEVEL	SYSTEM-LEVEL INFLUENCES
<p>APPROPRIATE RESEARCH EVIDENCE The need for research evidence to be not only methodologically rigorous, but also appropriate for the educational issue, the context and intended use.</p>	<p>SKILLSETS The knowledge and capabilities that are required to thoughtfully engage with and implement appropriate research evidence.</p>	<p>LEADERSHIP The organisational vision, commitments and role models that support thoughtful engagement with and implementation of appropriate research evidence.</p>	<p>The complex interactions and inter-dependencies across the education sector to support thoughtful engagement with and implementation of appropriate research evidence.</p>
<p>THOUGHTFUL ENGAGEMENT AND IMPLEMENTATION Critical engagement with the research evidence, shared deliberation about its meaning and effective integration of aspects of the evidence within practice.</p>	<p>MINDSETS The dispositions, attitudes and values that are required to thoughtfully engage with and implement appropriate research evidence.</p>	<p>CULTURE The organisational ethos, values and norms that support thoughtful engagement with and implementation of appropriate research evidence.</p>	
	<p>RELATIONSHIPS The interpersonal processes and connections that are required to thoughtfully engage with and implement appropriate research evidence.</p>	<p>INFRASTRUCTURE The organisational structures, resources and processes that support thoughtful engagement with and implementation of appropriate research evidence.</p>	

Figure 1: Components of high-quality use of research evidence.

and the nature of the use. At its core, therefore, are two inter-connected aspirations: for the research evidence to be appropriate; and for the engagement and implementation to be thoughtful.

- *Appropriate research evidence* is about the need for research evidence to be not only methodologically rigorous, but also appropriate for the educational issue, the context and the intended use. From a research perspective, evidence quality is about methodological rigour. But from a research use perspective, evidence quality also needs to be about appropriateness. As Nutley et al. (2013, p. 6) argued: “Evidence quality depends on what we want to know, why we want to know it and how we envisage that evidence being used”.
- *Thoughtful engagement and implementation* reflect a need for critical engagement with the research evidence, shared deliberation about its meaning and effective integration of aspects of the evidence within practice. “Evidence does not speak for itself”... so educators must actively “interpret and make meaning of it in order to use it” (Coburn, 2009, p. 71). Using evidence well therefore requires the integration of “professional expertise with the best external evidence from research” (Sharples, 2013, p. 7)

Enabling Components

The Q Project’s framework also builds on the idea that quality evidence use needs to be supported by a range of individual, organisational and system-level factors. That is, there is a need for:

- *education professionals* with not only the knowledge and skills to understand research evidence (*skillsets*), but also the values and dispositions to be open to its meaning (*mindsets*) and the relational sensitivity and capacity to work with others to figure out how to use it in context (*relationships*)
- *education organisations* with not only the structures and processes to enable staff to engage with evidence (*infrastructure*), but also the ethos and values to make evidence use a cultural norm (*culture*) and the leadership and commitment to demonstrate and promote its significance (*leadership*)
- *education systems* that support quality evidence use not only by specific individuals, institutions or contexts but through coordinated

interventions across multiple levels and with varied stakeholders.

With this introduction to our conceptual framework, we now turn to some of the initial Strand 2 findings about how practitioners are already engaging in research evidence use. In particular, we highlight the example of a teacher in special education who incorporates research evidence into her practice.

Quality Use in Practice - an example

During 2020, the Q Project has undertaken an initial survey of close to 500 educators and follow-up online interviews with a sub-sample of 20 educators. The survey involved a convenience sample of 492 educators (32 per cent senior and middle leaders, 57 per cent teachers, and 11 per cent other staff) from 414 schools across New South Wales, Queensland, South Australia and Victoria. Of these, 12 per cent were involved in special schools and/or held a role connected to inclusion (e.g., learning support, gifted education, speech pathology).

This example features a teacher who took part in both the survey and the online interviews. Eleanor (a pseudonym) works at a small P–12 special government school in rural Victoria, and in her role supports a number of students with learning difficulties, including those on the autism spectrum. She has a master’s degree and over 20 years of experience as an educator. Her school has identified evidence-informed teaching as one of the core improvement areas in the coming years.

Using research evidence well

When asked what it means to use research evidence well, Eleanor wrote that it involves:

“looking at the research and what it has found and seeing if it is compatible with the area that you are working in and seeing if it is usable and what you may need to do to make sure that it works for your context and cohort.”

During our interview conversation, she added:

“It’s not just the teacher walking in and going ‘Oh, I’ll just do this because I’ve done it in my last school and this works’, but actually looking at what is the best research out there for the students and what’s been trialed before and found to be successful.”

The need for appropriate research evidence

Eleanor’s responses highlighted the importance of contextual engagement with evidence.

Compared with other survey respondents, she indicated having a relatively strong ability to find research to help her day-to-day practices, confidence in accessing, analysing and interpreting research for her own teaching context, and a preference for research generated by universities or other similar organisations (e.g., articles, reports). Similar to others, she also drew from student data, action research, ideas from other schools or Professional Learning Communities (PLCs), and guidance from official bodies (e.g., Department of Education and Training).

In her current environment, Eleanor reported that her school regularly refers to evidence of what works when deciding on which programs or initiatives to implement. Her experience of working in a remote school emphasised the challenges of finding high quality research evidence that is appropriate for their students and relevant to her context.

Quality of the research

Quality of the research was an important issue for Eleanor, too. She regarded high quality evidence sources as those endorsed by professional associations or official bodies, indicating impact, and backed by academic research. She was particularly interested in how many participants were involved in a study, the impact and currency of the findings, and the consistency of impact over time.

Contextual relevance

Eleanor was also concerned about the age and ability of the participants in the research study, and interpreting the results in her context. For example, in her efforts to locate research to support writing development for students receiving curriculum adjustments, she asked: “Is there something in there that shows me that, you know, students of 18 years of age, but working at a seven-year-old or six-year-old level, how that they should be progressing, or what’s the best way for writing for them?”

Eleanor was also concerned with the scope of the research findings in relation to how they might be adapted to her student cohort. For example, some research focused solely on students on the autism spectrum, but the relevance was less clear for students whose needs might be quite different, such as those with

intellectual disabilities. She commented, “Just because the research says, ‘This is how it’s done’ – it might be how it’s done, but we may need to look at a slightly different way for some students.”

The implementation process

According to Eleanor, this critical engagement with the evidence continues through the implementation process. She emphasised the need for ongoing evaluation of how closely the programme is implemented as intended (i.e., fidelity) along with the results.

... improving teaching and learning through evidence-informed approaches requires clarity not only about what counts as quality evidence, but also about what counts as quality use.

Overall, Eleanor’s experiences speak to the core components of high-quality use of research evidence. Her example illustrates her thoughtful engagement with evidence, critical consideration of its appropriateness and applicability to a given context, and careful implementation of aspects of the evidence into particular parts of her practice.

The importance of relationships

Eleanor’s experiences also highlighted key collaborative relationships within and beyond her school. Similar to the overall survey findings, she indicated common practices in her school included seeking information from a variety of sources when making a decision and facilitating collaborative learning (e.g., Professional Learning Communities). Given the small size of her school, Eleanor highlighted the importance of relationships with the curriculum representatives from regional office and educators from nearby schools. Both played a role in sharing research and implementation strategies.

Eleanor’s example of her current school’s priority illustrates these practices in action. Her school had just started to update their approach to teaching writing for students with disabilities. With the support of their regional office, they were able to identify schools in their local area that were addressing the same approaches, to find out best practices.

Far from just adopting ‘what works best’, Eleanor demonstrated that these collaborations lead to

more critical engagement with implementation approaches:

“So, actually going and seeing, how is someone else using the same information in a different context? How it’s being used. Is it something that could be useful for what we’re doing? Or is it something that’s like, ‘well, yeah, it might be great for some of our kids, but maybe not others?’”

Her school also looked to other organisations to introduce different perspectives on how to provide adjustments for students on the autism spectrum. With the knowledge of what different schools and organisations in the region have taken on, Eleanor then charted out the next steps for her context, guided by the question: “Is that something that is fully appropriate?”

Other enablers supporting the use of research evidence

Eleanor’s story also highlighted the importance of enabling formal and informal processes to help staff engage critically with different information sources. When asked what might help staff in her school to use research evidence well, Eleanor spoke of the importance of having time to support these collaborative processes. The overall survey findings indicated that the provision of time was a key barrier for using research evidence. Addressing this point, Eleanor mentioned that her own school is planning to dedicate an hour each week for teachers and teacher aides to discuss current research, as opposed to having it “squished into a staff meeting”.

Reflections: Questions to be asked about improving the use of research

While Eleanor’s case represents one practitioner’s account of research evidence use, her experiences are consistent with the ideas in the QURE Framework and highlight some implications for others seeking to use research evidence better.

Reflecting on how we understand the use of research evidence

Eleanor’s experiences illustrate the expertise required to consider multiple lines of evidence in practical contexts. In education, the use of research is strongly connected with practical or

tacit knowledge (Brown & Rogers, 2017; Greany & Maxwell, 2017). Coldwell et al. (2017) described teaching as a complex, situated professional practice, drawing on “a range of evidence and professional judgement, rather than being based on a particular form of evidence” (p. 12). With this in mind:

- How can quality use of research help us to understand not only the potential, but also the limitations, of research evidence in responding to educational challenges?
- How can we adapt research evidence to our local contexts, in connection with our professional judgement and expertise?
- How can ‘thoughtful engagement with and implementation of appropriate research evidence’ become part of the daily professional practice of educators?

Reflecting on how we currently support the use of evidence

Eleanor’s experiences also highlight the role of interpersonal processes and connections around research use, and the need to support these through infrastructure and norms. According to Greany and Maxwell (2017, p. 4), evidence needs to be “contextualised and combined with practice-based knowledge (i.e., transformed) as part of a wider collaborative professional/social learning process”. With this in mind:

- How can we draw on and ask questions about research evidence during formal and informal conversations about teaching and learning?
- How can quality use of research be part of powerful and sustained improvement processes and cultures within and across schools?
- How can we support quality evidence use not only within specific individuals, institutions or contexts but through coordinated interventions across multiple levels and with varied key stakeholders?

These questions form part of the broader conversation regarding research use that the Q Project is seeking to foster (Rickinson et al., 2020b). Working towards high-quality use of evidence in Australian education is a system-level opportunity and a system-level challenge. We invite school practitioners in all school contexts to join us by visiting: <https://www.monash.edu/>

[education/research/projects/qproject](http://www.ldaustralia.org/education/research/projects/qproject)

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We encourage you to connect with the Q Project and be part of strategic dialogue and system-level change around research evidence use in Australian education.