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Using research well in educational practice

Mark Rickinson, Monash University, Australia

Lucas Walsh, Monash University, Australia

Joanne Gleeson, Monash University, Australia

Blake Cutler, Monash University, Australia

Connie Cirkony, Monash University, Australia

Mandy Salisbury, Monash University, Australia

International efforts to improve the use of educational research raise important questions about what it means to use research *well* in educational practice. To date, there has been wide-ranging debate about what counts as quality evidence, but very little dialogue about what counts as *quality use*. This chapter focuses on this idea of quality use (or using research *well*) and explores how it can be conceptualised, what it involves in practice, and how it can be supported. It draws on findings emerging from a five-year study of research use in Australian schools, which has involved a systematic review of international research as well as surveys and interviews with over 900 educators. The findings presented provide a frame with which to review current approaches to using and supporting research use. The work overall highlights the value of practitioner perspectives and the need for more work on using research well in education.

Introduction

Internationally there are widespread efforts to improve the use of research evidence across many sectors (Boaz et al., 2019^[1]). Education has been very much part of such trends, with the “global push to bolster the connections between research and practice” (Malin et al., 2020, p. 1^[2]). The *Emerald Handbook of Evidence-Informed Practice in Education* (Brown and Malin, 2022^[3]), for example, outlines developments within more than 20 different countries. Earlier edited collections (e.g. Finnigan and Daly (2014^[4]); Gorard (2020^[5]); Levin et al. (2013^[6])) painted a similar picture of evidence-related developments across varied countries.

These kinds of developments raise important questions about what it means to use research *well* in education. As Parkhurst (2017, p. 170^[7]) argues in the field of policy, “To improve the use of evidence in policy requires an explicit engagement with the question of what constitutes *better use* from a political perspective” [original emphasis]. This is about a subtle but important shift from a focus on the quality of the evidence towards a focus on the *quality of the use*.

This distinction is important because improved evidence use in education requires clarity about not only what counts as quality evidence but what counts as quality use. To date, there has been wide-ranging debate about the former but very little dialogue about the latter. There is a well-developed literature around understanding and appraising the quality of different kinds of evidence (e.g. Cook and Gorard (2007^[8]); Freeman et al. (2007^[9]); Nutley, Powell and Davies (2013^[10]); Puttick (2018^[11])) but little in the way of an equivalent for understanding and appraising the quality of different kinds of use.

Overlooking quality of use relative to quality of evidence is problematic. Most fundamentally, it fails to challenge the tendency for efforts to focus more on the communication and synthesis of research findings and less on supporting the uptake and application of such evidence (see for example, Gough, Maidment and Sharples (2018^[12])). In a similar way, discussions about quality in relation to evidence use can become too easily framed as a research/supply issue more than a use/demand issue. This can lead to system-level developments focusing heavily on creating access to valid and reliable evidence but saying little about how to support intelligent use of that evidence.

Against this backdrop, this chapter introduces and explores the idea of “quality use of research” or using research *well*. It presents insights emerging from an ongoing five-year study, the Monash Q Project, to understand and improve research use within Australian schools. The discussion covers three aspects of quality use of research: (i) how it can be conceptualised; (ii) what it involves in practice; and (iii) how it can be supported. The ideas presented are underpinned by a cross-sector systematic review and narrative synthesis of relevant international research as well as surveys and interviews with over 900 Australian educators.

We are aware that practice can be informed by many different types of evidence such as research-based evidence, practice-based evidence and data-based evidence (Nelson and Campbell, 2019^[13]). We are also aware that practitioners’ research engagement can involve engagement *in* (doing) research and engagement *with* (using) research (Bell et al., 2010^[14]; Prendergast and Rickinson, 2019^[15]). The ideas presented in this chapter, though, are focused on a particular type of evidence, namely *research* evidence, and a particular kind of research engagement, namely *using* research. By “research evidence”, we mean evidence generated through systematic studies undertaken by universities or research organisations and reported in books, reports, articles, research summaries, training courses or events (Nelson et al., 2017^[16]). By “using research”, we mean the process of actively engaging with and drawing on research evidence to inform, change and improve decision making and practice (Coldwell et al., 2017^[17]).

The remainder of the chapter is presented in five main sections. We begin by explaining the research processes of the Monash Q Project that underpin the ideas and insights discussed. We then discuss the framing of quality use in terms of the Quality Use of Research Evidence (QURE) Framework. Next, we look into quality use in practice in terms of educators’ perspectives on using research well. We then

consider the question of how quality use can be supported within schools, drawing again on the experiences of educators. Finally, we conclude by summarising the key arguments of the chapter and discussing their implications for strengthening the quality use of research evidence in education.

Monash Q Project

The Monash Q Project is a five-year study to understand and improve the use of research in Australian schools. A partnership between Monash University and the Paul Ramsay Foundation, it involves close collaboration among teachers, school leaders, policy makers, researchers, research brokers and other key stakeholders across Australia. To date, the main research activities have included a systematic review and narrative synthesis in order to develop a conceptual framework of quality use, and empirical investigation in order to explore educators' perspectives on quality use in practice (see Box 9.1).

Box 9.1. Monash Q Project: Study methodology

Systematic review and framework development

The early phase of the project in 2019 involved a systematic review and narrative synthesis of relevant literature in health, social care, policy and education in order to define what "quality use of research" might mean in education. The aim was to explore if and how quality of research use had been defined and described within each of the sectors. The selected publications provided the basis for four narrative syntheses that addressed how quality of evidence use had been defined, described and conceptualised within each sector. Thematic analysis was then undertaken to identify similarities and differences between the four narratives as the basis for the development of the Quality Use of Research Evidence (QURE) Framework, which is discussed in the next section. Throughout the development of the framework, the research team shared evolving ideas about quality research use with project partners and stakeholders through meetings, workshops and conferences. This feedback from stakeholders informed the development and refinement of the framework (see Rickinson et al. (2017^[18]) for full details).

Empirical investigation with educators

Building on the conceptual analysis and framework development, the project's school-based research phase commenced in 2020 with a number of surveys and interviews conducted between March 2020 and October 2021. These research activities aimed to explore educators' perceptions and use of research in their practice; The enablers and barriers affecting research use as well as what educators believe is involved in using research well. This chapter reports quantitative and qualitative findings from 27 in-depth interviews as well as two surveys involving a total of 906 educators from 4 Australian states (Queensland [QLD], New South Wales [NSW], Victoria [VIC] and South Australia [SA]). Survey 1 explored perceptions and use of research in practice and was completed by 492 educators; Survey 2 explored research-use enablers and barriers and was completed by 414 educators; and the in-depth interviews explored views on using research well and involved 27 educators (see Annex A for sample and analysis details, or Rickinson et al. (2021^[19]) and Walsh et al. (2022^[20]) for additional information).

Source: Rickinson, M. et al. (2017^[18]), "What can evidence-use in practice learn from evidence-use in policy?", *Educational Research*, Vol. 59/2, pp. 173-189; Rickinson, M. et al. (2021^[19]), *Using Research Well in Australian Schools*; Walsh, L. et al. (2022^[20]), *What, Why, When and How: Australian Educators' Use of Research in Schools*.

The following three sections introduce our definition of quality use and explain the components of the QURE Framework; explore educators' perspectives on quality use in practice; and highlight how quality use can be supported in schools.

Quality use of research: The QURE Framework

The cross-sector systematic review and narrative synthesis (Box 9.1) found a definite lack of explicit definitions or descriptions of quality of evidence use across all sectors. With a few important exceptions (e.g. Earl and Timperley (2009^[21]); Parkhurst (2017^[7]); Rutter and Gold (2015^[22]); Sackett et al. (1996^[23])), well-developed articulations or discussions about what “using research well” means or involves were not found. In all sectors, though, there were lines of thinking that touched on quality use indirectly, often in connection with evidence-use improvement or capacity building (Rickinson et al., 2021^[19]). Drawing on these ideas, a framing of high-quality use of research was developed as:

... thoughtful engagement with and implementation of appropriate research evidence, supported by a blend of individual and organisational enabling components within a complex system (Rickinson et al., 2020, p. 5^[24]).

As shown in Figure 9.1, this definition sees quality use as comprising:

- two core components (appropriate research evidence and thoughtful engagement and implementation)
- three individual enabling components (skillsets, mindsets and relationships)
- three organisational enabling components (culture, leadership and infrastructure)
- system-level influences.

The following sections now elaborate on each of these different parts of the QURE Framework, drawing on key ideas from the literature and, where relevant, some brief practical examples.

Core components

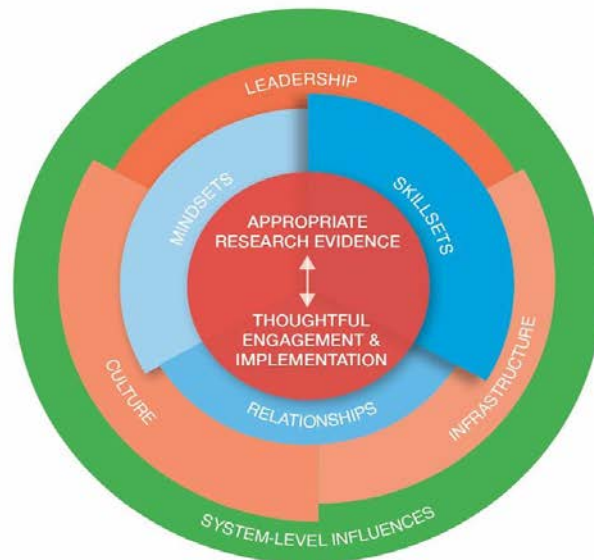
At the centre of the QURE Framework are two aspirations: for the research evidence to be *appropriate*, and for the engagement and implementation to be *thoughtful*. It is important to stress that these two core components are highly interconnected in the sense that coming to appropriate evidence will depend on thoughtful engagement, and engaging and implementing thoughtfully will depend on the evidence being appropriate.

“*Appropriate research evidence*” is about emphasising the context-specific nature of quality evidence. From a use perspective, quality research evidence needs to be not only methodologically rigorous but also appropriate for the educational issue, the context and the intended use. As Nutley and colleagues (2013, p. 6^[10]) argue: “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*”, meanwhile, reflects educators' critical engagement with the research evidence, shared deliberation about its meaning, and effective integration of aspects of the evidence within practice. According to Coburn, Honig and Stein (2009, p. 71^[25]), research evidence “does not speak for itself” and so educators must actively “interpret and make meaning of it in order to use it”. Research evidence does not replace professional expertise, rather, using evidence well involves integrating “professional expertise with the best external evidence from research” (Sharples, 2013, p. 7^[26]).

Figure 9.1. Quality Use of Research Evidence (QURE) Framework

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>	

Source: Rickinson, M. et al. (2020^[24]), *Quality Use of Research Evidence Framework*, pp. 6(24).

Individual enabling components

It will be clear from what has been said about the core components that high-quality evidence use is a sophisticated undertaking. At an individual level, it requires educators with particular *skillsets*, *mindsets* and *relationships* in order to thoughtfully engage with and implement research that is appropriate to their intended use and setting (see Box 9.2).

“*Skillsets*” refer to the significant knowledge and capabilities involved in being able to translate, apply and sustainably implement evidence-informed decisions and approaches in specific contexts. Specifically, this involves being able to access research, assess its quality, and understand research approaches and methods (Brown and Greany, 2018^[27]; Earl, 2015^[28]; Nelson and O’Beirne, 2014^[29]; Stoll et al., 2018^[30]). More broadly, this involves educators’ abilities to draw on their professional judgement (Coldwell et al.,

2017^[17]) and combine their understanding of context and existing practice with the research (Spencer, Detrich and Slocum, 2012^[31]).

Alongside skillsets, “*mindsets*” are the dispositions, attitudes, and values that are required to use research well. For example, educators with a disposition towards evidence use have a questioning mind (Earl, 2015^[28]), a conscious motivation to engage with research (Stoll et al., 2018^[30]), and an awareness of their own biases and assumptions (Earl, 2015^[28]; Evans, Waring and Christodoulou, 2017^[32]; Spencer, Detrich and Slocum, 2012^[31]). Using evidence is not simply a technical activity, it is influenced by personal and professional values and beliefs (Nelson and Campbell, 2017^[33]).

In addition to skillsets and mindsets, “*relationships*” refer to the interpersonal processes and connections that are required for quality research use. Using research well is not an isolated, individual activity. Rather, viewing and supporting evidence use as a social process requires collective learning and responsibility (Earl, 2015^[28]) along with genuine and structured collaboration both within and across schools (Greany and Maxwell, 2017^[34]; Park, 2018^[35]).

Box 9.2. Alex’s story – Individual enablers in action

Alex is a specialist teacher at a small government primary school where many of the students come from highly disadvantaged backgrounds. He is passionate about being a “curious, adventurous and proactive” user of research, particularly in relation to understanding how to best support his students who have a disability, are living in poverty, and/or are experiencing trauma.

Alex accesses research from a wide variety of sources, including academic databases, university researchers as well as research translation services within his state-based Department of Education. He also examines whether the research is “fit for purpose” in a number of ways, including in relation to surveys of colleagues’ professional development needs, his school’s improvement agenda, and standards of evidence published by his Department of Education. As he explains:

You need to ask: ‘Am I getting an outcome?’, ‘How well does this fit in my context?’, and ‘How likely is it that my colleagues and I will be able to implement the research or evidence properly?’

After finding research that goes “hand in hand” with his intended purpose for using it, Alex works closely with his principal, Phoebe, to support their colleagues to engage with this research in professional learning teams. Alex also supports teachers to trial research-informed changes in the classroom and collect data to determine the effectiveness of these interventions.

Alex’s story demonstrates the individual enablers of: **skillsets** in how he accesses, appraises, and implements research that is fit for his specific purpose and context; **mindsets** given his belief in the value of using research and his questioning mind to ensure that it is appropriate; and **relationships** because of how he collaborates with his principal and colleagues via professional learning teams.

Organisational enabling components

At an organisational-level, quality use of research also requires organisational contexts with supportive *leadership, culture and infrastructure*. Together, these organisational enablers provide educators with the conditions and resources to thoughtfully engage with research in their context (see Box 9.3).

“*Leadership*” is about the organisational vision, commitments and role models that support and encourage quality research use. At the school level, leadership has been identified as a key leverage point for developing and modelling a research-engaged school culture (e.g. Dyssegaard, Egelund and Sommersel (2017^[36]); Godfrey (2019^[37]); Nelson and Campbell (2019^[13])). In highly research-engaged schools in the

United Kingdom, for example, senior leaders were found to “play a key role, acting as intermediaries and facilitators of access to, engagement with and use of research evidence, for staff in their schools” (Coldwell et al., 2017, p. 7_[17]).

Closely entwined with leadership is organisational “*culture*”, which is about the organisational ethos, values and norms. There is a need for evidence use to be a cultural norm that is embedded within an organisation’s “outlook, systems and activity” (Handscomb and MacBeath, 2003, p. 10_[38]). This involves, for instance, promoting research use within whole-school policy and planning documents (Brown and Greany, 2018_[27]; Stoll et al., 2018_[30]; Tripney et al., 2018_[39]). Critically important is an ethos that encourages staff to regularly reflect on their practice as well as take risks and try different approaches based on evidence (Brown, Schildkamp and Hubers, 2017_[40]).

Quality use also depends on “*infrastructure*”; that is, the organisational structures, resources and processes to support research use. There is a need for measures such as: the allocation of time, space, facilities and budget; the creation of school-based research coordinators or champions; the establishment of links with external research partners and networks; and the development of formal and informal processes to support staff learning and deliberation about research and practice (Cain, 2019_[41]).

Box 9.3. Genevieve’s story – Organisational enablers in action

Genevieve is a classroom teacher at a small government school for students with physical and intellectual disabilities. One of the core improvement priorities at her school is better using research-informed strategies to support students’ learning.

Genevieve explains how her principal, Kerrie, is very “hands on” and each week, individually meets with every teacher for an hour to unpack research, think about how it could be used in their classroom, and address any potential difficulties that they may face. Kerrie has also established professional learning communities that allow teachers and teacher aides to regularly meet and plan a common approach for making research-informed changes across the school:

[We have] that time to sit down as a group to be able to talk about things, to explain things, and to go through the bits of research. ... That gives people the chance to ask if they’re not sure ... [and] not just have it squished in a staff meeting

At the same time, Genevieve engages with other schools in her region to understand and trial different research-informed strategies and report back on their findings. Her regional office also provides access to research and regularly sends an advisor to help Genevieve and her colleagues adapt the research and consider what improvements could be made.

Genevieve’s story demonstrates the organisational enablers of: **leadership** because of how her principal is “hands on” in supporting teachers to engage with research; **culture** given how research is embedded into whole-school priorities and regular staff meetings; and **infrastructure** through establishing structured time and external partnerships to support the improved use of research.

System-level influences

“*System-level influences*” take account of the complex interactions and interdependencies across the education sector that are needed to support thoughtful engagement with and implementation of appropriate research evidence. There is growing support for understanding and improving evidence use through system-wide approaches, which focus on building connections between evidence generation, synthesis, distribution and use to form effective “evidence ecosystems” (Boaz and Nutley, 2019, p. 251_[42]; Sharples, 2013_[26]). There is also increasing awareness of the need to consider the “wider political and societal

systems” (Gough, Maidment and Sharples, 2018, p. 11_[12]) and the (often limiting) impact that other system influences such as accountability policies and improvement priorities can have on evidence use in schools (Godfrey, 2019_[37]). At the same time, system leaders can enable broad support for evidence use by prioritising research use at the board, district or central office level (Education Endowment Foundation, 2019_[43]; Farley-Ripple et al., 2018_[44]) and by providing funding to support the creation of evidence-informed cultures and infrastructures (Nelson and Campbell, 2019_[13]).

Practising quality use

The role of educators’ voices in helping to move models of research use beyond the theoretical have been acknowledged within relevant literature (e.g. Boaz and Nutley (2019_[42]); Oliver, Lorenc and Innvær (2014_[45])). In our work, educators’ responses have helped to ground the QURE Framework in practical perspectives and to shed light on what is involved in practising quality research use. Overall, educators’ interview and survey responses indicated that how well research is used is an issue that matters to teachers and school leaders (Rickinson et al., 2021_[19]). When talking about research use in practice, educators were strong in their views that quality research use needed to be intentional and purposeful. It needs to be aimed at bringing about positive change in students’ learning and outcomes, school performance and/or educators’ own knowledge, practice and professionalism.

These views, however, were expressed by educators in different ways. Firstly, educators used emotive language and expressions to describe quality research use in their schools. The language used suggested the importance of using research and the positive contribution it can make to their work. For example, one primary school leader expressed their passion for research use as follows:

I love research, I just think it has such a positive impact. And I think that if you can prove that it works...then that's what you should be using. (Interview response, Senior Leader, Government Primary School)

Secondly, educators had clear views not only about using research well but also using research poorly. These descriptions provided rich insights into the dimensions of quality research use that mattered to them as well as the complex nature of quality use in practice. Table 9.1 shows examples of educators’ different descriptions, highlighting how each dimension of research use was discussed both in relation to quality use and poor use.

Table 9.1. Examples of quotes about quality research use and poor research use from educators’ interviews and responses to Survey 1

Dimensions of research use	Quality research use quotes	Poor research use quotes
The research	Quality research use involves “a strong research basis. For example, either a history or there are multiple researchers in the field who are affirming [an] appropriate teaching practice based on research. [Or] clear impact has been shown over time”. Interview response, Senior Leader, Independent P-12 School	Poor research use involves “research that “fits” a particular trend or fad that doesn’t have any evidence of improving student learning. Something found on Twitter that has not been looked at critically”. Survey response, Senior Leader, Government Primary School
The user’s mindset	Quality research use means “to keep an open-mind and not be biased, but still having a focus and a particular lens when searching for, reading and discussing research. It means to not jump so quickly into agreeing or disagreeing with the evidence”. Survey response, Senior Leader, Government Primary School	Poor research use means “teachers only seeking research that fits their beliefs, resulting in a static state of mind where there is no room to learn”. Survey response, Education Support Staff, Government Secondary School

Dimensions of research use	Quality research use quotes	Poor research use quotes
The school leadership	Quality research use is when “leaders collaborate with teachers to gather research to help design systems and structures in line with the school’s vision”. Survey response, Teacher, Government Primary School	Poor research use is when “someone in power gets a bee in their bonnet about a new research idea and foists it on the entire school community with no ownership or engagement”. Survey response, Teacher, Government Secondary School
The outcomes	Quality research use leads to “reduced pressure on both teachers and students”. Survey response, Teacher, Independent P-12 School	Poor research use leads to “unhappy staff, low student progress, and complacency”. Survey response, Teacher, Government Special School

Thirdly, from the ways in which educators described quality research use, six key characteristics became clear across our interview and survey data. For educators, quality research use needs to be: *purposeful, embedded, connected to teacher professionalism, collective, time and effort dependent, and curiosity-driven* (see Table 9.2). These characteristics were selected as key because of the powerful ways in which they featured in educators’ responses as well as how often they were referenced within the interviews and surveys (Rickinson et al., 2021^[19]).

Table 9.2. Key characteristics of quality research use from educators’ responses in interviews and Survey 1

Quality research use characteristics	Educator quote examples
Purposeful <ul style="list-style-type: none"> • There is purpose in both research use intent and individuals’ behaviours. • There is direction about intended practice change, with clear and transparent rationale for both the research itself and its use. Research use decisions and actions are shaped by the context of the practice, students or the school environment. 	<p>“It starts at the top...and that’s our decision for the whole school. And it’s transparent and we make sure that all staff have an understanding of what’s expected [when using research]”.</p> <p>Interview response, Senior Leader, Government Primary School</p>
Embedded <ul style="list-style-type: none"> • It is an intrinsic part of the school’s culture or environment. • It is embedded in practice, school processes and schedules, such as planning and review cycles, informal and formal discussions, and decision making. 	<p>“Using research well means it’s intrinsic in your approach...we talk research all the time”.</p> <p>Interview response, Senior Leader, Government Primary School</p>
Connected to teacher professionalism <ul style="list-style-type: none"> • Research use is seen as a professional expectation. • It is associated with improvements in teaching practice and student outcomes, educators’ own teaching skills, confidence and knowledge, and school performance and credibility. 	<p>“For me, to feel like I’m doing my job well, I have to do that professional reading [of research] that informs my practice, so I know that practice deeply and I know that what I’m doing is the right thing to do”.</p> <p>Interview response, Senior Leader, Government Primary School</p>
Collective <ul style="list-style-type: none"> • There is collective engagement in the use of research. • This involves staff consultation and buy-in to research use-related decisions and processes, group discussions, debate and reflection about research use and outcomes, and a research-use school culture that is collaborative and trustworthy. 	<p>“It’s not about me [the school leader]. It’s about the collective and empowering staff to get on board with the research”.</p> <p>Interview response, Senior Leader, Catholic Secondary School</p>
Time and effort dependent <ul style="list-style-type: none"> • Time and effort are dedicated and taken within school hours to use research. • Taking the time to engage with research deeply and carefully, experimenting with research, and evaluating different practice approaches and outcomes is valued within the school culture. 	<p>“Because we live in this fast-paced way that we work and schooling ... I think that the concept of slowing down to then help you speed up is something that we might need to do”.</p> <p>Interview response, Senior Leader, Government Primary School</p>
Curiosity-driven <ul style="list-style-type: none"> • Being curious and inquisitive involves individuals having a growth mindset and being open-minded to new knowledge through research use. 	<p>“Number one disposition is being curious. I keep using the word “inquiry”...having the willingness to go forward with inquiry-oriented action into exploring what that research is.”</p> <p>Interview response, Senior Leader, Government</p>

Quality research use characteristics	Educator quote examples
<ul style="list-style-type: none"> There is a school culture of questioning practice and looking to improve teaching and outcomes through research use. 	Primary School

Finally, there were clear differences between the ways in which teachers and school leaders responded to questions about using research well or poorly. The main difference between teachers' and school leaders' responses was the criticism that each levelled at others for poor research use. Teachers appeared more explicitly critical of school leaders when research was not used well, with responses indicating a need for or expectation of school leaders to guide and involve others when using research. One teacher, for example, described poor research use as:

When research is used to make decisions by those at the top without giving teachers an opportunity to consider the evidence and to discuss its implications. (Survey response, Teacher, Independent P-12 School)

School leaders' responses, meanwhile, tended to be less explicitly critical of others, although there were some occasions where teachers were blamed for research use being used poorly. For example:

Poor research use occurs when teachers disregard the research, and do not simply 'give it a go'. (Survey response, Senior Leader, Catholic Primary School)

These different perspectives on using research well or poorly highlight the critical role of school-level support in improving the use of research in practice.

Supporting quality use

Overwhelmingly, educators' survey and interview responses indicated that using research well was enabled within a school by the intentions and actions of school leaders. Educators indicated that school leaders could be instrumental in making quality research use a "normal" part of how a school performs in three main ways:

1. Creating a positive and trusting research-engaged school culture that includes them, as leaders, role-modelling research-engaged mindsets and behaviours.
2. Helping teachers and staff to develop their research use-related skills and knowledge.
3. Providing school resources, processes and schedules that support research use (Gleeson et al., 2020^[46]; Rickinson et al., 2021^[19]).

Firstly, in Survey 1 and interviews, educators emphasised the importance of leadership for quality research use (referenced in 89% of interviews and 72% of surveys) and highlighted the connection between effective leadership and a research-engaged school culture (96% of interviews, 40% of surveys). Building on this, educators in Survey 2 identified specific aspects of a school culture that were seen as critical for supporting increased and improved use of research in practice. These included "trusted staff-leadership relationship" (seen as important by 82%) and a "culture of knowledge sharing" (81%).

Notably, each of these aspects were important to both leaders and teachers. For example, whether "leaders demonstrated, and role modelled research use and implementation" was valued by 84% of leaders and 73% of teachers. As one survey respondent explained:

Leaders should not only quote what the 'research says', they have to walk the talk and model its implementation. (Survey response, Teacher, Catholic Primary School)

Secondly, educators looked to leaders for support with their research use-related skill and confidence development. In their responses to Survey 1 and the follow-up interviews, educators associated several key skills with quality research use including: "research skills", involving capabilities to find, read, interpret and critique research (referenced in 81% of interviews and 85% of surveys); "relational skills", involving

capabilities to mentor others and network for improved research use (52% of interviews, 21% of surveys); “thinking skills”, involving “forward thinking”, problem-solving and reflective capabilities (44% of interviews, 56% of surveys); and “data literacy skills”, involving capabilities to collect and analyse data (22% of interviews, 11% of surveys).

In Survey 1, a number of educators indicated that they lacked confidence in their capabilities to “judge the quality of research” (44% lacked confidence) and “analyse and interpret research” (32%), while 64% indicated struggling to “find relevant research”. Consistent with previous studies (e.g. Dagenais et al. (2012^[47]); van Schaik et al. (2018^[48])), educators who were not confident to “judge the quality of research” were significantly less likely to regularly use research in practice compared with educators who were confident to “judge the quality of research” (see Annex A for details of statistical methods).

Similar responses were also seen in Survey 2 where just over a third (36%) felt that research use was not worthwhile because the research was “being described in a way that could not easily be used or applied to practice”. As a result, educators’ most critical development needs were about how to “identify issues where research could help” (43% ranked in top 5 needs, 1st ranked overall), “assess the usability of research” (42%, 2nd ranked), and “assess research for contextual relevance and fit” (41%, 3rd ranked).

Given these findings, it is unsurprising that Professional Learning (PL) was reported as a priority for school and system leaders to address. In the second survey, just over two-thirds of educators (68%) indicated that it was “important” or “very important” for schools to provide “internal collaborative learning opportunities and/or structured professional learning communities”. Furthermore, educators who indicated the adequate provision of internal PL opportunities within their school were significantly more likely to report regularly using university research and/or university guidance in their practice compared with educators who indicated a lack of adequate provision of such opportunities within their school. This statistically significant relationship was also seen in relation to external (beyond school) PL opportunities (see Annex A for details of statistical methods).

Finally, educators stressed the need for school leaders to provide school resources, processes and schedules to support quality research use. Specifically, their responses highlighted the provision of sufficient time to engage with research while at school as a priority issue for school leaders to address. Educators reported that finding sufficient time to use research was a prominent challenge. In Survey 1, the majority of educators (76%) did not feel that they had “adequate time to engage with research” and the same percentage reported struggling to “keep up with new research” (76%). Unsurprisingly, educators who felt that they lacked “adequate time to engage with research” were significantly less likely to report regularly using research in their practice compared with those educators who felt that they did have sufficient time to engage with research (see Annex A for details of statistical methods).

The challenges in finding sufficient time for research use were also striking in educators’ responses in Survey 2, with nearly two-thirds of respondents (61%) indicating that using research was not worthwhile because of the “significant time needed to access, read and put research into practice”. For educators who used research during the school term, 81% indicated doing so at school during work hours. However, they also used their own time, with many engaging with research at home after school (59%) and/or at home on weekends (69%). While educators indicated that it was important for schools to provide structured time to engage with research (e.g. 72% of Survey 2 indicated it was “important” or “very important” to “build time into staff schedules”), they also highlighted the need for system actors such as state and federal Departments of Education to address workload pressures and insufficient teaching resources in schools to help free time to engage with research. For example:

It raises questions around [the] issues with our system. ... Time is the biggest issue because we have some very well-intentioned staff who want to try [using research] but feel so burdened by the documentation and administrative requirements [of the profession]. (Interview response, Middle leader, Catholic Secondary School)

Conclusion and implications

Our purpose in this chapter was to introduce and explore the idea of “quality use of research evidence” or using research *well*. This idea comes against a backdrop of growing efforts to improve the use of educational research internationally, which can be seen to raise important questions about what “using research well” in education means and involves. To date, however, such questions have been little discussed. As explained at the outset, there is a well-developed literature around understanding and appraising the quality of different kinds of evidence but little in the way of an equivalent for understanding and appraising the quality of different kinds of use.

In response, this chapter has shared conceptual understandings and empirical insights in relation to framing, practising and supporting quality use. In summary, it has argued that:

- Quality use of research evidence in education can be defined as “thoughtful engagement with and implementation of appropriate research evidence supported by a blend of individual and organisational enabling components and system-level influences”.
- Educators have strong views on what using research well involves in practice and emphasise the importance of it being purposeful, embedded, connected to teacher professionalism, collective, time and effort dependent, and curiosity-driven.
- Educators make clear that using research well does not happen in a vacuum but requires school-level support, in particular, research-engaged leadership and culture, research-related professional learning opportunities and most importantly, time provision for engagement with research.

Based on these main arguments, we see four potential implications for individuals and organisations interested in strengthening the role of research within school and system improvement. This includes teachers, school leaders, system leaders, teacher educators, policy makers, funders, researchers and research brokers, and the organisations, networks and systems within which they work.

Focus on evidence utilisation (pull) as well as evidence production (push)

Firstly, the ideas in this chapter can provide a frame with which to review current efforts to support evidence use. The idea of quality use, for example, highlights the need for system-level developments that not only create access to valid and reliable evidence but also support productive use of that evidence. There is a reported tendency, even among evidence brokerage organisations, to focus on “a research production (push) approach to the use of research rather than a problem-solving, demand-led (pull) approach” (Gough, Maidment and Sharples, 2018, p. 7_[12]). The concept of quality use, then, can be a stimulus for reviewing the balance between efforts to improve the production and availability of high-quality research evidence (push) and efforts to improve the capacity of policy makers and practitioners to use it productively (pull). Similarly, the enabling components of the QURE Framework can encourage educational leaders of all kinds to think carefully about how well they are modelling and fostering the development of:

- *Education professionals* with not only the knowledge and capabilities to understand research but also the dispositions and values to be open to its meaning and the capacity to work with others to figure out how to use it in context.
- *Education organisations* with not only the structures and processes to enable staff to engage with evidence but the ethos and values to make this a cultural norm, and the leadership and commitment to demonstrate and promote its significance.
- *Education systems* that support quality evidence use not only within specific individuals, institutions or contexts but also through coordinated interventions across multiple levels and with varied key stakeholders.

In connection with all of the above, educators' perspectives on using research well highlight the importance of reviewing the extent to which school-level supports prioritise *protected time* through formal and informal processes, and the ongoing development of skills and confidence through *professional learning*.

Move the conversation from whether we use evidence to how well we use evidence

Secondly, the ideas presented in this chapter can be a stimulus for reflection on current approaches to using evidence. At a general level, these ideas can encourage us to think carefully about: how willing we are to move from talking about *whether* we use evidence to talking about *how well* we use evidence; and how interested we are in improving not just the *quality of our evidence* but also the *quality of its use*. More specifically, the core components of the QURE Framework and the six characteristics of quality use in practice can be seen as an invitation to reflect honestly on current approaches to:

- *Practising evidence use* – How curious are we about the “appropriateness” of our evidence, and the “thoughtfulness” of our engagement and implementation of that evidence?
- *Developing evidence use* – How serious are we about our evidence use being “purposeful”, “curiosity-driven” and “connected to professionalism”?
- *Leading evidence use* – How focused are we on enabling evidence use that is “embedded”, “collective” and “time and effort dependent”?

Support evidence use as a practice and listen to the views of practitioners

Thirdly, the ideas within this chapter underline the value of practitioner perspectives for understanding and improving evidence use. Several authors have pointed out a lack of work focused on the practice and practitioners of evidence use. Farley-Ripple et al. (2018, p. 236_[44]), for example, describe how “little attention has been paid to the practice of evidence use” within education, with the result that “what practitioners actually do and use when engaging with research” is not well understood. Along similar lines, Lomas and Brown (2009, p. 914_[49]) note that most models of research use in policy “address the role of the researcher trying to get his or her research used more than that of the civil servant trying to do the using”. With these kinds of concerns in mind, the work reported in this chapter can be seen as an attempt to explore not just what using research well means conceptually but also what it involves practically in terms of teachers' and school leaders' experiences and perspectives. The findings reported here are, of course, at an early stage and there is much more to be done but the more general point is that evidence use as a field needs far more work that is focused on the practices and perspectives of the *users* of evidence.

Build international understanding of high-quality evidence use

Finally, the insights shared within this chapter can be a stimulus for increased work on the quality of evidence use. Some five years ago, we argued that there was “real potential in coming years for more sustained exploration of the quality and qualities of evidence use within [...] educational practice and policy” (Rickinson et al., 2017, p. 187_[18]). The work reported in this chapter is a first attempt to initiate this kind of exploration within one geographical context but we hope it can help to stimulate future similar studies of what using research well looks like in practice in other countries and/or systems. Writing several years ago, Qi and Levin (2013, p. 19_[50]) reported that “knowledge mobilisation in the field of education is still a relatively new area”. While much has changed since the time of that statement, we would argue that the “relatively new area” description is still true for our understanding of quality use of research in practice and how best to support it.

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Annex 9.A. Sample and analysis details

Annex Table 9.A.1 below provides details of the sample for each of the empirical research activities that are reported on in the chapter. It outlines educators' geographical location and role within their school.

Annex Table 9.A.1. Sample details

		Survey 1 (N=492)	Survey 2 (N=414)	Interviews (N=29)*
State	New South Wales (NSW)	149	158	5
	Victoria (VIC)	195	150	13
	Queensland (QLD)	116	83	9
	South Australia (SA)	32	23	2
Role	Teacher	281	307	2
	Middle leader	60	32	7
	Senior leader	99	24	20
	Other role	52	51	0

Note:

* 27 interviews were conducted with a total of 29 interviewees.

In terms of analysis processes, quantitative survey data were analysed in SPSS Statistics (Version 27.0) and the percentages reported in the chapter represent the number of respondents who either: “agreed” and “strongly agreed” with Likert-style rating items; ranked items in the top five positions for ranking-style questions; or selected an item for dichotomous questions. Likert-style and ranking-style questions were also recoded (e.g. “agree” and “strongly agree” responses were grouped together) to allow for similar statistical analyses to the dichotomous questions. Throughout the chapter, the phrase “significantly less” or “significantly more” denotes a statistically significant relationship ($p < .05$) between two recoded survey items based on Fisher’s exact tests (see Walsh et al. (2022_[20]) for more details).

Qualitative interview data were analysed in NVivo (Version 12) using Braun and Clarke’s (2006_[51]) codebook thematic analysis approach, which provided flexibility to allow for both deductive coding as well as inductive coding and the identification of new themes. Percentages reported in the chapter reflect the proportion of interview and/or survey responses which were coded to a specific theme (see Rickinson et al. (2021_[19]) for more details).



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