

# MONASH Q PROJECT

Research and Evidence Use in Australian Schools

**Early Insights from Educators** 

Q Survey Summary 01/2021 Monash University March 2021



March 2021

## **Early Insights from Educators**

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### 1. INTRODUCTION

The Q Project is a 5-year partnership between Monash University and the Paul Ramsay Foundation to improve the use of research evidence in Australian schools. This summary report shares initial insights from the Q Project into **how Australian** educators find and use research and evidence:

- The types of research and evidence they value;
- How and why they source different kinds of evidence; and
- Whether and how they use research within their practice.

This summary draws on quantitative findings from the Q Project's first survey of educators, which was administered online to teachers and school leaders between March - September 2020. In total, 492 practitioners from 414 schools across four Australian states completed the survey: New South Wales, South Australia, Victoria, and Queensland (see Appendix for details of the sample and the survey design).

The key insights are derived from the eight quantitative questions in the survey. A full report outlining quantitative findings, survey design and analysis has also been released and is available <u>here</u>. Qualitative findings derived from the additional open-text questions in the survey are not included in either report. These, along with findings from the follow-up interviews conducted with 29 practitioners in 2020, will be reported in a forthcoming Q Discussion Paper, due for release in April 2021.

This summary report, and the work of the Monash Q Project more generally, come against a backdrop of growing expectations in Australia and internationally that schools and school systems will use research evidence to inform their improvement efforts (e.g., Australian Productivity Commission [APC], 2016; Nelson & Campbell, 2019; White et al., 2018). Within Australia, though, there have been surprisingly few studies to examine if and how school staff are using research evidence in their work. The role and use of research in Australian schools is therefore not well understood, but this situation is changing as new empirical studies have started to emerge (e.g. Mills et al., 2021; Parker et al., 2020). The Q Project is part of such developments.

### 2. ABOUT MONASH Q PROJECT

A partnership between Monash University and the Paul Ramsay Foundation, the Q Project involves close collaboration with teachers, school leaders, policy-makers, researchers, research brokers and other key stakeholders across Australia. The project's overarching goal is to understand and improve quality use of research evidence in Australian schools.

Work to date has involved a systematic review and narrative synthesis of 112 relevant publications from health, social care, policy and education. The review and synthesis sought to explore if and how quality of evidence use had been defined and described within each of these sectors, in order to inform the development of a <a href="Quality Research Evidence Use (QURE) framework">QURE</a>) framework for education (Rickinson et al., 2020). Figure 1 shows this framework and its enabling components, as well as Q's accompanying definition of quality use of research evidence in education.



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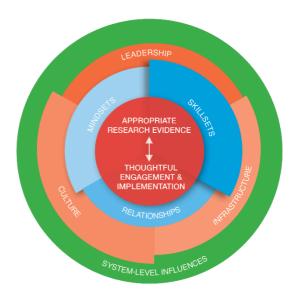


Figure 1: QURE Framework

Quality use of research evidence in education is:

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

### It comprises:

- **Two core components** appropriate research evidence, and thoughtful engagement and implementation;
- Three individual enabling components skillsets, mindsets and relationships; and
- Three organisational enabling components leadership, culture and infrastructure

The Q Project's school-based research phase commenced in 2020, with the first major activity being the design and administration of a survey to educators. As outlined in the Appendix, this survey sought to explore how Australian educators find and use research and evidence, with a specific focus on: the types of research and evidence that they value; how and why they source different kinds of evidence; whether and how they use research within their practice; and what they believe 'using research well' in practice means. The next section outlines a series of key insights that emerged from educators' responses to this survey.

### 3. EARLY INSIGHTS FROM EDUCATORS

### Research is Sourced and Used Less Frequently than Other Types of Evidence

- Educators access different kinds of evidence in varied ways and from a wide range of sources.
- Despite just over two-thirds of all educators (70%) reporting **using research** in the last 12 months, overall **research-related sources** are **used less frequently** (e.g., 43% consult 'research disseminated from universities'; 36% consult 'university-based advice or guidance') when compared with non-research sources (e.g., 77% consult 'student data'; 72% consult 'policy and curriculum documents').
- When research is used, it is used in a variety of different ways. Most commonly, research is used in a collaborative manner
  to 'discuss best practice with colleagues' (76% of overall sample indicated using research in this manner) or for personal
  development to 'improve my own knowledge of a topic or subject' (72%) and to 'reflect on my own practice' (67%).
- Nearly half (43%) of all educators believe that 'teacher observations and experience should be prioritised over research'.

  These educators are significantly less likely¹ to source research-related evidence types (e.g., 'university

<sup>1</sup> Statistically significant difference reported, where p<0.05. Fisher's exact tests (Field, 2015) were used to test the relationship between responses to survey items and demographic variables with two levels (e.g., role). Chi-squared tests (Field, 2015) were used for demographic variables with three levels (e.g., qualification). Both this summary report and the full survey report only reference statistically significant differences in the instances where they occur.



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disseminated research', 35% use 'often' and 'always'; and 'university-based guidance and advice', 25%) when compared with the overall sample.

### Leaders Have Positive Perceptions of and Attitudes Towards Research Use

- School leaders use research more in practice (91% reported 'using research in the last 12 months') when compared with teachers (61%) and other staff (51%). Leaders are also more likely to use research in direct (e.g., to 'design and plan a new initiative') and persuasive (e.g., to 'mobilise support for an important issue or decision') ways.
- Whilst overall the majority of educators have positive beliefs and attitudes towards using research, these attitudes and beliefs
  are likely to be more positive for school leaders and/or educators holding post-graduate qualifications when compared with
  teachers and/or undergraduate-qualified educators.
- Educators are more likely to have **greater confidence** in their **research use capacities** if they are a **school leader**, hold **post-graduate qualifications**, and/or have **more than 5 years of experience**.
- Educators are more likely to have greater confidence in their specific capacities to find time to access and review research if
  they are a school leader, hold post-graduate qualifications, and/or have more than 15 years of experience.
- Educators are less likely to believe that 'teacher observations and experience should be prioritised over research' if they are a school leader, hold post-graduate qualifications, and/or have more than 10 years of experience.

### Leaders Favour Contextual Relevance and Credibility Factors when Engaging with Evidence

- When sourcing and using different evidence types, school leaders, post-graduate qualified, and/or more experienced (10+ years) educators are likely to be influenced by credibility factors (e.g., 'being backed by academic research') and/or contextual relevance (e.g., 'alignment with school plans').
- When assessing evidence quality, **school leaders** in particular are likely to again use **credibility factors** (e.g., 'being backed by academic research'), as well as **'evidence of impact'** as criteria.
- When using research in practice, **school leaders** are likely to consider **contextual relevance** (e.g., 'directly applicable to implementation').

### Teachers Rely on Social and Practical Methods when Engaging with Evidence

- When sourcing and using different evidence types, teachers, undergraduate-qualified, and/or less experienced (<10 years) educators are likely to be influenced by familiarity, social, and/or practical considerations (e.g., 'word of mouth' and 'previous use or experience').</li>
- These types of factors are also used as methods to assess evidence quality, with **teachers** in particular most likely to use them.
- When using research in practice, **teachers** are more influenced by **familiarity**, **social**, and/or **practical considerations** (e.g., 'compatibility with my own teaching practices') as compared to school leaders.
- Teachers have significantly stronger beliefs about 'teacher observations and experience being prioritised over research' when compared with school leaders.



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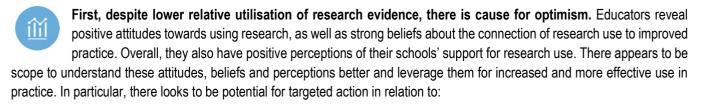
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### **Educators are Concerned about Time and Access Issues**

- Close to half (45%) of all educators **do not believe** that their school supports research use through 'making adequate time available'. This lack of belief is stronger for other staff (56% do not believe) and teachers (51%) relative to school leaders (31%).
- Educators are likely to have **less positive perceptions** of **'available time made for research use'** at their school if they are a **teacher** and/or hold **undergraduate qualifications**.
- Educators are also **concerned** about their own capacities to **find time to access and review research**. The majority **do not believe** that they have 'adequate time to access and review research' (76%), the ability to 'keep up with new and emerging research' (76%), or 'sufficient access to research evidence' (68%).
- Educators are **less likely to have confidence** in their abilities to find time to access and review research if they are a **teacher**, are **undergraduate-qualified**, and/or have **less than 15 years of experience**.
- Educators who do not believe that their school provides adequate time for research use are also likely to have significantly less positive perceptions of their abilities to find time to access and review research. The majority of these educators do not consult research-related evidence types often (e.g., 'university disseminated research', 33% use 'often' or 'always'; and 'university-based guidance and advice', 29%).

### 4. EMERGING ISSUES AND IMPLICATIONS

Foremost, these survey findings suggest that educators are sourcing and using research in practice far less when compared with other evidence types or educators' own knowledge and experience. This key insight highlights a number of issues and implications for consideration by school and system leaders.



- Contextual relevance This is an important consideration for educators when sourcing, assessing, interpreting, adapting
  and applying research in practice. Simply disseminating research, or evidence, that is assumed to be contextually relevant
  may not be sufficient. Further, research availability and accessibility must go hand-in-hand with increasing educators'
  awareness of credible research sources, as well as their research-related interpretation and implementation skills.
- Collaboration Relationships and interacting with others also represent important and valued ways in which educators, particularly teachers, engage with and make sense of research and evidence. Collaborations may be within or beyond the school community, as well as informal or formal. Understanding that different social and relational processes need to be leveraged for improved use of research in practice may inform leaders' action plans and improvement agendas. Social and relational interactions, such as collegial discussions, team meetings, and collective reflection, are also simple and effective ways of introducing and strengthening research use within school processes and practices.



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Second, there are differences that need to be acknowledged. Teachers and school leaders differ, in some cases significantly, in the types of research and evidence that they value, how and why they source different kinds of evidence, and whether and how they use research within their practice. Believing that teachers and school leaders have the same needs, expectations and capacities regarding research-engagement may exacerbate existing divides or potentially alienate some educators from research use improvement endeavours. Understanding nuances and tailoring professional learning, improvement interventions and support resources to the needs of different educator groups seem prudent ways forward.

Third, there are issues that challenge the uptake of research use. These include time and access constraints, non-supportive school cultures, and low research-related confidence levels in educators' own skills and abilities. For example, deeper analysis, examining the relationships between educators' attitudes, beliefs and confidence in their research-related skills, and their sourcing and use behaviours in practice, indicate that lower confidence levels in particular appear associated not just with lower utilisation of research in practice, but with lower utilisation of other evidence types as well, including student data, policy documents and guidance from official bodies. This finding suggests that a focus on developing educators' research-related skills and confidence may benefit increased and improved use of both research and other evidence types, and assist in educators' abilities to integrate a breadth of new knowledge with their own existing experience for improved practice.

Finally, there are complexities that warrant further investigation. Analysis of response patterns revealed significant inconsistencies between educators' low consultation of research-related evidence types relative to their high levels of reported research use during the last 12 months. Whilst not detailed in this report, other inconsistencies emerged from analysis of educators' open-text responses, with other evidence and data sources often described as 'research'. Similar to other Australian (e.g., White et al., 2018) and international (e.g., Cain, 2019) studies, these inconsistencies could indicate weak understandings amongst educators about what is and what is not 'research evidence'. Actual research use in practice may therefore be overstated.

Again, better understanding of all of the above issues, coupled with better targeting of resources and supports at all levels of the education system represent important steps to take if research use is to increase and improve for the benefit of practice and education outcomes. To this end, the Q Project's QURE Framework can provide a navigational tool to help school and system leaders think through where to focus efforts to improve the use of research in educational practice (see *Box 1*).

Moving forwards, the Q Project is keen to stay connected with teachers, school leaders, policy-makers, researchers, research brokers and other key stakeholders across Australia as our research findings are understood, communicated and used.

We encourage you to join us in discussions regarding quality research use. To connect with us, please visit:



https://www.monash.edu/education/research/projects/qproject



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### Box 1: The QURE Framework as a Navigational Tool for Improvement

Educators' insights into how, why and to what extent they use research in practice are powerful prompts for consideration about what is happening in schools. We encourage teachers, school and system leaders to think about and discuss the following questions:

#### **Skills**

How well developed are your skills in: (i) finding relevant research; (ii) appraising its quality and contextual relevance; (iii) adapting research for implementation and uptake; and (iv) reflecting on its effect in practice? What steps could you take to improve your research-related skills?

If you are a school leader: What research-related skills and abilities do your colleagues have? What plans could you implement to develop your own and others' skills?

### Relationships

What social and professional networks do you have, both within and beyond your school, that could help you source, assess and interpret research better for your context? How well are you leveraging these relationships? Are there other relationships that could be more beneficial?

If you are a school leader: How well are you fostering collaborations, both within and beyond your school, to benefit your own, as well as your colleagues' research use? How do you know this?

### **Mindsets**

How open-minded are you to using research in practice? What value do you see in using research alongside your own professional knowledge and experience? How confident are you in your abilities to use research?

If you are a school leader: How well are you fostering and role-modelling the use of research in practice such that your colleagues feel motivated, positively challenged and confident to improve their practice through research use?

#### Infrastructure

To what extent are barriers to research use, particularly time and access constraints, as well as skill adequacy, being addressed in your school? What role can you play, as either a leader or a colleague, to improve research-related processes and resources?

### Leadership

How well is research being considered, interpreted, positioned and explained by leaders in your school? To what extent is leadership enabling better research use in practice? How can you contribute to positive discussions that connect leadership to improved research use in practice?

If you are a school leader: How well are you making the purpose and benefits of research use clear to your staff? To what extent are you involving others in sourcing, interpreting, deciding on and implementing research?

### **Culture**

How well does your school culture encourage: (i) informed risk-taking and experimentation with research; (ii) questions about research selected for use; (iii) collective critique of research; and (iv) group debate and reflection about research implementation? How can you contribute to positive discussions about improving supportive research use school cultures?



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### References

- Australian Curriculum, Assessment & Reporting Authority (2019). School profile 2019. Author. <a href="https://www.acara.edu.au/contact-us/acara-data-access">https://www.acara.edu.au/contact-us/acara-data-access</a>.
- Australian Productivity Commission (2016). *National education evidence base: Report no. 80.* Author. <a href="https://www.pc.gov.au/inquiries/completed/education-evidence/report">https://www.pc.gov.au/inquiries/completed/education-evidence/report</a>.
- Cain, T. (2019). Becoming a research-informed school: Why? What? How? Routledge.
- Field, A. (2015). Discovering statistics using IBM SPSS statistics, 4th edition. Sage.
- Mills, M., Mockler, N., Stacey, M., & Taylor, B. (2021). Teachers' orientations to educational research and data in England and Australia: Implications for teacher professionalism. *Teaching Education*, 32(1), 77-98.
- Nelson, J., & Campbell, C. (2019). Using evidence in education. In A. Boaz, H. Davies, A. Fraser, & S. Nutley (Eds.), *What works now? Evidence-informed policy and practice revisited*, (pp. 131-149). Policy Press.
- Nelson, J., Mehta, P., Sharples, J., & Davey. C. (2017). *Measuring teachers' research engagement: Findings from a pilot study*. NFER. <a href="https://educationendowmentfoundation.org.uk/projects-and-evaluation/evaluating-projects/eef-research-papers/">https://educationendowmentfoundation.org.uk/projects-and-evaluation/evaluating-projects/eef-research-papers/</a>.
- Parker, B., Steele, T., Rose, V., & Taylor, D. (2020). *Getting evidence moving in schools (GEMS): Investigation paper*. Evidence for Learning. <a href="https://evidenceforlearning.org.au/research-and-evaluation/investigations-and-insights/getting-evidence-moving-inschools-gems/">https://evidenceforlearning.org.au/research-and-evaluation/investigations-and-insights/getting-evidence-moving-inschools-gems/</a>.
- Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H. C., . . . Allen, A.-R. (2016). *Findings from a national survey of research use among school and district leaders*. Boulder, CO: National Center for Research in Policy and Practice.
- Poet, H., Mehta, P., & Nelson, J. (2015). Research use in schools: Survey, analysis and guidance for evaluators. NFER. (Unpublished report).
- Rickinson, M., Walsh, L., Cirkony, C., Salisbury, M., & Gleeson, J. (2020). *Quality use of research evidence framework*. Monash University. https://www.monash.edu/education/research/projects/gproject/publications.
- White, S., Nuttall, J., Down, B., Shore, S., Woods, A., Mills, M., & Bussey, K. (2018). Strengthening a research-rich teaching profession for Australia. ATEA, AARE & ACDE. <a href="https://www.aare.edu.au/assets/documents/Strengthening-a-research-rich-teaching-profession-FOR-RESEARCH-PAGE-v2.pdf">https://www.aare.edu.au/assets/documents/Strengthening-a-research-rich-teaching-profession-FOR-RESEARCH-PAGE-v2.pdf</a>.



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### **Appendix: Survey Methodology**

The key questions for the school-based research phase of the Q Project are:

- 1. How are schools using research evidence?
- 2. What is involved in using research evidence well?
- 3. How can quality use of research evidence be developed?

The research aims in 2020, being the first year of the project's empirical phase, centred around 'listening' to educators. The research activities focused on understanding how Australian educators find and use research and evidence, including: (i) the types of research and evidence that they value; (ii) how and why they source different kinds of evidence; (iii) whether and how they use research within their practice; and (iv) what they believe 'using research well' in practice means.

### Sample

Due to the impacts of COVID-19, several changes were made in 2020 to the intended participant recruitment and research activities, resulting in two different samples participating in the survey.

**Sample 1**: It was determined that all schools who had volunteered and consented to participate in the Q Project before March 2020 would be invited to participate in research activities, with targeted valid survey respondent numbers uncapped and the survey administered on a rolling basis if any additional schools approached the Q Project and provided consent between March – August 2020. The first sample included nominated educators (leader/teacher/other staff) from each of the 78 volunteer Q partner schools. Of the 182 survey invitations sent, 125 surveys were completed (68.7% response rate).

**Sample 2**: An external data collection agency was engaged to recruit additional research participants through their panels to both increase and diversify the overall survey respondent sample. The same online survey was administered and completed by 367 educators from the four participating Australian states.

Tables 1 and 2 provide the overall demographics for the combined survey sample of 492 respondents from 414 schools.

Table 1: Sample - Respondent details (n=492)						
Respondents' State	New South Wales 149 respondents, 30%	Queensland 116 respondents, 24%	South Australia 32 respondents, 6%	Victoria 195 respondents, 40%		
Respondents' Years of Experience	<b>0-5 years</b> 74 respondents, 15%	<b>5-10 years</b> 76 respondents, 15%	10-15 years 74 respondents, 15%	15+ years 267 respondents, 55%		
Respondents' Role	Senior Leader 99 respondents, 20%	Middle Leader 60 respondents, 12%	<b>Teacher</b> 281 respondents, 57%	Other Staff Role 52 respondents, 11%		
Respondents' Qualification Level	<b>Undergraduate</b> 273 respondents, 55%	Non-research-based Post-graduate 187 respondents, 38%	Research-based Post- graduate 32 respondents, 7%			



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Table 2: Sample - School details						
Type of School (n=414)	Primary (Prep/Kindergarten – Year 6) 205 schools, 42%	Combined (Prep/Kindergarten – Year 12) 117 schools, 24%	Secondary (Year 7 – Year 12) 156 schools, 32%	<b>Special</b> 14 schools, 3%		
Respondents' School Features (n=492)	Metropolitan Location <sup>2</sup> 359 respondents, 73%	Regional Location 133 respondents, 27%	Low ICSEA <sup>3</sup> Value 179 respondents, 36%	High ICSEA Value 313 respondents, 64%		

### **Design and Analysis**

The initial survey design was informed by instruments designed and used in previous large-scale international studies of research and evidence use in education (e.g., Nelson et al., 2017; Penuel et al., 2016; Poet, Mehta, & Nelson, 2015). Led by an external research consultancy, a comprehensive four-wave survey piloting approach was then adopted to refine the survey design. The piloting approach included input from teachers, school leaders, state education department representatives, education system stakeholders, and key project advisors. The final survey comprised five parts:

- 1. Respondent details; 7 demographic questions;
- 2. Focus on decision-making about school initiatives; 1 open-text question with 4 parts; 3 quantitative questions;
- 3. Focus on school environments; 1 quantitative question;
- 4. Focus on the role of research evidence in day-to-day practices; 4 quantitative questions; and
- 5. Focus on ideas about what it means to use research evidence well; 3 open-text questions, 1 with 2 parts.

Between March – August 2020, each nominated educator from Q partner schools was emailed a personalised, identifiable link to a Monash-licensed Qualtrics online survey. Each survey was expected to take approximately 20 minutes to complete.

Between August – September 2020, the external data collection agency administered the same survey, using their own software platform, to their recruited participants to protect anonymity, but included additional demographic questions (e.g., school name) to enable school profile data (e.g., ICSEA value, location, etc.) to be sourced from the Australian Curriculum, Assessment and Reporting Authority (ACARA, 2019) for each respondent. The external agency then coded quantitative responses from their recruited sample according to the project's coding frames, and provided both quantitative and qualitative data to the project team in MS Excel spreadsheets for analysis.

Using MS Excel and SPSS statistical software (Released 2020. IBM SPSS Statistics for Windows, Version 27.0. IBM Corp.), a range of descriptive and inferential statistical approaches were used to analyse quantitative responses from both survey samples. A comprehensive description of the analysis approach is provided in the full survey report.

<sup>&</sup>lt;sup>2</sup> The geographical classification of the school location has been made according to the ABS Remoteness Area definitions, i.e. major cities = 'metropolitan'; and inner regional, outer regional, remote, and very remote = 'regional' (ACARA, 2019).

Index for Community Socio-Economic Advantage [ICSEA] is a scale developed by ACARA that takes into consideration a school community's parental occupation & education qualification base, a school's geographical location, and the proportion of Indigenous students to determine the relative socio-economic and educational advantage of a school's student population. ICSEA is set at an average of 1000, and for our sample 'low' = less than or equal to 1000, and 'high' = greater than 1000.





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