

# A BEHAVIOURAL APPROACH TO UNDERSTANDING AND ENCOURAGING QUALITY USE OF RESEARCH EVIDENCE IN AUSTRALIAN SCHOOLS

Final Report Prepared for the **Monash  
Q Project**

## **Authors**

Bernice Plant

Mark Boulet

Liam Smith

BehaviourWorks Australia, Monash  
Sustainable Development Institute, Monash  
University, Melbourne, Australia

**[Behaviourworksaustralia.org](http://Behaviourworksaustralia.org)**



## Acknowledgements

The authors would like to thank the Monash Q Project team for the opportunity to collaborate on this project. In particular, we sincerely thank Mark Rickinson, Lucas Walsh, Joanne Gleeson, and the wider Q team for their valuable research collaboration and support, not only to develop the Act-Think-Think-Act framework, but for their valuable input into all stages of the work outlined in this report and associated outputs. We also wish to thank all educators who took part in this research for their valuable time and insights shared.

## Declarations of Conflict of Interest

The authors have no conflicts to declare.

## Citations

Plant, B., Boulet, M., & Smith, L. (2022). *A behavioural approach to understanding and encouraging quality use of research evidence in Australian schools: Final report*. BehaviourWorks Australia, Monash University. <https://doi.org/10.26180/21530658>

## Funding declaration

This research was funded by the Monash Q Project, a partnership with the Paul Ramsay Foundation (Ref: 257209444).

## Copyright

© Monash University 2022

All rights reserved. Except as provided in the Copyright Act 1968, this work may not be used, reproduced, adapted or communicated without the written consent of the copyright owner. Requests and inquiries should be directed to:

BehaviourWorks Australia, Monash Sustainable Development Institute

Monash University, Victoria 3800, Australia

+61 3 9905 9656

[behaviourworksaustralia@monash.edu](mailto:behaviourworksaustralia@monash.edu)

## Disclaimer

While Monash University has taken all due care to ensure that the information contained in this work is accurate at the time of publication, it provides no express or implied warranties or makes any representations in relation to this work or any content. The information contained in this work is provided 'as is' and without any guarantees as to its accuracy, currency, completeness or reliability.

To the extent permitted by law, Monash University excludes all liability for any loss or damage occasioned by use of this work or information contained in this work. Monash University is not responsible for decisions or actions taken on the basis of the content of this work and you use the information in this work at your own discretion and risk.

The information in this work is provided for education, research and information purposes only and should not be relied on or taken as medical or any other form of professional advice. Individuals seeking specific advice or assistance should contact a qualified medical practitioner, counsellor or other professional as appropriate.

# CONTENTS

<b>1. BACKGROUND</b>	<b>4</b>
1. 1. PROJECT AIMS AND UNDERLYING FRAMEWORK	4
<b>2. APPROACH</b>	<b>5</b>
2. 1. HOW THE BWA METHOD WAS APPLIED IN THE MONASH Q PROJECT.	5
2. 2. BEHAVIOUR IDENTIFICATION	6
2. 3. BEHAVIOUR PRIORITISATION	8
2. 4. UNDERSTAND BARRIERS AND FACILITATORS	10
<b>3. BEHAVIOURAL INSIGHTS GENERATED</b>	<b>12</b>
3. 1. WHAT DOES QURE LOOK LIKE?	12
3. 2. WHO DID WE SPEAK WITH & WHAT WAS THEIR REPORTED SCOPE OF QURE?	13
3. 3. WHAT ARE BARRIERS & FACILITATORS TO QUALITY RESEARCH EVIDENCE USE?	16
3. 4. WHAT THE INTERVIEW FINDINGS MIGHT MEAN FOR DIFFERENT QURE PRACTICES	21
<b>4. NEXT STEPS &amp; FURTHER RESEARCH</b>	<b>23</b>
4. 1. NEXT STEPS	23
4. 2. FURTHER RESEARCH	23
<b>5. REFERENCES</b>	<b>24</b>
<b>6. APPENDIX A: BELIEF ELICITATION INTERVIEW FRAMEWORK</b>	<b>25</b>
6. 1. CORE QUESTIONS ASKED DURING SEMI-STRUCTURED INTERVIEWS	25
<b>7. APPENDIX B: BELIEF ELICITATION INTERVIEW CODING FRAMEWORK</b>	<b>26</b>
<b>8. APPENDIX C: ACT-THINK-THINK-ACT</b>	<b>31</b>
8. 1. CURATED LIST OF BEHAVIOURS AND COGNITIONS OF ACT-THINK-THINK-ACT	31
8. 2. FULL CONCEPTUAL MODEL OF ACT-THINK-THINK-ACT	40
<b>9. APPENDIX D: KEY CHALLENGES &amp; OPPORTUNITIES</b>	<b>41</b>
9. 1. TIME BARRIERS TO QURE	41
9. 2. ACCESS BARRIERS TO QURE	44
9. 3. SOME OTHER USEFUL INSIGHTS AND OPPORTUNITIES	46
<b>10. APPENDIX E: OVERVIEW OF BEHAVIOURAL INSIGHTS PIECES</b>	<b>48</b>
10.1. CONTRIBUTIONS TO THE MONASH Q SUITE	48

# 1. BACKGROUND

## 1.1. PROJECT AIMS AND UNDERLYING FRAMEWORK

The Monash Q Project aims to improve the use of research evidence in Australian schools. It investigates how research evidence is used in schools, and how to support educators to better use that evidence in their practice. The emphasis of the Q Project is to shift the focus from quality evidence to quality use of evidence by educators.

BehaviourWorks Australia has been collaborating with the Q team to bring a behavioural lens to this emphasis on quality use of research evidence. This includes thinking about quality use as a series of observable actions and to unpack the different barriers and facilitators that might influence educators to adopt these actions. This approach can help 'shift' research use from a more theoretical, abstract concept to an actionable, on-ground process that can be more easily understood and applied by educators. It also enables the research use process to be understood from the perspective of educators and what helps, or gets in the way of, greater uptake by the sector. These insights are critical for the targeted, and appropriate, design of interventions to facilitate behaviour change in the education sector to support quality use of research evidence.

**BehaviourWorks Australia** (BWA) is a behaviour change research enterprise based at the Monash University Sustainable Development Institute (MSDI).

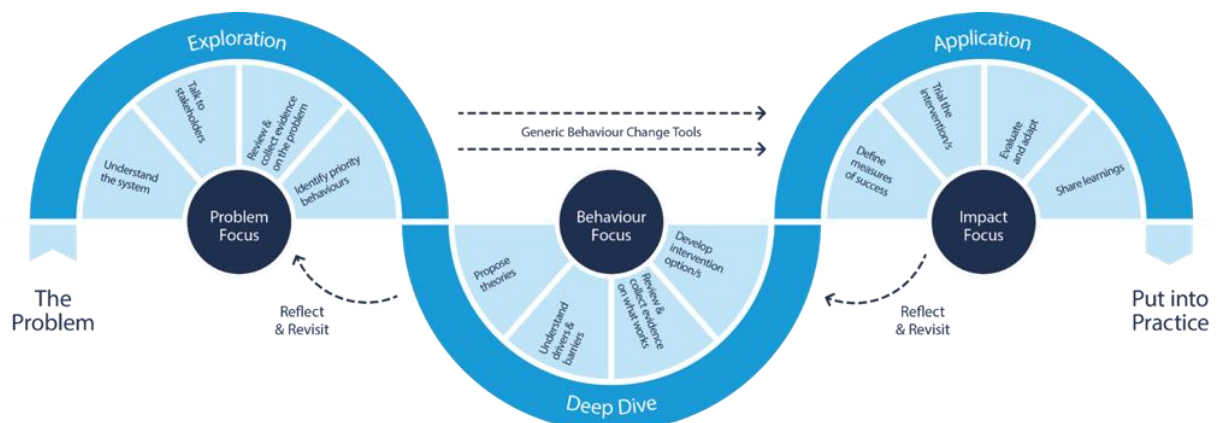
Established in 2011, BWA brings together interdisciplinary researchers from Monash University, behaviour change practitioners in government and business, and international experts who share an interest in applied behavioural research that makes a difference. We work with a range of government and non-government organisations in the fields of environment, health, emergency services, and financial and social inclusion.

Our team consists of over 25 university-based researchers who:

- Collate and gather evidence from contemporary behaviour change research and practice across a range of disciplines and topics;
- Conduct formative research to inform and design behaviour change interventions;
- Implement trials to measure the impact of interventions; and
- Deliver bespoke training to increase capacity to design and implement behaviourally informed projects.

Our work is underpinned by '**The Method**', an in-house research and design approach that moves from (i) exploring a problem, (ii) identifying relevant behaviours, (iii) understanding those behaviours from the perspective of the target audience, and then (iv) using these insights to design effective behaviour change interventions (presented in the figure below).

Tried and tested in a number of contexts, the Method helps to design better behaviour change interventions by avoiding assumptions about what influences people to engage in certain behaviours and relying instead on research evidence to inform decision making.



# 2. APPROACH

## 2. 1. HOW THE BWA METHOD WAS APPLIED IN THE MONASH Q PROJECT

We applied the BWA Method to quality use of research evidence in Australian schools as part of the Monash Q Project.

The Monash Q Project developed a conceptual framework for what ‘quality use of research evidence’ (QURE) might mean in education (Rickinson, et al., 2020). [The QURE Framework](#) was informed by an analysis and synthesis of relevant research publications and input from project partners and stakeholders.

Quality use of research evidence in education is defined as (p.6, Rickinson et al., 2020):

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

Thus, ‘thoughtful engagement and implementation’ and ‘appropriate research evidence’ are core components of quality research use, and sit at the centre of the QURE Framework.

We completed a number of activities to unpack what ‘thoughtful engagement with and implementation of appropriate research evidence’ looks like as a series of observable actions, explore barriers to these actions, and support intervention design to address identified barriers.

In applying the BWA Method, we took the following main steps:

1. Created a long list of possible quality use behaviours<sup>1</sup> via internal workshops with experts (behaviour identification);
2. Prioritised quality use practices<sup>2</sup> through internal ratings of practices and discussion with experts (behaviour prioritisation); and
3. Explored targeted practices from the perspective of educators through a series of belief elicitation interviews (deep dive).

Each of these steps is presented in the following sections, including:

- A summary of the methods used for behaviour identification, behaviour prioritisation, and understanding barriers and facilitators.
- A summary of the behavioural insights generated from this work, including:
  - What QURE might look like as a series of observable actions.
  - Key barriers and facilitators to QURE practices that were reported by a sample of educators, as well as suggestions they provided to support these practices.
- An overview of next steps and further research.

---

<sup>1</sup> In this report, we refer to ‘behaviour’ as a clear and specific observable action, which includes a defined actor, target, time, and context (further outlined in section 2.2. Behaviour Identification).

<sup>2</sup> In cases where observable action(s) are broader or more generally defined than ‘behaviours’—or where a number of specific, but aligned, behaviours are bundled together—these have been referred to as ‘practices’.

## 2. 2. BEHAVIOUR IDENTIFICATION

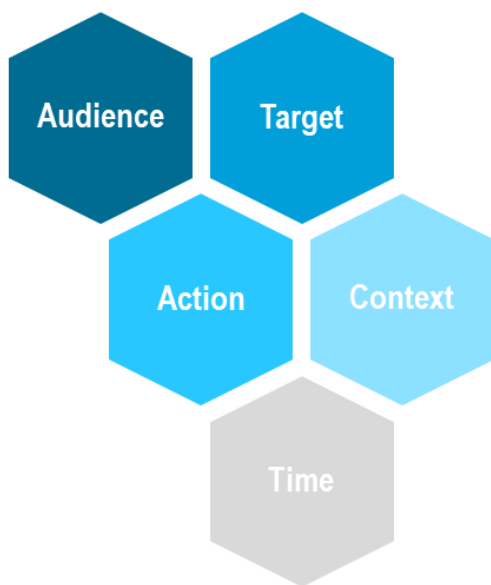
In order to apply behavioural insights, it is important to first identify relevant behaviours that can have a positive impact on the problem.

### Objective

To identify a range of behaviours that educators can perform to enhance quality use of research evidence.

### What is behaviour?

A behaviour is defined here as an observable action that occurs at a particular time and place. In curating the list of potential target behaviours, we defined behaviours using the ATACT framework adapted from Presseau et al., 2019):



**Audience:** WHO we want to perform the behaviour.

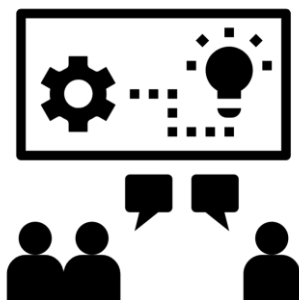
**Target:** WHAT is the subject of the behaviour.

**Action:** WHAT is done to the target item.

**Context:** WHERE the behaviour takes place.

**Time:** WHEN the behaviour takes place.

### How did we identify behaviours?



We conducted two online workshops with the Monash Q Project team to identify behaviours and develop a 'long list' of potential target behaviours aligned with quality use of research evidence.



Final development and validation checks were then conducted with the Monash Q Project team.

Behaviours reflecting quality use of research evidence were initially generated and grouped under the following four categories related to stages of ‘thoughtful engagement with and implementation of appropriate research evidence’:

- Accessing research evidence;
- Appraising the quality of research evidence;
- Considering the contextual relevance of the research evidence; and
- Applying the research evidence.

The behaviour identification workshops resulted in identifying over **100 potential behaviours or practices**<sup>3</sup> associated with thoughtful engagement with research evidence (‘long list’). In addition, a number of important cognitions were identified.

Further refinement of the ‘long list’ resulted in the Act-Think-Think-Act framework that is presented in the section ‘Behavioural insights generated’.

Examples of defined behaviours and cognitions for quality use across the four categories of ‘thoughtful engagement’, captured in the Act-Think-Think-Act framework are presented below.

### Examples of defined behaviours and cognitions for QURE across four stages of ‘thoughtful engagement with and implementation of appropriate research evidence’

#### *Accessing research evidence*

Teachers (**audience**) read (**action**) more than one source of research evidence in the form of research articles (**target**) every time (**time**) they access research evidence for use (**context**).

#### *Appraising the quality of research evidence*

Teachers (**audience**) consider (**cognition**) whether the research evidence is based on a synthesis of several studies (vs. just one study) (**target**) every time (**time**) they access research evidence for use (**context**).

#### *Considering the contextual relevance of the research evidence*

Teachers (**audience**) consider (**cognition**) whether, and the extent to which the type of research evidence is suitable for its intended use (**target**) every time (**time**) they access research evidence for use (**context**).

#### *Applying the research evidence*

Teachers (**audience**) create a formal change plan (**action**) with at least one school-based research lead (**target**) every time (**time**) they design a new initiative (**context**).

For further reading and more detailed information about identifying relevant behaviours, see:

Kneebone, S., Boulet, M., Jungbluth, L., Downes, J., & Klemm, C. (2021). Chapter 5: Getting ready to deep dive – defining, identifying and prioritising behaviours. In Curtis, J. (Ed.), *The Method Book*. BehaviourWorks Australia, Monash University. <http://doi.org/10.26180/14515794.v1>

*The next step was to prioritise behaviours to target.*

<sup>3</sup> In this report, we refer to ‘practices’ as observable actions that do not have the level of specification of defined ‘behaviours’. ‘Practices’ are broader or more generally defined, and may refer to a bundling of more specific, but aligned, behaviours.

## 2. 3. BEHAVIOUR PRIORITISATION

Engaging educators in all behaviours identified can be overwhelming and resource intensive. Behaviour prioritisation utilises different criteria to suggest potential priority behaviours.

### Objective

To prioritise a range of behaviours or evidence use practices that Monash Q Project could target to enhance quality use of research evidence in Australian schools.

### What is prioritisation?

Prioritisation is the process of going from a 'long list' of potential behaviours or practices to a 'short list' of behaviours that will be taken through to the 'Deep Dive' phase.

### How did we prioritise?

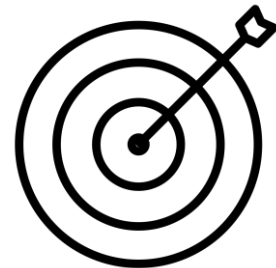
The three key steps involved in prioritisation were:



Selected prioritisation criteria with the Monash Q Project team. Key criteria included **impact** and **opportunity to improve quality use of research evidence in Australian schools**.



To inform prioritisation, the BWA team developed an anonymous online survey to explore perceived impact of QURE practices, as rated by members of the Monash Q Project team.



The BWA team applied a prioritisation method by considering the impact ratings and potential approaches with the Monash Q team. We collaboratively selected three QURE practices, informed by the impact ratings and project objectives.

The three broad approaches that were discussed with the Monash Q team were:



**TEACHERS**  
MULTIPLE parts of the research evidence use process

Targeted (audience)



**MULTIPLE AUDIENCES**  
MULTIPLE parts of the research evidence use process

Broad (audience and process)



**MULTIPLE AUDIENCES**  
ONE part of the research evidence use process

Targeted (process)



### Which practices were prioritised?

The QURE practices provided below were selected in collaboration with the Monash Q Project team after considering the prioritisation findings, potential audiences, and whether to take a broad or targeted approach to understanding and encouraging quality research evidence use.

These practices were considered suitable to be taken into the next stage of the project because:

- They were believed to have **greater impact on quality use** of research evidence;
- They **spanned the stages** of 'thoughtful engagement'; and
- They **involved multiple audiences** (i.e., not only teachers).

This could maximise potential reach and transferable learnings.



**ACCESS**  
Credible sources

Teachers read more than one credible research article when accessing research evidence for use.



**ADAPT**  
Evidence to fit the classroom

Teachers engage with relevant colleagues to adapt research evidence to fit the classroom.



**TRIAL**  
Evidence before applying it

Middle leaders and school leaders trial new research-based approaches before putting them into practice.

For further reading and more detailed information about prioritising relevant behaviours, see:

Kneebone, S., Boulet, M., Jungbluth, L., Downes, J., & Klemm, C. (2021). Chapter 5: Getting ready to deep dive – defining, identifying and prioritising behaviours. In Curtis, J. (Ed.), *The Method Book*. BehaviourWorks Australia, Monash University. <http://doi.org/10.26180/14515794.v1>

*The next step was to develop behavioural insights for the target behaviours.*

## 2. 4. UNDERSTAND BARRIERS AND FACILITATORS

Conducting belief elicitation interviews with the target audience avoids making assumptions about what enables or prevents people from engaging in the target behaviour. The insights enable the development of targeted interventions to promote the target behaviour.

### Objective

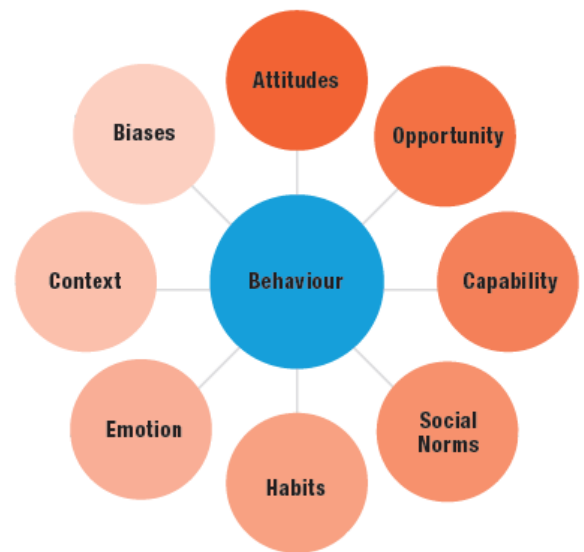
Conduct belief elicitation interviews with a number of educators to understand the research evidence use practices from their perspective.

### What influences behaviour?

There is a diverse range of potential influences on people’s behaviour – a number of useful **syntheses of behavioural influences** have been developed based on reviews of psychological theories and models of behaviour (e.g., see Cane et al., 2012).

BWA tends to work from **eight broad categories of behavioural influences** (adapted from Darnton, 2008), which are summarised in the figure to the right.

Identifying which unique influences are at play for each of the prioritised evidence use practices could allow the development of **tailored interventions**, which are more likely to be successful for encouraging quality research evidence use in Australian schools.



### How did we identify influences of research evidence use?



We spoke to 14 educators recruited from ORU and Q Project participating schools<sup>1</sup>. Both ‘research engaged’ and ‘not engaged’ educators were recruited<sup>2</sup>.



Participants were interviewed (45 mins) about their perceptions of the behaviour(s), including their scope, influences, and potential solutions.



Main themes from the interviews were analysed and potential influencing factors for the behaviours identified.

<sup>4</sup> The Q Project’s first survey was administered to volunteer participating Q Project schools and to schools externally recruited through the Online Research Unit (ORU). See Rickinson et al., 2021 for survey details. Those educators who completed this first survey were invited to participate in interviews with BWA.

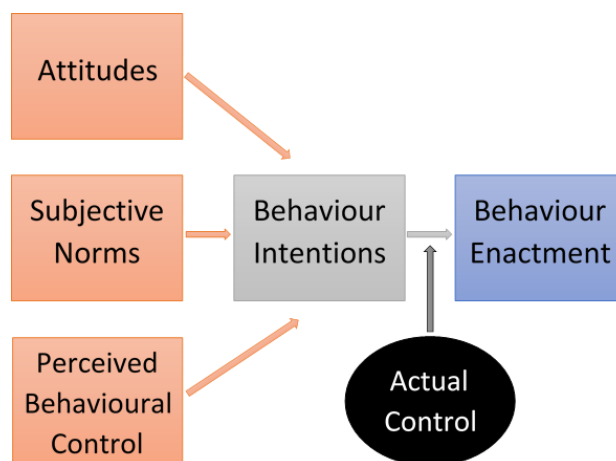
<sup>5</sup> Being research-engaged comprises: positive beliefs in the value of research use; both confident and motivated to use research; and frequently uses research in practice (Gleeson et al., 2022).

Our interview framework was informed by Azjen's (1991) Theory of Planned Behaviour (pictured right), which proposes that behaviour is influenced by people's attitudes, subjective norms, and perceived behavioural control surrounding the behaviour.

**Behavioural attitudes** reflect a set of evaluative beliefs the person has about the behaviour. To help identify attitudinal influences, we asked about the potential *advantages* and *disadvantages* of the behaviour.

**Subjective norms** reflect whether people who are important to the person support the behaviour. To help identify normative influences, we asked about who within the school or beyond the school would *approve* and *disapprove* of the behaviour.

**Perceived behavioural control** reflects whether the person believes the behaviour is within their control. To help identify barriers and enablers, we asked what makes the behaviour *easier* and what makes it *harder*.



The question framework is provided in section 6. Appendix A.

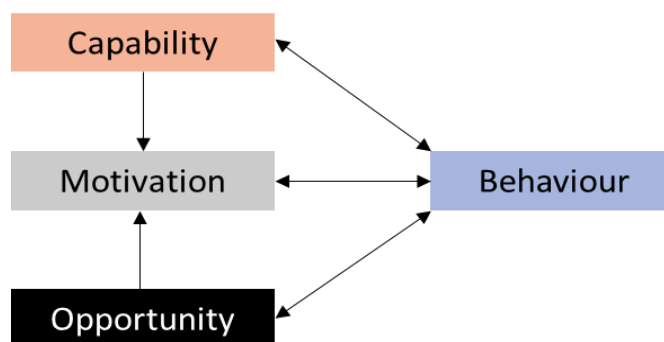
### How did we analyse main themes from the interviews?

To identify key reported influences on educators' QURE, we coded the interviews using a framework derived from the Capability, Opportunity, Motivation, Behaviour (COM-B) model (Michie, van Stralen, & West, 2011)<sup>6</sup>. The COM-B model proposes that behaviour is the interaction between factors of capability, opportunity, and motivation.

**Capability** - Physical (skills) or psychological (knowledge) ability to perform QURE practices.

**Opportunity** - Physical (environmental resources) and social (social influences) opportunity to perform QURE practices.

**Motivation** - Automatic (emotion) or reflective (beliefs, intentions) drive to perform QURE practices.



We also coded influences according to whether they occurred at the **individual level** (i.e., were reported by the educator as their own experience), the **school level** (i.e., were reported by the educator as occurring within the school and/or what they observed in other staff), and **beyond-school level** (i.e., factors that were reported by educators, which occurred outside of the school).

The coding framework is provided in section 7. Appendix B.

For further reading and more detailed information about the research methods involved in Deep Dive interviews, see:

Curtis, J., Tear, M., Garivaldis, F., & Tull, F. (2021). Chapter 6: "You're not normal!". Understanding the influences on behaviour. In Curtis, J. (Ed.), *The Method Book*. BehaviourWorks Australia, Monash University. <http://doi.org/10.26180/14703789.v1>

The next section outlines key behavioural insights generated from the aforementioned activities.

<sup>6</sup> We chose to code the interviews to the COM-B framework (rather than the Theory of Planned Behaviour) because it provides a clear alignment between sources of behaviour and intervention functions (for example, low psychological capability or knowledge can be addressed via education, training, or enablement) (see Michie et al. 2011; Michie et al., 2014).

# 3. BEHAVIOURAL INSIGHTS GENERATED

## 3. 1. WHAT DOES QURE LOOK LIKE?

Here we propose a process of actions and cognitions that comprise quality use of research evidence.

As we worked with the Monash Q team to understand the process of quality use of research, it became clear that this process could be broken down into a series of specific 'chunks' of different actions or behaviours and thinking processes. These can help reduce some of the complexity when it comes to understanding what quality use of research evidence might look like.

We have called these different chunks of actions and thinking the '**ATTA**' process, a shorthand to indicate that quality use of research evidence involves at least two different actions and two different thinking processes.

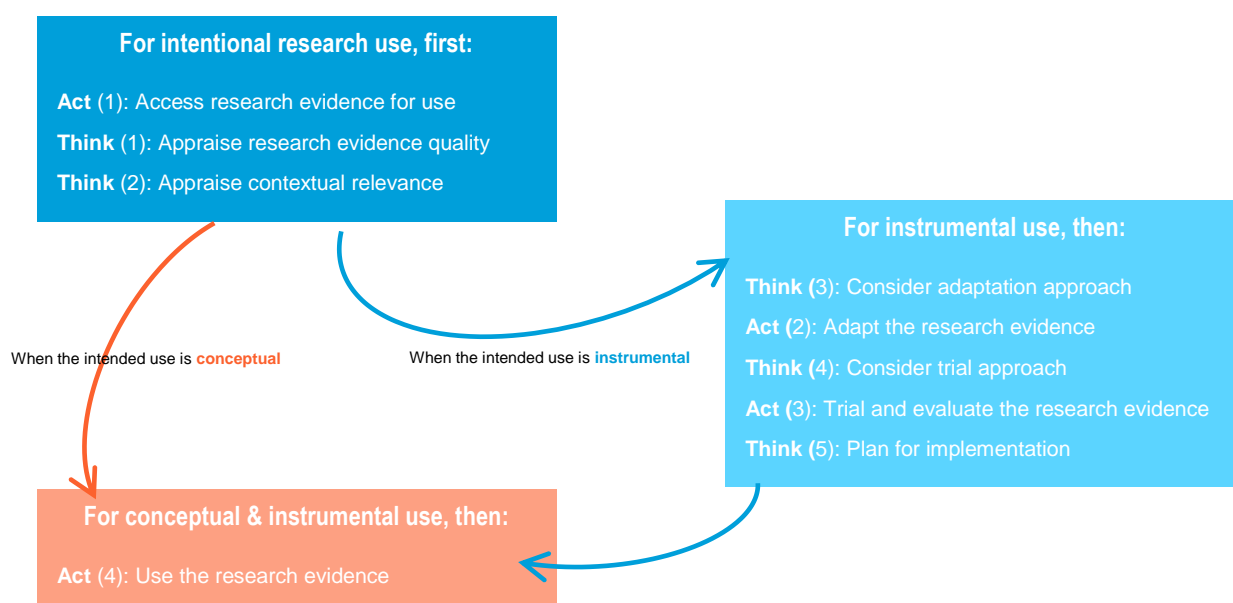
### Act, Think, Think, Act (ATTA)

- Act (1) – Access research evidence for use.
- Think (1) – Appraise the quality of the evidence for its intended use.
- Think (2) – Consider the contextual relevance of the research for its intended use.
- Act (4) – Use the research evidence.

When we say *use* we mean: the process of actively engaging with and drawing on research evidence to inform, change, and improve practice (Coldwell et al., 2017). This includes predetermined instrumental and conceptual use, but excludes unconscious and imposed use of research evidence.

In cases where the intended use of research evidence is to change or improve practice (**instrumental** use) rather than to inform practice (**conceptual** use), additional actions and cognitions are required – for instance, adapting the research to fit the classroom context, as well as trialling and evaluating the research before rolling it out more widely in the school.

The distinction between the processes for 'conceptual' and 'instrumental' use is outlined in the figure below:



The full conceptual model and list of curated behaviours and cognitions for ATTA is provided in section 8. Appendix C.

## 3. 2. WHO DID WE SPEAK WITH & WHAT WAS THEIR REPORTED SCOPE OF QURE?

To provide some context for the behavioural influences identified in the next section, here we provide an overview of the educators we spoke with and their reported scope of quality use of research evidence.

### Who we spoke with

We spoke with 14 educators, including nine teachers and five middle leaders or school leaders. Educators reported mainly working in schools based in New South Wales and Victoria, followed by South Australia. Educators appeared to work in a range of schools, including: junior and high schools, private and public schools, as well as schools based in high and low socioeconomic (SES) areas. Where mentioned by participants, the perceived influence of these factors on QURE practices has been captured (typically, with respect to their 'environmental context').

### The reported scope of quality research use

The educators we spoke to told us briefly about the frequency and nature of how they performed the prioritised research practices. An overview of the reported scope of use for each of the QURE practices is provided below.



#### ACCESS Credible sources

### Teachers read more than one credible research article when accessing research evidence for use.

This QURE practice was reported to happen 'rarely' to 'always', with most teachers we interviewed reporting that they do it 'sometimes'. An example of the reported frequency associated with 'sometimes' is a couple of times per year. Those who reported doing it 'often' or 'always' tended to have roles within or outside of the school which necessitated accessing credible research evidence (e.g., concurrently completing a Master's degree). The teachers we spoke to tended to report reading articles that were shared by middle or higher management, with some teachers reporting they may subsequently access additional articles related to these, and few teachers reporting that they independently source more than one credible article on topics beyond what is shared. Methods of seeking additional credible sources included searching research databases, Google Scholar or professional journals, and by scanning an article's reference list for related articles. Some sample quotes from teachers reflecting these approaches are provided below.

*"Oftentimes through the internet, sometimes through the publications, the professional journals that I do. They might lead you in some direction. Oftentimes the professional journals will give you kind of that kernel of curiosity, let's say, and then you go on and further go into the research if there's something that particularly suits or I pass it on to my principal and to other leaders, just so they can see..."*

–Teacher

*"...using the parameters which were in the first article to guide my research and that type of thing. If there was a footnote or if there was a reference, then I would probably refer to the reference list and go from the reference listing and go, "Oh yeah, okay." Then they've written an article that is related and I'll connect with that."*

–Teacher



## Teachers engage with relevant colleagues to adapt research evidence to fit the classroom.

Generally, implementing new practices in the classroom was reported to occur from once per year to once per term. Most teachers reported that if they were looking to adapt research evidence they would 'often' or 'almost always' engage with at least one other relevant colleague; few teachers reporting doing this 'rarely' or 'sometimes'. The steps taken appeared to vary considerably, ranging from formal approaches (e.g., adaptation included as part of an annual performance plan and review, and so engagement with a leader occurred multiple times per year), to discussing ideas with a group of colleagues during team meetings or with a single colleague they work alongside, to casual discussions with colleagues in passing. It could be inferred from the interviews that the nature of adapting conversations is contextual, and so a thorough investigation into the nuances of the scope of adapting conversations may be warranted in future. An example of the contextual nature of adapting and associated engagement with relevant colleague(s) is provided below.

*"... But, I think you need to have that support [from leadership], but also too that ongoing discussion. So yeah, I think it's that ongoing and to see how that would operate and how that would work. But if you're caught up on to show evidence and say how that's going to work, I think that might be a bit more of a formalised discussion with your middle leader, or the head or whichever who wants to collect that evidence from that, that might be a little bit more of a formalised discussion, but I think if it's just yourself and another colleague implement it, it might be a little bit more ongoing...."*

–Teacher

Teachers often reported that they were very likely to subsequently adapt the research once they had engaged with a colleague. It appeared that in many cases, such conversations followed their independent decision to adapt the research (i.e., rather than to guide their decision about whether to adapt it). This could reflect increased confidence with adapting evidence where the teacher has experience and/or where the scale of adapting evidence is considered by them to be relatively small. Examples of how this was expressed by teachers is provided below.

*"Probably how confident I am about whatever it is that I'm thinking of trying or using. And I guess I'm basically a very experienced teacher so I probably tend more often than not to just go with it. Whereas perhaps someone that was just new out would be more likely to say, "Do you think this would work if I do this or am I going to have a riot on my hands?"...."*

–Teacher



## TRIAL

Evidence before applying it

Middle leaders and school leaders trial new research-based approaches before putting them into practice.

Middle and school leaders reported that they conduct small-scale trials of new research-based practices or ideas 'rarely to 'often'. Examples of the frequencies described ranged from once per year to six times per year, with most leaders reporting that they conduct trials once per term. The frequency and scope of the trials appeared to depend on how formally trials were conducted and evaluated, with higher frequencies of trialling reported when considering relatively informal methods.

Some examples of the range of scope are provided in this quote from a middle leader:

*"...[Referring to the perspective of a researcher]...that a lot of our professional learning happens at the water cooler and the idea that a lot of teachers talk to each other and then they go, "I'm going to try that." To me, that's an informal research project. It's very small. It's not like what we think of when we think of research, but that is in effect an informal trial of something. So those kinds of informal conversations lead to teachers informally trying stuff. So that's at that one end of that spectrum, I guess. Then the other end of the spectrum is where we have every teacher in the junior school is in one of eight groups at the moment... Basically, we identified the priority areas for our school and then I talked to a lot of different teachers to see what they're interested in to come up with the eight options, and then we go through a process that we use over the whole year. So that's a much more formal thing... In term one, it's organising who our leaders of each of those groups will be and getting them ready for that. In term two, it's a kind of initial reading of research, collecting data on students where they're at, and then starting to plan how what the intervention is going to look like in their particular context, and in term three, they do the intervention..."*

–Leader

The reported situations where something would be trialled appeared to be highly contextual—again, a thorough investigation into the nuances of the scope of trialling may be warranted in future. Some examples of situations where a research-based practice or idea may be trialled included were: it aligns with a priority area for the school, it interests or meets the need of teachers (i.e., can be applied in the classroom, and is contextually relevant), it feeds into an assessment task, and/or where the impact can be measured (i.e., there are measurable outcomes). Resourcing was also considered in the decision to trial research-based practices—this aligns with the reported barriers and facilitators to QURE practices, which are covered in the next section. An example of how leaders discussed the factors considered in the decision to trial is provided below.

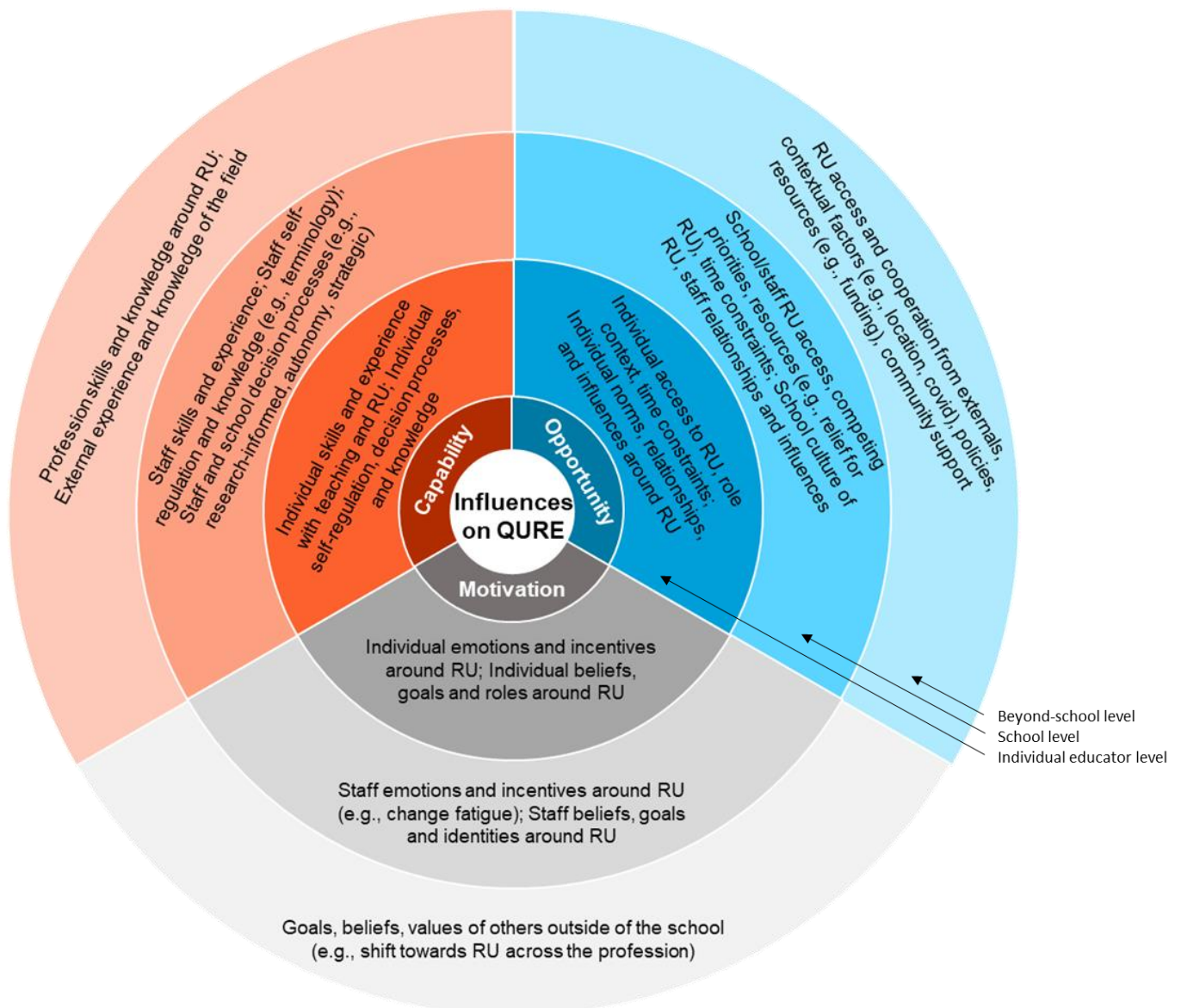
*"...I think to begin with it really needs to be a strategy that could be practically applied in the classroom, and it would be based on the need of the particular context. So, we would hope that as part of that data is reviewed that they're [teachers] looking at upcoming topics and the kind of skill sets required, or the type demands of the particular curriculum, like the subject term. I think and that would definitely be driven by the team coming together, collaborating, and identifying common themes, common issues across classrooms. So, it would be very subject specific. But also, could be for example [year level] is a tricky year, and misbehaviour and lack of student engagement across the board might be an issue. So, one team might decide that they really want to look at how to engage students so it's not subject specific, but it's specific to their context for that particularly year. Definitely driven by the teachers. They would decide through a discussion that's led by team facilitator what will be the priority."*

–Leader

*The next section outlines key barriers and facilitators to the quality use of research evidence, as reported by educators during the belief elicitation interviews.*

### 3. 3. WHAT ARE BARRIERS & FACILITATORS TO QUALITY RESEARCH EVIDENCE USE?

Here we summarise the key influencing factors reported by educators during the belief elicitation interviews. These influences occur at the individual (educator), school, and the education system levels.



Summary of key influences to quality use of research evidence (QURE) practices in Australian school settings, as reported during interviews with Australian-based teachers ( $n = 9$ ) and middle- or school leaders ( $n = 5$ ). Reported influences were matched to components of the COM-B model (Michie et al., 2011) and according to whether they were individual, school, or beyond-school level influences.

*Notes: The figure above reflects a high-level summary of the main themes mentioned during interviews, but does not provide an exhaustive list of all possible facilitators and barriers to quality use of research evidence in Australian schools. While influences have been categorised under one component, due to the interactive nature of components, some influences may also fit under another component.*



Overall, **school-level influences tended to be discussed more often by educators** than individual influences, and system-level factors were least often discussed (although it is important to note that we did not prompt for this). **Across all levels, opportunity factors (physical or social) tended to be discussed most often**, followed by motivation and capability factors (for system-level factors, capability was discussed more often than motivation; however, both were relatively low).

When considering the different roles, teachers tended to discuss individual factors, followed by school factors; whereas, leaders primarily discussed school factors, followed by individual factors. That is, a key difference between teachers and leaders was in discussing school factors—this makes sense given the nature of leaders' roles and the nature of the barriers they reported encountering in the context of trialling (which tended to related to staff availability and school resources).

The detailed coding framework associated with the findings discussed in this section can be found in section 7. Appendix B.

### Overview of key individual-level barriers

When it came to the reported **individual-level barriers** to QURE practices, some key insights were:

- Overall, leaders reported fewer individual-level barriers with respect to being able to perform QURE practices.
- Opportunity barriers tended to be discussed most often. Physical opportunity barriers appear to be high for teachers, with **'time constraints' being their highest reported barrier to QURE overall** (for a separate discussion on time constraints, see section 9.1. Time barriers to QURE in Appendix D). Physical opportunity barriers appeared relatively low for the leaders we spoke to—when they were reported, this was typically in the form of a lack of access to staff to participate in small-scale trials. Social opportunity barriers appeared to be relatively high for teachers, but not for leaders. Some key ways social opportunity barriers were discussed by teachers included negative norms around the QURE practices.
- Motivational barriers emerged for teachers, but less so for leaders. Automatic motivation barriers emerged for teachers in the form of negative emotions toward QURE (e.g., reported feeling exhausted, experiencing change fatigue, or finding research use burdensome). Reflective motivation barriers emerged in the form of negative beliefs and goals impacting QURE (e.g., having competing priorities, believing that research use is not worthwhile, or that it delays action). The sample quotes below, from two teachers, illustrate beliefs that reading research articles is less valuable than seeking guidance from colleagues and is burdensome (also related to access barriers to QURE, see section 9.2. in Appendix D):  
*"I'd probably be more likely to go and discuss with colleagues, if it was teaching a particular thing or in a particular way. I would be much more likely to contact colleagues and say, "How are you doing it? What's working for you?" And probably work from that rather than trawl through the research actually."*  
–Teacher  
*"...It's dry as a desert... It's like, "Get me through this!" And really disengaging..."*  
–Teacher
- Interestingly, capability barriers appeared relatively low for the teachers and leaders we spoke to. Some psychological capability barriers were mentioned in the form of a lack of knowledge related to the QURE practice (e.g., of their students or with regard to adapting research).

### Overview of key school-level barriers

When it came to the reported **school-level barriers** to QURE practices, some key insights were:

- Overall, school-level barriers were discussed more often by leaders. This could reflect the nature of their role in the school and the nature of the QURE practice we spoke with them about (i.e., as conducting small-scale trials is not a practice that can be performed in isolation). Leaders' reflections on school-level barriers appeared consistent with the individual-level barriers that were reported by teachers.

- Most teachers and leaders reported physical opportunity barriers for other staff in the school being able to perform QURE practices. This was typically discussed with respect to ‘environmental context’ (e.g., competing priorities, such as at-risk students; not wanting to overburden staff; unsettled staffing or staff changes) and ‘time constraints’ (e.g., extent to which staff are busy; reported lack of time allocated or time release for research). The sample quote below illustrates a perception of opportunity barriers for staff (also related to time barriers to QURE, discussed in section 9.1. of Appendix D):

*“...I just think that we are actually really overloaded already. So, it would be about finding a way to not compensate, but just make sure that people aren't just overburdened. It's actually a really significant issue...”*

–Leader

- As for the individual-level barriers, teachers and leaders also reported reflective motivation barriers for staff in the school as influencing QURE practices. These were typically discussed with respect to negative beliefs and goals impacting QURE.
- As for the individual-level barriers, capability barriers at the school-level appeared relatively low. The example quote below reflects a lower relative importance of capability factors:

*“I think in terms of actual teaching skillsets, it wouldn't matter. It's more about mindset, their openness to improve and their willingness to contribute to improving what happens at our school. I think that's really the key factor.”*

–Leader

### Overview of individual-level facilitators

When it came to the reported **individual-level facilitators** to QURE practices, some key insights were:

- Teachers raised physical opportunity facilitators in the form of ‘access’ (e.g., having physical resources, like databases and resources relevant to the research practice; having formal and informal opportunities to perform research practices) and ‘environmental context’ (e.g., the context of their role provided opportunities for research use, for example if they were also at university or had time allocated to research use).
- Social opportunity also appeared to be an important facilitator of QURE for teachers, across ‘norms’, ‘relationships’, and ‘social influences’. For example, feeling connected to their colleagues (e.g., for adapting conversations), research ‘champions’, and supportive leaders (including feeling trusted, having higher autonomy) was reported to facilitate QURE. Similarly, perceived approval for research use (e.g., from leaders) and perceived norms of a willingness to try new things and discussing before adapting (e.g., by other teachers) appeared to facilitate QURE.
- Some teachers also raised reflective motivations as facilitators to QURE practices, particularly in the form of positive ‘beliefs’ (e.g., perceptions that the practice is worthwhile because it provides another perspective and consolidates understanding) and ‘goals’ (e.g., having the desire to learn) impacting QURE. Psychological capability facilitators were raised in the form of ‘knowledge’ related to QURE (e.g., being able to understand research, capability to identify what is credible and contextually relevant).
- For leaders, key facilitators to QURE practices appeared to be physical opportunity (in the form of time being allocated to them for research) and reflective motivations, particularly positive ‘beliefs’ and ‘goals’. Positive beliefs that appeared to facilitate QURE included: perceived value in research and trialling (e.g., to see what works in context, to streamline what is done and increase confidence it works, which also has financial benefits). Similarly, reported goals that appeared to facilitate QURE included: practice improvement, continued learning (for themselves and for other teachers), and impact on student outcomes.
- In addition, social opportunity to QURE practices also appeared to be a key facilitator of QURE for leaders, in the form of ‘relationships’. The types of relationship facilitators that were mentioned included feeling connected to colleagues, organisations or associations, and having opportunities for informal discussions. Some qualities of relationships that were mentioned included: relevant colleagues being knowledgeable, supportive and collegial; and feeling trusted by teachers (e.g., for trialling).

## Overview of key school-level facilitators

When it came to the reported **school-level facilitators** to QURE practices, some key insights were:

- Teachers reported opportunity facilitators, including physical opportunity in the form of greater access and resources for staff to perform QURE practices (e.g., access to research databases, suitable space for collaborations, research time allocated to staff), and social opportunity in the form of positive ‘norms’, ‘relationships’, and ‘social influences’ (e.g., leadership are supportive and available; modelling and relationships with research champions).
- For leaders, the key category of facilitators was physical opportunity for QURE in the form of the school’s ‘resources’ (e.g., relevant coaching available for staff; relationships or partnerships with universities; funding and time allocated to staff for research). Other key facilitators mentioned by leaders were social opportunity in the form of ‘relationships’ and ‘social influences’. Examples of these types of facilitators include (e.g., trialling) staff having: opportunities to collaborate, discuss, and reflect; professional autonomy and trust (e.g., within teams or departments); supportive executive and research advocates or champions within the school; a norm or expectation of participation, and this is modelled within the school.
- Some interesting or insightful facilitators to emerge were ‘psychological capability’ in the form of ‘decision processes’ by staff in the school (e.g., giving teachers choice over what they can work on or trial; schools and educators being discerning about what is applied) and reflective motivations in the form of ‘goals’ (e.g., staff as part of a learning community, being evidence-informed, and supporting student outcomes).

*“Someone told me when I first started teaching, you can teach 21 years or you can teach one year 21 times. And I think none of us want to teach one year 21 times. So, we want to keep up with what’s happening. We want to keep up what’s best for the kids. Most of us in education are not there just to collect a paycheck. We are there trying to do things and make a difference in children’s lives...”*

–Teacher

## Overview of key system-level influences

When it came to the reported **system-level influences** to QURE practices, some key insights were:

- Overall, system-level influences were reported relatively less by both teachers and leaders, when compared with school-level and individual-level influences. When raised, system-level influences tended to be in relation to physical and social opportunity.
- Teachers raised physical opportunity facilitators to QURE in the form of ‘access’ via accessible research being shared by people external to the school (i.e., this was also linked to social opportunity facilitators). They also raised physical opportunity barriers in the form of ‘environmental context’ (e.g., barriers because of location, SES, and/or covid), ‘policy’ barriers in the form of high reporting requirements (i.e., taking valuable time). Social opportunity facilitators were mentioned by teachers in the form of ‘external relationships, contacts, and collaborations’ enabling performance of QURE practices.
- Leaders primarily discussed resourcing barriers, which was typically in the form of lack of adequate funds and staff availability to provide necessary relief (i.e., to enable teachers in the school to perform QURE practices, including participating in small-scale trials). When resources were mentioned as facilitators by teachers and leaders, this was typically in the form of available funds to support research use in the school.

### Two key take-away messages from these findings are:

1. There appear to be many ‘opportunity’ barriers to educators performing QURE practices, or at least these appear to be the most salient barriers to educators.
2. Many barriers to educators performing QURE practices appear to occur at the school level (which, in turn, could negatively impact individual educators’ motivations towards QURE).

### This means that:

1. If the goal is to increase QURE in Australian schools, it will not be enough to build educators’ capability or motivation for QURE—it will require building their opportunity for QURE.
2. Similarly, it will not be enough to work with individual educators—this will require school- and system-level changes (e.g., in the form of infrastructure to support QURE).

An overview of some key challenges and opportunities for ‘time’ and ‘access’ barriers that we took away from the interview findings, and some additional useful insights are provided in section 9. Appendix D.

### 3. 4. WHAT THE INTERVIEW FINDINGS MIGHT MEAN FOR DIFFERENT QURE PRACTICES

Here we outline what the belief elicitation interview findings might mean for encouraging or supporting educators to perform each of the QURE practices.

#### Teachers read more than one credible research article when accessing research evidence for use.

The interview findings suggest that to encourage or support this QURE practice, access for teachers could be increased. This could be achieved by:

- At the school level: Increasing infrastructure via access to databases may help some teachers. Given some key access barriers were around time to locate and interpret research evidence, in the absence of reducing time barriers for teachers, providing a ‘broker’ of research evidence within the school is likely to be of great help. Ideally, such research brokers could also increase accessibility of the content (e.g., by keeping things practical and meaningful for the classroom).
- At the system level: Targeting academics and/or relevant agencies in Australia to disseminate credible and relevant research evidence could help to reduce opportunity barriers. Again, ideally, the accessibility of the shared content would also be increased.



#### Teachers engage with relevant colleagues to adapt research evidence to fit the classroom.

With regards to this QURE practice, the interview findings suggest that:

- Teachers are well-connected, and informal discussions with each other appear to be relatively easy for them—this provides an opportunity, which could be leveraged in the context of this practice.
- The scope of adapting conversations appears highly varied and contextual, suggesting these discussions require flexibility.
- Some possible ways that this QURE practice could be supported includes by: encouraging teachers to have adapting discussions sooner, to help inform the decision whether to adapt the research; schools providing suitable meeting space and/or formal meeting opportunities for quality adapting conversations to take place (school-level); and by external researchers or agencies providing evidence-based guidelines on how to have high-quality adapting conversations.



## Middle leaders and school leaders trial new research-based approaches before putting them into practice.

With regards to this QURE practice, the interview findings suggest that:

- As for ‘adapting’, the scope of use for this practice appeared highly varied and contextual.
- Discussions with leaders about this practice often became broader discussions about research use in the school.
- While many of the leaders we spoke to had formal time dedicated to research use as part of their role, time barriers for this practice emerged in the form of teachers not having sufficient time to engage in such trials. This was consistent with the discussions with teachers, which suggests that addressing time barriers could be helpful across all QURE practices.



**TRIAL**  
Evidence before applying it

The interview findings suggest that to encourage or support this QURE practice, dedicated ‘time’ for teachers to engage with research could be increased. This could be achieved by:

- At the school level: Allocating resources and/or embedding formal time for teachers to engage with research. While one approach to this could be to provide teachers with relief from teaching, other approaches mentioned by educators we spoke with could include: embedding frameworks for research use, leveraging off existing frameworks for research use, and increasing formal meeting time to engage with research.
- Another important part of addressing time barriers and associated emotional barriers at the school level is: Reviewing and prioritising existing activities within the school, to be selective about what is adopted. Where formal policies or structures are implemented, consider ways to increase agency for staff (e.g., in selecting what is meaningful for their practice and classroom).
- At the system level: Allocating funding to schools for research use purposes and addressing staff shortages / retention could enable schools to provide resources to staff for research use.

# 4. NEXT STEPS & FURTHER RESEARCH

Opportunities for future work to revisit initial ideas for the Monash Q Project.

## 4. 1. NEXT STEPS

While there has already been a focus within the Q-project on operationalising some of the insights from these interviews into a professional learning (PL) program<sup>7</sup>, there is an opportunity to develop and test additional interventions in addition to the knowledge and skills focus of PL. Some key examples, although not limited to these, include:

- Increasing physical access to research evidence and increasing the accessibility of research content for teachers via school and system-level infrastructure.
- Increasing opportunity for educators to use and embed research use in their practice via school and system-level infrastructure.

In addition to the contributions to the Q Suites (see section 10. Appendix E for an overview of the behavioural insights pieces to date), a number of BWA-Q publications are in preparation. Three of these include: exploring behavioural influences on QURE practices (derived from the belief elicitation interview findings); a conceptual piece on Act-Think-Think-Act (building on the behaviour identification work); and showcasing the BWA methodology, using the Monash Q Project as a case study.

## 4. 2. FURTHER RESEARCH

The initial process of belief elicitation interviews generated a number of useful insights about some of the different behaviours and barriers related to quality use of research evidence. There is an opportunity to build on these insights with additional research that captures the ‘in-practice’ experience of educators actually engaged in these behaviours. This might include:

- **A video-ethnography or video-elicitation process** that records educators engaged in the different aspects of research evidence use and then engages participants in unpacking what is recorded. This can especially help to identify the unconscious contextual or habitual influencers of behaviours which often do not come across in interviews.
- Quality use of research evidence can be a complex process for the individual educator that involves a number of inter-linked behaviours and practices that occur over a period of time. **Journey mapping** this process with educators can help to shed light on the process and temporal elements of research use, which again might not be addressed in a once-off interview.

There is also an opportunity to further research around designing, trialling, and evaluating school- and system-level infrastructure interventions that draw on some of the recommendations made in this report. This might include:

- **Literature and/or practice reviews** into what interventions might be effective to address the identified school- and system-level barriers to quality research evidence use;
- **Co-design workshops** with key stakeholders and educators to **identify and design intervention options** that are informed by the behavioural insights and would be suitable for Australian schools; and to **define measures of success**;
- **Pilot trial** of school- and system-level intervention(s) in Australian school(s); **evaluation and adaptation** of interventions;
- **Large-scale trial** of school- and system-level infrastructure interventions, including impact evaluation (using defined success measures).

---

<sup>7</sup> Collation of co-design workshop outcomes into recommendations for both PL and other enabling factors can be found here: <https://www.monash.edu/education/research/projects/qproject/publications>

## 5. REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, 7(1), 1–17. <https://doi.org/10.1186/1748-5908-7-37>
- Coldwell, M., Greaney, T., Higgins, S., Brown, C., Maxwell, B., Stiell, B., Stoll, L., Willis, B., & Burns, H. (2017). *Evidence-informed teaching: An evaluation of progress in England*. Department for Education. Retrieved from: <https://www.gov.uk/government/publications/evidence-informed-teaching-evaluation-of-progress-in-england>
- Curtis, J., Tear, M., Garivaldis, F., & Tull, F. (2021). Chapter 6: “You’re not normal!”. Understanding the influences on behaviour. In Curtis, J. (Ed.), *The Method Book*. BehaviourWorks Australia, Monash University. <http://doi.org/10.26180/14703789.v1>
- Darnton, A. (2008). *GSR behaviour change knowledge review. Reference Report: An overview of behaviour change models and their uses*. HMT Publishing Unit. Retrieved from: <https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/climate-communications/psychology-amp-behavior/Darnton.-2008.-Behaviour-Change-Models-Overview.pdf>
- Gleeson, J., Cutler, B., Rickinson, M., Walsh, L., Ehrich, J., Cirkony, C., & Salisbury, M. (2022). *School educators’ engagement with research: An Australian validation study* [Manuscript submitted for publication].
- Kneebone, S., Boulet, M., Jungbluth, L., Downes, J., & Klemm, C. (2021). Chapter 5: Getting ready to deep dive – defining, identifying and prioritising behaviours. In Curtis, J. (Ed.), *The Method Book*. BehaviourWorks Australia, Monash University. <http://doi.org/10.26180/14515794.v1>
- Michie, S., Atkins, L., & West, R. (2014). *The behaviour change wheel: A guide to designing interventions*. Silverback Publishing.
- Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J., & Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine*, 46(1), 81–95. <http://doi.org/10.1007/s12160-013-9486-6>
- Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, 6(42), 1–12. <http://doi.org/10.1186/1748-5908-6-42>
- Penuel, W. R., Briggs, D. C., Davidson, K. L., Herlihy, C., Sherer, D., Hill, H. C., Farrell, C. C., & Allen, A. R. (2016). Findings from a National Study on Research Use among School and District Leaders. Technical Report No. 1. *National Center for Research in Policy and Practice*.
- Presseau, J., McCleary, N., Lorencatto, F., Patey, A. M., Grimshaw, J. M., & Francis, J. J. (2019). Action, actor, context, target, time (AACTT): A framework for specifying behaviour. *Implementation Science*, 14(1), 1–13. <https://doi.org/10.1186/s13012-019-0951-x>
- Rickinson, M., Gleeson, J., Walsh, L., Cutler, B., Cirkony, C., & Salisbury, M. (2021). *Research and evidence use in Australian schools: Survey, analysis and key findings*. Monash University. <http://doi.org/10.26180/14445663>
- Rickinson, M., Walsh, L., Cirkony, C., Salisbury, M., & Gleeson, J. (2020). *Quality use of research evidence (QURE) framework report*. Monash University. <http://doi.org/10.26180/14071508.v2>
- Weiss, C. H., & Bucuvalas, M. J. (1980). *Social science research and decision-making*. Columbia University Press.



# 6. APPENDIX A: BELIEF ELICITATION INTERVIEW FRAMEWORK

## 6.1. CORE QUESTIONS ASKED DURING SEMI-STRUCTURED INTERVIEWS

The quality use of research evidence (QURE) practices discussed were:

- Teachers:
  1. Reading at least one credible source of research evidence in the form of research articles.
  2. Engaging with at least one other person to adapt the research evidence to fit the classroom context of its intended use.
- Middle leaders and school leaders:
  1. Conducting small-scale trials of new research-based practices or ideas.
  2. (Time permitting) Evaluating small-scale trials of new research-based practices or ideas.

### Scope of the QURE practice

- How often do you [perform the QURE practice]? (Select from: *Always, Often, Sometimes, Rarely, Never.*)
- Can you describe for me the types of situations where you do or would [perform the QURE practice]?
- Can you describe the types of situations where you do not or would not [perform the QURE practice]?

### Nature of the QURE practice

Now, we'd like to assume that you ARE going to [perform the QURE practice].

- Can you describe for me what actions are involved when [perform the QURE practice]?

### Influences on performing the QURE practice

You mentioned that you [*Always, Often, Sometime, Rarely, Never*] [perform the QURE practice].

- **Why** is this something you [*Always, Often, Sometime, Rarely, Never*] do?

Prompts to identify attitudes, norms, perceived control:

- What do you see as the **advantages or benefits** about [the QURE practice]?
- What do you see as the **disadvantages or drawbacks** about [the QURE practice]?
- Of the people who matter to you, **who in your school or beyond do you think would approve** of you [performing the QURE practice]?
- Of the people who matter to you, **who in your school or beyond do you think would disapprove** of you [performing the QURE practice]?
- What **enables or helps you** to [perform the QURE practice] more often?
- What **hinders or stops you** from [performing the QURE practice] more often?
  - How could these challenges be addressed? What could help you?

# 7. APPENDIX B: BELIEF ELICITATION INTERVIEW CODING FRAMEWORK

## Individual factors (“I” or “my”)

Influences that sit at the individual level or were described by participants as factors that influenced them. There may be interactions between what is coded here and at the school level (e.g., a school-level influence might also be coded as an individual-level perception or belief about staff or the school).

Name	Description
<b>Automatic motivation of participants</b>	<b>Emotions, reinforcement or incentives described by participants in the context of what influences them (individual level).</b>
<b>Emotions</b>	Extent to which they: love research (e.g., love, energy, joy), find research use easy, have a lack of fear / courage to perform practice; Extent to which they feel exhausted, experience change fatigue; find research use a burden
<b>Incentives</b>	Extent to which they obtain inherent rewards (e.g., natural interest or pleasure, sparked motivation) or punishment from research use (e.g., no pleasure, social punishment from colleagues, lack of reward - waste of time)
<b>Physical capability of participants</b>	<b>Skills, abilities through practice or experience described by participants in the context of what influences them (individual level).</b>
<b>Experience</b>	Teaching experience, research use practice experience (e.g., to plan, adapt, evaluate), experience with associated tasks (e.g., database use)
<b>Skills</b>	Skills development, skills to discern credible articles, skills associated with being able to understand articles (also see psychological capability).
<b>Physical opportunity of participants</b>	<b>Environmental context and resources described by participants in the context of what influences them (individual level).</b>
<b>Access to research</b>	Their physical resources (e.g., databases, pathways to access research or resources relevant to the research practice); accessibility or availability of research or resources relevant to the research practice (e.g., contextually relevant research, formal and informal access opportunities)

Name	Description
<b>Environmental context</b>	The context of their current role (e.g., new role, new to school, at university, formal role includes research use); logistical opportunities for research use or related actions; extent of competing demands (*see Time constraints)
<b>Time</b>	Extent to which they have competing demands, logistical constraints (e.g., timetabling), opportunities for deep work
<b>Psychological capability of participants</b>	<b>Knowledge, decision processes, self-regulation described by participants in the context of what influences them (individual level).</b>
<b>Behavioural regulation</b>	Self-regulation, reflective practice abilities (e.g., to adapt)
<b>Decision processes</b>	Ability to decide: what to share; when engagement with others is needed; to be discerning (e.g., about credible or relevant articles)
<b>Knowledge</b>	Knowledge of: staff, students, the class, what is credible, what is contextually relevant; Understanding: how to perform the practice; research evidence (e.g., articles)
<b>Reflective motivation of participants</b>	<b>Beliefs about capabilities, roles and identity, goals described by participants in the context of what influences them (individual level).</b>
<b>Beliefs</b>	Extent to which they hold beliefs about: value of research (relevance, accessibility, novelty); value of the research practice (delays action); relative value of alternatives (e.g., asking colleagues, testing yourself);
<b>Goals and values</b>	Extent to which they have: competing priorities (e.g., curriculum, student wellbeing); changing priorities (e.g., career winding down); a specific need to fulfil; Extent to which they have a goal of: impact or improving outcomes (students), practice improvement, continued learning (developing self and others), persuading others (other staff, leadership).
<b>Roles and identity</b>	Extent to which they see their role aligning with research (having a research role, research lead role, librarian role), being part of a learning community
<b>Social opportunity of participants</b>	<b>Social influences, such as norms, social comparison described by participants in the context of what influences them (individual level).</b>
<b>Norms</b>	Their perception of the norm of the research use practice; perceived approval of performing the research use practice; related perceived norms (e.g., willingness to try new things, share ideas, perception of low interest)
<b>Relationships</b>	Extent to which they feel: alone or disconnected, different styles vs. connected to colleagues, organisations, associations; perceive colleagues as knowledgeable, supportive, collegial; modelling opportunities
<b>Social influences &amp; comparisons</b>	Extent to which they feel connected to champions, supportive leaders, feel trusted by others vs. perception of top-down use, low autonomy.

### School factors (“Staff” or “The school”)

Influences that occur within the school, as described by participants. There may be interactions between what is coded here and at the individual level (e.g., an individual belief about staff may also be coded as a school-level influence).

Name	Description
<b>Automatic motivation of staff</b>	<b>Emotions, reinforcement or incentives described by participants -- reported in the context of influencing others within the school (school level).</b>
<b>Emotions</b>	Extent to which staff may be experiencing change fatigue; feel overloaded or tired; and post-covid morale is low.
<b>Incentives</b>	Extent to which staff obtain inherent rewards or punishment from research use
<b>Physical capability of staff</b>	<b>Skills, abilities through practice or experience -- reported in the context of influencing others within the school (school level).</b>
<b>Experience</b>	Staff experience may be a barrier as well as facilitator: highly experienced staff may have well-established routines or working methods (may be linked with habits, status-quo bias, and negative beliefs); having a range of experience levels covers the needs (trailing); staff experience with reflective discussions;
<b>Skills</b>	Staff lack of skills for trialling (e.g., measurement) (linked to beliefs); staff lack of skills to interact with research material (linked to accessibility); staff lack of skills to access and unpack and apply research to their context; staff don't necessarily need to be experts or skilled (motivation seen as more important);
<b>Physical opportunity within the school</b>	<b>Environmental context and resources described by participants -- reported in the context of influencing others within the school (school level).</b>
<b>Accessibility</b>	Extent to which staff have access to research; access to articles;
<b>Environmental context</b>	Extent to which staff have competing priorities (at-risk students; student levels and risk); other projects going on in school; school focus on practice; follow-up with staff; not wanting to overburden staff / staff overburdened already; growing push for action research; low evidence shared within school (linked to norms); unsettled staff / staff changes;
<b>Resources</b>	Extent to which funds or monetary commitment for staff is available from school (e.g., time for research); extent to which frameworks exist for research use; suitable space for collaborations / discussions; coaching available for staff (includes research); relationship / partnership with university;
<b>Time</b>	Extent to which staff are busy (admin, testing, getting through curriculum, large classes); lack of time (i.e., not only the trial, but trial requires evaluation – reflection, analysis); time-poor executive with other priorities; extent to which time is allocated to staff / time release for research (e.g., observation of staff / trialling and evaluating);

<b>Name</b>	<b>Description</b>
<b>Psychological capability of staff</b>	<b>Knowledge, decision processes, self-regulation of staff or colleagues within the school (school level).</b>
<b>Behavioural regulation</b>	Staff ability to reflect / teachers being reflective / reflective practice (trailing)
<b>Decision processes</b>	Extent to which staff / school adopts anything; poor consultation with teachers (top-down); lack of research-informed decision making in the classroom; Extent to which teachers / staff have autonomy / choice over what they can work on (trials); schools and educators are discerning about what is applied (align with strategy and priorities);
<b>Knowledge</b>	Extent to which staff have a lack of knowledge or understanding (around trials); misalignment with language used (can alienate teachers - also see system factors)
<b>Reflective motivation of staff</b>	<b>Beliefs about capabilities, roles and identity, goals of staff within the school – reported in the context of influencing others within the school (school level).</b>
<b>Beliefs</b>	Teacher beliefs about what ‘improving practice’ is (i.e., not just a one-day training); teacher reluctance / beliefs about their experience; belief that research is “just another thing” to do; staff beliefs research is not worthwhile, not core to the job / just a fad; status quo bias for experienced teachers; Extent to which teachers believe that research is interesting or relevant;
<b>Goals &amp; values</b>	Extent to which staff see research use as aligning with their goals and values: lack of ownership around student learning; value research use as part of a learning community – teachers need to be learners too (links with roles and identity); value research use as supporting teaching and learning; as supporting student wellbeing and outcomes; being evidence-informed; make sure it’s worth doing / adds value;
<b>Roles &amp; identities</b>	Staff identity as part of a learning community (links with goals and values)
<b>Social opportunity within the school</b>	<b>Social influences, such as norms, social comparison, culture described within the school -- reported in the context of influencing others within the school (school level).</b>
<b>Norms</b>	Extent to which there is a culture of research-informed practice; extent to which research is used, talked about in teams; norms of staff being too busy for research use; norm of low interest;
<b>Relationships &amp; collaboration</b>	Extent to which staff are willing to participate (trials); extent to which leaders collaborate with teachers to work with what they are already doing; extent to which staff have professional autonomy and trust (e.g., within teams / departments); extent to which informal discussions / reflections occur with peers; supportive executive; support from teaching staff (trials);
<b>Social influences &amp; comparisons</b>	Extent to which there are small but loud voices (cynicism spreads); extent to which research use / participation is expected of staff; staff modelling; shifting norms (more use, discussions gains momentum); school advocates or champions; supportive executive (influential);

### System factors (“The Department” or “The community”)

Influences described by participants, which sit outside of or beyond the school. There may be interactions between what is coded here and at the individual level (e.g., an individual belief about the accessibility of research evidence may also be coded as a system-level influence if access is provided by externals).

Name	Description
<b>Physical capabilities of people outside of the school</b>	<b>Skills, abilities through practice or experience of people outside of the school (system level)</b>
<b>Skills</b>	Educators' lack of ability to interact with research as a profession;
<b>Physical opportunities provided outside of the school</b>	<b>Environmental context and resources provided outside of the school (system level)</b>
<b>Accessibility</b>	Extent to which externals make research accessible to educators in schools (e.g., keynote speakers in the profession who work in the field; externals using inaccessible terminology; externals make research accessible via blogs, presentations);
<b>Environmental context</b>	Impacts of covid (workloads, disruption); covid also changed how educators and schools work (less organic; made communication harder); location (regional area / distance from metro); covid increased opportunity to engage with externals (via Zoom);
<b>Policy</b>	Increasing policies, need for data / recording, and processes reduces time available (linked to time, resources)
<b>Resources</b>	Teacher shortages; lack of funding; delays in receiving funding; lack of appropriate professional development in schools
<b>Psychological capabilities of those outside of the school</b>	<b>Knowledge, decision processes, self-regulation of people outside of the school (system level)</b>
<b>Knowledge</b>	Extent to which the profession or those beyond the school have knowledge or understanding (system factors).
<b>Reflective motivation of those outside of the school</b>	<b>Beliefs about capabilities, roles and identity, goals of people outside of the school (system level)</b>
<b>Goals, values, beliefs</b>	Shift in values towards research use across the profession (graduates) (linked to social influences);
<b>Social opportunities provided outside of the school</b>	<b>Social influences, such as norms, social comparison, relationships and culture outside of the school (system level)</b>
<b>Relationships &amp; collaboration</b>	Extent to which there are communication barriers (e.g., covid); cooperation with universities; associations promoting research (linked to access);
<b>Social influences</b>	Extent to which the community is supportive; extent to which close others (e.g., partners) are supportive;

# 8. APPENDIX C: ACT-THINK-THINK-ACT

## 8. 1. CURATED LIST OF BEHAVIOURS AND COGNITIONS OF ACT-THINK-THINK-ACT

Here we present a curated list of behaviours and cognitions that are proposed to underpin QURE. This curated list was identified via the behaviour identification process and further refinement with the Monash Q team.

*Research evidence is defined as - "evidence generated through systematic studies, undertaken by universities or research organisations and reported in books, reports, articles, research summaries, training courses or events".*

*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.”*

By use of research evidence, we mean the process of actively engaging with and drawing on research evidence to inform, change, and improve practice (Coldwell et al., 2017). This includes predetermined instrumental and conceptual use, but excludes unconscious and imposed use of research evidence.

### ACT 1

*Involves **accessing research evidence from (preferably credible) sources for use.***

*Behaviours that may represent this step include:*

- Educators<sup>1</sup> in schools access<sup>2</sup> more than one source of research evidence in the form of:
  - articles, reports, books, or summaries; advice or guidance; professional publications; or other information, which are based on or incorporate evidence generated through systematic studies undertaken by a university or research organisation.
  - other media including news articles, social media, and visual media (e.g., TED Talks), which are based on or incorporate evidence generated through systematic studies undertaken by a university or research organisation.
- Educators<sup>1</sup> in schools conduct action research in partnership with a university or research provider.

<sup>1</sup> *Educators* includes: teachers, middle leaders and school leaders.

<sup>2</sup> *Access* behaviours include: reading, making contact, attending, searching, or logging in. Access can occur via suitable: professional networks; university researchers; communities of practice; social network groups; databases (e.g., Google Scholar, the Victorian Department of Education and Training [DET] database); professional development courses; conferences; peak bodies; local-based NGOs.

## THINK 1

Involves **appraising the quality of the research evidence for use.**

Guiding points that may represent this step include:

- Consider whether particular criteria are met regarding the quality of the research evidence, such as:
  - Whether the publication is based on a synthesis of several studies or just one study, is a part of an established evidence base (vs. an emerging body of research), and whether the research evidence is comprehensive enough;
  - Where the evidence came from and whether the author, presenter, and/or source is credible (e.g., where is a TED talk presenter from?);
  - Whether the research evidence is considered current and up to date (e.g., even if the evidence is rigorous for the time, but, say, DET has set new standards, then the research evidence may no longer be considered good quality);
  - Whether the research methodology is rigorous (e.g., what are the strengths and weaknesses of the research?), appropriate for the problem or issue that the research was trying to address, and whether the claims made by the researchers align with the research methodology;
  - Whether there is evidence of impact from more than one study and in different contexts (e.g., have the findings been replicated, and where?); and
  - Whether there are alternative perspectives and explanations, and considering existing evidence for these (e.g., critical reviews and/or critiques of the research evidence they are considering using).
- Consider which aspects of the research evidence you are less knowledgeable about or experienced in and which assumptions you could be making while appraising the quality of the research evidence.
- Consider who you could discuss the quality of the research evidence with, who you could approach for guidance, and / or who you could seek feedback from.

**DECISION POINT – Following a quality appraisal of the research evidence, based on the above guiding points:**

- If the quality of the research evidence is considered to be of a low level, access and appraise the quality of additional research evidence (revisit ACT 1 followed by THINK 1).
- If the research evidence is considered to be of good quality, then proceed to THINK 2: Appraising the contextual relevance of the research evidence.



## THINK 2

Involves **appraising the contextual relevance** of the research evidence for its intended use.

Guiding points that may represent this step include:

- Consider whether, and the extent to which:
  - The type of research evidence is suitable for its intended use (e.g., a program evaluation might be suitable for establishing ‘what works’, while an in-depth case study might be suitable for understanding the needs of particular students);
  - The sample is matched to the intended students and class/school characteristics on language, culture, size, Index of Community Socio-Educational Advantage (ICSEA), curriculum, teaching practices, student ability, age/grade;
  - The research evidence is generalisable to a broad audience or specific to a case (e.g., was the research conducted in an applied setting or in a lab?);
  - The research is directly applicable or adaptable to the intended context (e.g., what are our specific needs/nuances? Can we afford it? Do we have the resources? What is the return on investment? What is the scalability?);
  - The research evidence is sanctioned by other colleagues in similar settings;
  - The research evidence is easy to understand, is practical, and comparable to staff practice and experience (e.g., how easily can other staff engage with it?); and
  - The research evidence fits within the school’s improvement journey, the culture of the school, and/or the mindsets of staff.
- Consider whether there is anything that you do not understand or whether there are any assumptions you are making while appraising the contextual relevance of the research evidence.
- Consider who you could discuss the contextual relevance of the research evidence with, who you could approach for guidance, and / or who you could seek feedback from.

**DECISION POINT – After appraising the contextual relevance of the research evidence, based on the above guiding points:**

- If the contextual relevance of the research evidence is considered to be of a low level, then appraise the contextual relevance of additional quality research evidence (revisit ACT 1 and THINK 1, followed by THINK 2).
- If the research evidence is deemed relevant to the context for its intended use AND EITHER the intended research use is *not deliberate* OR the intended research use is *deliberate*, but the research evidence does not need to be adapted, then proceed to ACT 4: Use the research evidence.
- If the research evidence is deemed relevant to the context for its intended use AND the intended research use is *deliberate* AND the research evidence needs to be adapted, then proceed to THINK 3 and ACT 2: Adapting the research evidence to fit the context of its intended instrumental use.

### THINK 3 (Instrumental use)

Involves **appraising how the research evidence can be adapted** for the context of its intended instrumental use while maintaining its fidelity and integrity.

Guiding points that may represent this step include:

- Explore the various ways in which the research evidence could potentially be adapted (e.g., which elements of the research evidence are essential for its efficacy, and thus must be retained? Which elements of the research evidence are peripheral or non-essential for its efficacy, and thus could potentially be adapted?).
- Consider which adaptation of the research evidence is most appropriate for the context and goal of its intended use (e.g., which of the peripheral elements of the research evidence could potentially be adapted to better fit the intended context? Which of these should be prioritised in adapting the research evidence, in line with the goal for its intended use and the most appropriate 'fit' to the intended context? Are too many changes to the research evidence being made at one time – will its fidelity and integrity still hold? Will the adapted research-based practice or idea still align with the goal for the intended use of the research evidence? Will it still align with the goal of the research evidence?).
- Consider the potential impact of the evidence-based practice or idea<sup>8</sup>, potential barriers to adoption, and the extent to which these could be overcome (e.g., How complex is the research-based practice or idea – what other aspects of the system might be affected by introducing it? Might any negative unintended consequences arise by introducing this research-based practice or idea – could these be overcome and/or do they outweigh any potential benefits? What potential barriers to adoption of the research-based practice or idea can be foreseen, and how might these be overcome? What potential enablers to adoption of the research-based practice or idea can be foreseen, and how might these be harnessed?).
- Consider the role that research evidence has played in developing the research-based practice or idea (e.g., are you able to articulate the role that research evidence has played in developing the research-based practice or idea? Are you able to articulate how and why the research evidence will be used in the way you intend to use it? Are you able to articulate the goal of the research-based practice or idea, and can this be articulated in line with the research evidence? Are you able to articulate the key elements of the research evidence that could and couldn't be adapted to fit the context and goal of its intended use? Are you able to articulate why the selected adaptations were prioritised? Has any (known) evidence been overlooked?).
- Consider whether there is anything that you do not understand or whether there are any assumptions you are making while appraising how the research evidence can be adapted for the context of its intended use
- Consider who you could discuss the adaptation of the research evidence with, who you could approach for guidance, and / or who you could seek feedback from.

---

<sup>8</sup> Note that during adaptation of research evidence, there is transference of 'research evidence' to an 'evidence-based practice or idea'.

## ACT 2 (Instrumental use)

Involves **adapting** the research evidence to fit the context of its intended instrumental use.

Behaviours that may represent this step include:

- Educators<sup>1</sup> in schools engage with<sup>2</sup> at least one other suitable person<sup>3</sup> to critically discuss how the research evidence could be adapted and to adapt the research evidence to fit the context<sup>4</sup> of its intended instrumental use<sup>5</sup>.

<sup>1</sup> *Educators* includes: teachers, middle leaders and school leaders.

<sup>2</sup> *Engage with* can occur via: semi-structured meetings or interviews, surveys, online collaboration tools, brainstorming sessions, focus groups, workshops, simulation.

<sup>3</sup> Suitable people include: 'Critical friends' based in universities or research organisations; School-based research 'leads' or 'champions'; 'Knowledgeable' person in school cluster/network or in community of practice; School principal; Jurisdiction-based 'research' contact.

<sup>4</sup> *Context* includes: students, classroom, and teacher (considering skillsets, mindsets); school (considering leadership, culture, infrastructure); and the community (considering the influence of local issues) contexts.

<sup>5</sup> By *use*, we mean the process of actively engaging with and drawing on research evidence to inform, change, and improve practice (Coldwell et al., 2017). Drawing on Weiss and Bacvalas (1980) and Penuel et al. (2016), we distinguish instrumental and conceptual use as follows:

*Instrumental use*: Research is applied to guide or inform a specific decision.

*Conceptual use*: Research induces changes in the way a person views either a problem or the possible solution space for a problem.

**DECISION POINT – After adapting the research evidence to fit the intended context of its use, based on ACT 2 and the guiding points of THINK 3:**

- *If the research-based practice or idea is ready for trial, proceed to THINK 4: Scope trial approach and extent.*
- *If the research-based practice or ideas is not ready for trial, refine adaptation of the research evidence (revisit THINK 3 and ACT 2).*

#### THINK 4 (Instrumental use)

Involves **scoping** the approach and extent to which the research-based practice or idea **is trialled** for its intended instrumental use.

Guiding points that may represent this step include:

- Consider how the process, effects, and the appropriateness of the research-based practice or idea will be assessed during the trial (e.g., How will success and failure be determined? How will the process, impact, and appropriateness of the research-based practice or idea be measured? Do the proposed measures align with the research evidence – will they allow the effects of the research-based practice or idea during the trial to be compared with the effects reported in existing research evidence? Do the proposed measures align with the goal of the intended use of the research evidence, contextually relevant, and not too burdensome for those involved in the trial?).
- Consider an appropriately scaled and controlled design to evaluate the research-based practice or idea (e.g., in measuring the effects of the research-based practice or idea, are any confounding variables present – how will you ensure that effects can be attributed to the research-based practice or idea? Will a comparison group(s) be included in the trial – is this feasible, and what procedures will be put in place to ensure its feasibility? What is an appropriate duration for the trial, considering the outcome measures of interests and feasibility? What procedures will be put in place to ensure that the trial protocol will be adhered to and that the risk of spill-over effects will be reduced? How will you capture and respond to emerging challenges during the small-scale trial?).
- Consider potential barriers and challenges that may arise, and how these might be overcome (e.g., considering the proposed measures, trial design, and people involved: Does the trial consider differences in practice approaches that others may bring to bear? Is the approach flexible enough to accommodate other teaching styles? What potential barriers to following the trial protocol can be foreseen, and how might these be overcome? What potential enablers to following the trial protocol can be foreseen, and how might these be harnessed? How might other challenges and risks to the trial be anticipated and mitigated? How will any challenges encountered during the trial be captured and responded to?).
- Consider whether there is anything that you do not understand or whether there are any assumptions you are making while scoping the approach and extent to which the research-based practice or idea is trialled
- Consider who you could discuss the trialling of the research evidence with, who you could approach for guidance, and / or who you could seek feedback from.

### ACT 3 (Instrumental use)

Involves **trailing and evaluating** the process, effects, and appropriateness of the research-based practice or idea for the context of its intended instrumental use.

Behaviours that may represent this step include:

- Educators<sup>1</sup> in schools conduct a small-scale trial of the research-based practice or idea with a group of suitable people<sup>2</sup>, engage in a critical reflection<sup>3</sup> of the research-based practice or idea, and collate the insights gained.
- Educators in schools engage with<sup>4</sup> trial participants and other suitable people to evaluate and refine the research-based practice or idea, using the evidence and insights<sup>5</sup> gained from conducting the small-scale trial and in line with the research evidence<sup>6</sup>.

<sup>1</sup> *Educators* includes: teachers, middle leaders and school leaders.

<sup>2</sup> *Suitable people* include: 'Critical friends' based in universities or research organisations; School-based research 'leads' or 'champions'; 'Knowledgeable' person in school cluster/network or in community of practice; School principal; Jurisdiction-based 'research' contact.

<sup>3</sup> *Critical reflection* includes: examining what worked and what didn't work during the trial, and what might be done differently to overcome the challenges that were identified while trialling the research-based practice or idea in line with the research evidence and the evidence gathered during the trial (e.g., what if any, adaptations are needed? Is it good for my practice? Is it implementable?). Critical reflection points may include the guiding points presented in THINK 4.

<sup>4</sup> *Engage with* can occur via: semi-structured meetings or interviews, surveys, online collaboration tools, brainstorming sessions, focus groups, workshops, or simulations.

<sup>5</sup> *Evidence and insights* includes: Those gained from any process evaluation (e.g., student responses, staff responses, observations of staff practices), impact evaluation (e.g., students' formative responses, students' summative responses), and critical reflections or discussions with colleagues (formative and summative).

<sup>6</sup> *Research evidence* includes: Returning to evidence sources after the trial for clarification or to refine the research-based practice or idea. This may be for the purpose of responsive adaptation of the research evidence or to address any gaps or challenges identified during the evaluation (e.g., accessing research evidence about understanding complex systems).

### DECISION POINT – After trialling and evaluating the research-based practice or idea for the context of its intended use:

- If the research-based practice or idea is *not* ready to be implemented more widely AND a new research-based practice or idea *needs to be sought*, then access additional quality research evidence (revisit ACT 1 and THINK 1).
- If the research-based practice or idea is *not* ready to be implemented more widely BUT a new research-based practice or idea does *not* need to be sought, then revisit the adaptation approach and extent (revisit THINK 3 and ACT 2).
- If the research-based practice or idea is *ready* to be implemented more widely, then proceed to THINK 5: Planning for the implementation of the research evidence.

## THINK 5 (Instrumental use)

Involves **planning for the implementation** of the research evidence as per the intended instrumental use.

Guiding points that may represent this step include:

- Consider the project management aspects of implementation (e.g., what is the scope of the implementation – is it a staged implementation? Who are you going to consult?).
- Consider an appropriate buy-in plan for implementation of the research evidence (e.g., what is the consultation process? How could you get staff to discuss the research? Can you articulate how and why the research evidence is being used in the way that it is being used? Can you articulate how identified barriers will be addressed?).
- Consider an appropriate method for evaluating the research-based practice or idea, including process evaluation (e.g., will teachers monitor students' responses to the research-based practice or idea that has been implemented? Will staff practices be observed? How will you enable critical reflection with colleagues – both formative and summative?) and impact evaluation (e.g., how will you enable review meetings with your team to reflect and discuss the fidelity of the research evidence? How will you evaluate students' formative and summative responses – for example, by comparing with similar classrooms and/or schools through professional learning communities [PLCs]?). Critical reflection points may include the guiding points presented in THINK 4.
- Consider whether and how the implementation of the research evidence could contribute to the school's culture around research evidence use (e.g., aside from a buy-in plan, how will you share the evaluation findings and any lessons learned in line with using the research evidence with your team?).
- Consider an appropriate way to review, adapt, and/or maintain implementation of the research evidence during implementation and over time (e.g., what adaptations might need to be made to the research-based practice or idea for the different contexts within the school? how will we capture and respond to challenges identified during implementation? Is the initial goal of using the research-based practice or idea still being achieved – are our needs being met? How might our needs or the context evolve over time, and how might we need to adapt the research-based practice or idea to fit this new context?). Also revisit the guiding points for adaptation presented in THINK 3.
- Consider whether there is anything that you do not understand or whether there are any assumptions you are making while planning the implementation of the research-based practice or idea is trialled
- Consider who you could discuss the implementation of the research evidence with, who you could approach for guidance, and / or who you could seek feedback from.

## ACT 4

Involves **using** the research evidence.

Behaviours that may represent this step include:

- Educators<sup>1</sup> in schools create<sup>2</sup> and follow an appropriate plan<sup>3</sup> to apply the research evidence as per the intended **instrumental** use<sup>4</sup>.

OR

- Educators in schools<sup>1</sup>, **take up** the research evidence within their thinking as part of **conceptual** use<sup>9</sup>.

<sup>1</sup> *Educators* includes: teachers, middle leaders and school leaders.

<sup>2</sup> *Creating an appropriate plan* may include engaging with at least one suitable person to develop and/or refine it. Suitable people include: 'Critical friends' based in universities or research organisations; School-based research 'leads' or 'champions'; 'Knowledgeable' person in school cluster/network or in community of practice; School principal; Jurisdiction-based 'research' contact.

<sup>3</sup> A *plan* might include a formal change plan or might be as simple as scheduling something in their diary or storing the research evidence until it is needed, as appropriate to the intended use of the research evidence. A formal change plan should detail all of the activities included in implementation, including process and impact evaluations, and may include a buy-in plan and a plan for formal or informal sharing of any lessons learned in line with the research evidence, depending on the nature of the scope of the instrumental use.

<sup>4</sup> By *use*, we mean the process of actively engaging with and drawing on research evidence to inform, change, and improve practice (Coldwell et al., 2017). Drawing on Weiss and Bacvalas (1980) and Penuel et al. (2016), we distinguish instrumental and conceptual use as follows:

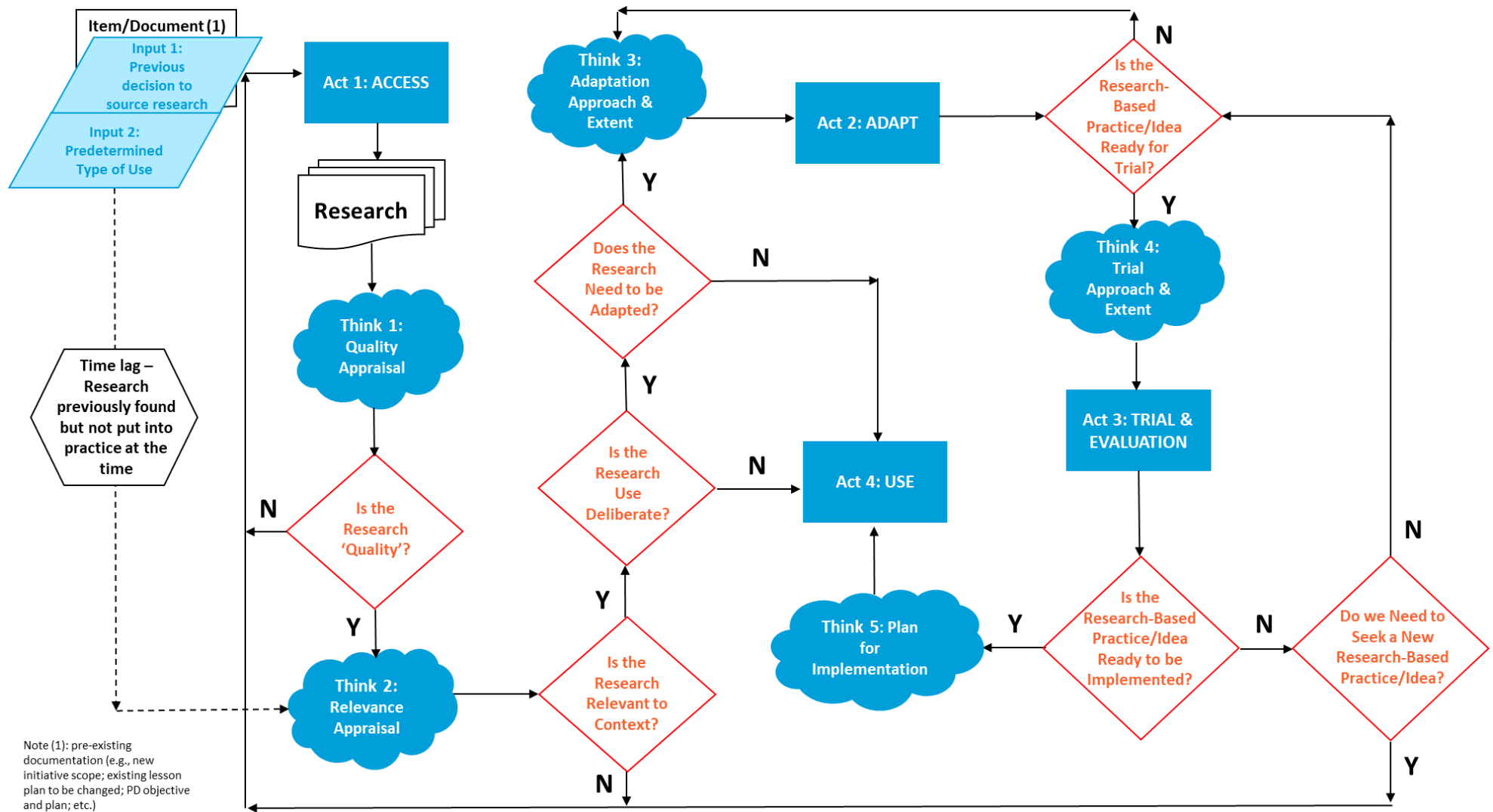
*Instrumental use*: Research is applied to guide or inform a specific decision.

*Conceptual use*: Research induces changes in the way a person views either a problem or the possible solution space for a problem.

---

<sup>9</sup> Once conceptual use **becomes instrumental use**, revisit THINK 3 and continue via the instrumental research use loop.

## 8. 2. FULL CONCEPTUAL MODEL OF ACT-THINK-THINK-ACT





# 9. APPENDIX D: KEY CHALLENGES & OPPORTUNITIES

## 9. 1. TIME BARRIERS TO QURE

As mentioned in section 3.3. on the reported barriers and facilitators to QURE, time constraints emerged strongly as barriers to QURE practices. This tended to be discussed at an individual- and school- level by teachers, and at the school level by leaders. Here we provide a brief overview of how time constraints were discussed by educators, and we have included some potential solutions that educators provided to these challenges.

Time constraints of the educators we spoke to or that they observed for other staff in the school tended to be reflected in the following ways:

- Extent to which there are competing demands on educators' time and/or staff are too busy for QURE (e.g., busy with admin, getting through the curriculum, and large classes). Sometimes these discussions were related to a lack of resources at the school and system levels (e.g., funding and/or staff to provide teaching relief);
- Extent to which there is a lack of quiet time or quality time for QURE (e.g., to read credible articles);
- Extent to which the QURE practice requires time, including that beyond the specific practice we asked about (e.g., conducting a trial also requires reflection, analysis); and
- Extent to which the lack of time for other educators impacts QURE practice (this was sometimes related to social opportunity). For example, logistical timetabling issues, the unavailability of colleagues to engage with, or not wanting to overburden other staff.

Some examples of how time barriers were discussed include:

*"If we write down what we think a teacher should be doing is huge. Yeah, I don't mean to keep coming back to the point, but just not enough time. Classes are way too big, admin work that we shouldn't be doing is done by teachers, things like that..."*

–Leader

*"So, it's that, "Here's another thing for me to do. Okay, you want me to do this, you've got to find me the time." Which sometimes is a monetary commitment from the school, to allocate those resources, to go, "If I want the staff to be involved with this, I'm going to have to allocate money to release them off class." The issue at the moment, particularly across New South Wales, is finding casual teachers, to release. And that's a shortage wherever we talk..."*

–Leader

*"I think if there's not enough time for you to maybe get your head around it, then implement it and then see if it works or doesn't work, that type of thing. I think if it's a real rushed process, then I think that probably wouldn't work to its best..."*

–Teacher

*"So, I think the setback would be around just the fact that we are extremely time poor and that adds another layer of reflection analysis that needs to go with the trial because you can't just do it and then say, "Oh, let's go ahead. Like, we need to think about, did it work? What was it? Do we need to refine it? Is this applicable? When?" And so that's more time. So yeah, I think that would be the obstacle for us."*

–Leader

Sometimes discussions about time constraints were related to the context of their current role (e.g., in a new role or at a new school) and/or beliefs about the relative value of the QURE practice. An example of how time barriers could also be related to beliefs about the value of QURE by a teacher in the context of accessing more than one research article is provided below:

*"I guess professionally for me, my time is quite valuable. I see it as I only get paid for a certain amount of hours a day. And if it's something that I'm interested in specifically, and I think it's going to benefit me, then I'm happy to read. And I think when I'm reading something, if it's something that I can, first of all understand, like when I'm reading it, I can picture what they're doing. The language isn't too overly sophisticated in a way that I actually understand what they're saying and I can take something away from it. That's something that's really big for me. If I read an article and I finish it and I can't remember anything that they've said, or I can't apply anything from it, then in my view, it's wasted my time. But if I read something and I learn something new, or it confirms something I already thought, or it prompts me to do further research, then that's something that has been beneficial for me."*

–Teacher

### Some ways educators thought time barriers could be addressed

The main suggestions provided by teachers and leaders around what could (or does) address time barriers mainly centred around formally increasing allocated time for research use. This took a few forms, including: teaching release, embedding frameworks for research use, and increasing formal meeting time to engage with research. Examples of teaching release and frameworks discussed by leaders are presented below:

*"Well, one of the things that we did was, if we're going to have Quality Teaching in our school plan, which we have... So, for the next four years our plan is to build our skill base over that. So, at the end of four years we've got all staff that understand the Quality Teaching model, all staff that are using quality teaching framework and doing that. So, it's embedded in our plan, so we've got to allocate resources. And when I say resources, that's physical resources and monetary. So, put the \$10,000 aside... Or it's actually more than that. So, whatever. \$20,000 or whatever... And say, "This is going to be the teacher release, to give them the time off class to do that." So that again, it's a priority. It's like, this is our core business. This is what's going to make a difference."*

–Leader

*"So, I think we really need a formal framework that's I don't think we have a culture at our college where we'll just encourage them to use research and then it happens....  
.... I don't mean it in that harsh way, but I do think there has to be something there. So, whether it's maybe incorporated in the annual review meeting, what have you done to embed research or what practises did you trial? And what was the decision making around that? But if it's just, oh, this is a good thing to do. Everyone have a go at it I think that that would be just selling it short."*

–Leader

However, one teacher expressed concern about removing teachers from the classroom for formal research time, as illustrated via the quote below:

*"Well, I don't think it'd be a case of giving more non-contact time because that is the biggest stretch ever. You can choose, you'd have to do that for every single teacher and that would have other implications that roll off that, but maybe more staff meetings, that are dedicated to that....  
.... So perhaps increasing more opportunities, such as focus groups, and maybe many more focus groups and people could have time to do maybe instead of having focus groups, it could be you pick a topic that you are particularly interested in and you want to look at further and maybe pair up with someone else who has something similar or even, I don't know if individually is the most effective use of people's time, but pairing up with two or three people who are interested in something similar, and working in a smaller kind of group than a focus group and perhaps it happens more regularly."*

–Teacher

Some teachers and leaders suggested adopting or leveraging off existing frameworks to make formal time for research use easier and more appealing for educators, as illustrated via the sample quote from a teacher below:

*“Yeah. It's so tricky, because teachers are overloaded, and there's a constant sense of being pushed and pulled in a thousand different directions, so the approach would need to be really carefully done. Otherwise, you get that sense of, “Oh, here we go. Okay. Now we're doing wellbeing. Okay. Right. Wellbeing, then we all do PD about wellbeing and resilience training, and da, da, da, da, da, da, da, dah.” Then it's kind of like, “Right. Well, you've done that, so now we're moving on this, and now this is what we're doing.” I don't think teachers have a lot of say necessarily over the professional development that their schools decide on, so I guess... Yeah. I wouldn't want it to be a scenario where we're saying, “Right, we're all just going to learn how to do this skill.” I wonder if it's part of maybe the growth and development cycle, and I'm not sure what it's called in the state... in the government system. I can't even remember what it's called in our school, but I guess, you know what I mean about that growth and development cycle. Similar to what we're doing now, where you think about something in your... Which is what you sort of do anyway, you think about something in your practice that you want to improve, but part of that process is learning how to search for credible quality, well written articles, multiple sources, multiple articles. Look at the research that's out there and be taught in that way. I think that would probably be the best approach, because it's something that's being done already...I think that's probably the best way to do it, and you would have to have some explicit teaching, and modelling, and training, I guess, but if it was part of an existing process, it might go down a bit better. It might be a bit easier to sell. Yeah.”*

–Teacher

Related to these discussions, particularly from leaders, were discussions around the need to prioritise existing activities and to be selective in what was adopted within the school. This was not only so that more time can be made available for research use, but also to reduce competing demands across activities (thereby improving the quality of staff engagement), and/or prevent change fatigue among staff. Some examples of these discussions by leaders are presented below:

*“And prioritising that. One of the other things that we've had to do... And I guess this was a result of COVID... Is, what the things that we've just been doing because we've always done them, and what are those things that take away from core teaching minutes, and are there things that we do, for instance, carnivals, that we still need to do because it meets the needs of a group of students, for their social, emotional wellbeing, or are there other things that we do for creative? All of those things. And really look at what it is that we're doing, and then get rid of the extras so that we can fit the priorities in to what we've got, in terms of however many minutes a week.”*

–Leader

*“I think again, if it's related to your core business. So, if it's teaching and learning, and the way that you teach, or in our case, we go teaching, learning and wellbeing. If it fits under that umbrella and it's within your school plan, and it's not just added on, and you can see how it fits in there, I think that's the biggest advantage. I think the barrier becomes when people just grab at anything and go, “This might be the solution, or this might be. Let's trial this.” And whatever, without much deep thought or planning around, why are we doing this, who's it going to affect, and what is it that we're trying to get out of this?”*

–Leader

## 9. 2. ACCESS BARRIERS TO QURE

When it came to the QURE practice of reading more than one credible research article, ‘access’ barriers were reported by teachers as a strong barrier. This tended to be discussed at an individual- and school- level by teachers. Here we provide a brief overview of how ‘access’ barriers were discussed by educators, including some potential solutions that were provided.

Access barriers tended to be reflected in the following ways:

- Extent to which there are physical resources to access credible evidence (e.g., databases, pathways to access research or resources relevant to the research practice);
- Extent to which relevant research evidence is available (e.g., contextually relevant research); and
- Extent to which externals make research accessible to educators in schools (e.g., lack of external experts who work in the field or externals using inaccessible terminology);

Some examples of the ways that access barriers were expressed are provided below:

*“Yeah. Well, time is. It’s also sometimes to access them. I know that it costs a lot of money to get those things put into place and to make all those things. But for teachers to spend money and time to go and read those resources and access those resources, sometimes it’s not feasible, unless it’s paid for by the school, which they say they’re running on shoestring budgets. It’s not feasible for the individual teachers to go and pay for it themselves to access that, to get that knowledge or information.”*

–Teacher

*“...so, like oftentimes the research is done in context that’s so dissimilar to mine, that ... or is done with such small sample sizes or those sorts of things. So, when things are done with a class of 14 in The Bronx, that’s nothing like what I’m dealing with. I’m dealing with 30 highly motivated ... like it just ... there are so many ... yeah. So, I think if research was done on a much more like for like sort of basis that would make it easier as well. I’m not sure that enough is done to make academic research easily available, if that makes sense.”*

–Teacher

*“...But in order to make it so it’s accessible to everyone, some people aren’t into the academic side of it, they aren’t into the research side of it, but they do want the practical. So, getting that so that people understand how they’re related. And I guess so much we have to do as teachers is the practical and getting that sometimes from research can be a bit of a challenge because it’s not always easy. You can spend hours researching things and you think, what has that actually done in my classroom? I could have been spending that time cutting out or if it’s in kindergarten or doing further research for a project that we’re doing, et cetera.”*

–Teacher

### Some ways educators thought access barriers could be addressed

When it came to discussions about increasing accessibility of research, suggestions were made about central repositories or distributions, which aligns with both physical and social opportunity (e.g., research brokers), as illustrated via the sample quotes below:

*“I suppose if it was more readily... I mean, if it was accessible, if it was just, as you were saying, somewhere that you could go, either online or in real, so that you weren’t doing the searching so much as just going to what someone else had already collected, I suppose. That would certainly make it easier.”*

–Teacher

*“I mean, this is something that we can, governments could provide to all teachers and say, “Look, these are articles that are fairly current for this semester or this term or whichever,” and giving them equal access to that, if that makes sense? And providing them with opportunities. So if they*

*were reading an article that perhaps might be something that they couldn't improve their teaching and learning, that would probably be a big thing."*

–Teacher

As mentioned regarding access barriers, an important aspect of discussions around potential solutions was not only about being able to physically access relevant research, but also about improving the practicality and ease of use of this research. Some examples of this are reflected in the perspectives provided by teachers below:

*"I think having, like when you go to PDs and things like that, having academics, their willingness to share what current research is out there that does filter into the classroom. I think that's probably one area that ... Because you walk away some great, not so great guest speakers and things like that. But I think if you've got stuff that is current practice and things that is being implemented or being trialled or being researched, having academics, their willingness to filter into, you know what I mean, not school situations, but maybe organisations, professional development organisations and that type of thing of how that can be shared. I think, you know what I mean, I think webinars and things like that are definitely, I think we all didn't know what Zoom was 18 months, two years ago....*

*... Maybe looking at, providing what the current researchers around and how that could look in the classroom, whether it be from webinars, whether it be links or that academics that are provided for teachers that go, "Look, if you're talking about discipline or are you talking about group work or things like that, these are the top five or top 10 current," you know what I mean, "articles that are there." I think that having that availability of the information does make it a little bit easier, if that makes sense?*

*...Instead of you trolling all the information, trying to find everything you've got even just a couple of key areas that relate to different stages or different school settings or whichever, that would be probably a big thing."*

–Teacher

*"There is an email that gets sent out from the department. I think it's weekly, but something like that, where it gave you snapshots on different things or independent resources. Now, I don't know who would do this if it was the department again or have different resources. So it gives you a little snapshot into what it is, like, "Oh, that's interesting." Or, "Yes, I'm on that topic now. I'm struggling with this, I'm doing that." ...Then it could maybe link you to where you could find, see three or four different resources, whether they be all agreeing or two pros, two cons, or something like that. That could be very helpful. So maybe the finding of the information or the finding of the independent sources might help as well...*

*...Yeah, yeah, yeah [agrees, it could be a snapshot of interesting findings and where to find out more]. Click here to find out more. That could take you to a source where, like you said, it had the other resources there, just five or six little key topics for the week or something like that, depending on who did that. Yeah. That would be very helpful too."*

–Teacher

## 9. 3. SOME OTHER USEFUL INSIGHTS AND OPPORTUNITIES

### Contextual factors

Some contextual factors to be mindful of or to work with include:

- The i) school, ii) student, and iii) educator contexts may impact the extent to which QURE practices are performed.
- For instance, schools may have different priorities (e.g., student wellbeing, low SES) and resources available, which can become barriers to research use.
- Similarly, educators who teach higher year levels may be more reluctant to perform particular QURE practices; for example, for senior students (HSC and above) it was considered more risky to trial new practices.
- Finally, the career stage of an educator was reported to influence QURE practices. For instance, relatively early career or new teachers tend to be busy becoming familiar with their role, the school, and students; in contrast, late-career educators were reported to sometimes have established ways of doing things, and so may be less open to QURE practices. Mid-career may be a ‘sweet-spot’ for research use.
- There may also be key moments in the year where educators are more or less receptive to research use, which should be considered or leveraged when trying to encourage QURE practices. For example, educators reported they are more open to reading articles at the start of the year or at relatively quieter times. When it came to adapting, however, teachers tended to report that mid-year could be a relatively good time and/or once they have worked at a level and with a class for some time—that is, teachers first need time to become familiar with the needs of their class. An example of how this was expressed is:

*“Yeah. So, for me it'll be... And, also, it would depend, I mean, if I stay on the same year level, it is different from if I move to a new year level. So, I've spent the last three years down in prep. So, I could, at the end of each year, pick something new that I wanted to focus on and spend that next year implementing it and adapting all the things that I've prepared to suit that, and getting feedback and then implementing it. And then at the end of the year, I suppose reflecting upon how it went, was it effective? What went well? What needs to be improved? And then looking at, well, what can I do next? But for instance, this year I've moved to year three. And for me at the moment, it is all about figuring out what's happening in the curriculum, adapting what I was doing in prep, behaviour, management wise and all that kind of thing, routines to try and suit. So, at the moment, for me, I haven't even looked at any new strategies or anything like that. It is just, I'm just trying to weed my way through what's going on. But perhaps at the beginning of next year, I'm feeling more confident and I feel capable, then I can go. Well, actually last year it went really terribly here. What can I do to improve that for this year? And that would be when it would happen.”*

–Teacher

- One teacher also mentioned key moments where motivation could be higher, which could provide timely opportunities to encourage educators to perform QURE practices:

*“I'm trying to think. Would there be an incentive that's already kind of happening? I know that for me, I do my... Apart from when I'm doing my masters, the main time that I would read research would be if perhaps I've been to a PD and that's kind of sparked that kind of excitement within me that I'm like, "Oh, I want to read a bit more about that now that I've gone to that PD." So perhaps it could be teachers attending more PDs that are... And not just ones that are very general, but perhaps them getting to choose, getting to attend more PDs that are really specifically about things that they are very interested in. And maybe from that they walk away with a bit more enthusiasm to actually go and do some more research, and follow up on that conversation they had at the PD, and have a conversation with somebody who was leading the PD and taking up a next step further, perhaps that's away.”*

–Teacher

## Social influences

Some social influences to be mindful of or to work with include:

- When it came to norms: Generally, people reported that no one would be against research evidence use or would block it; however, negative norms were reported in the form of a lack of interest from other staff; some acknowledged a diversity of views about research use; and leaders expressed concern about few, but loud voices.
- When it came to social influences: Research brokers (e.g., within the school via Learning and Teaching Coordinators, Teacher Librarians) were reported to increase opportunity to read more than one credible research evidence via increased access and accessibility of research.
- Teachers appeared to have informal discussions with each other regularly, which could provide an opportunity (e.g., to guide 'quality' conversations during these discussions).
- A potential opportunity mentioned by one teacher regarding policy, was that while there is a requirement for educators to complete professional development, there is no formal requirement for research use to be part of this. This might be an opportunity worth exploring further, while being mindful that a level of educator agency (i.e., to select something meaningful for their context) could encourage QURE.

# 10. APPENDIX E: OVERVIEW OF BEHAVIOURAL INSIGHTS PIECES

## 10.1. CONTRIBUTIONS TO THE MONASH Q SUITE

The Q Suite is a set of resources and insights for educators on research evidence use. It showcases data findings from the Monash Q Project's research activities, including surveys and interviews with practitioners.

Each Q Suite collection contains:

- Q Conversation – resource to promote discussion and reflection about evidence use;
- Q Data Insights – summary of key findings;
- Q Narratives – narrative profiles of practitioners;
- Q Behavioural Insight – discussion of key behaviours and thinking cues; and
- Q Presentation Slides – supporting presentation on how to facilitate a Q Conversation.

*Q Behavioural Insight* pieces sought to provide a behavioural science perspective on each theme. These contributions are summarised below:

1. *Q Behavioural Insight: Supporting quality use of research evidence through 'opportunity'*. (November, 2022). Monash University. Educational resource. <https://doi.org/10.26180/21454617>
  - This *Q Behavioural Insight* outlined how different types of infrastructure can provide opportunities for quality use of research in schools. This was part of the Q Suite on how **infrastructure** contributes to **using research well** in practice.
2. *Q Behavioural Insight: Sharing research effectively*. (July, 2022). Monash University. Educational resource. <https://doi.org/10.26180/20343015.v1>
  - This *Q Behavioural Insight* outlined a number of behaviour-change principles to help educators share research with others in ways that may improve their research engagement. This was part of the Q Suite on how educators **access, receive, share and use research** and how these practices contribute to **using research well** in practice.
3. *Q Behavioural Insight: Time as a barrier to quality use of research*. Monash University. Educational resource. <https://doi.org/10.26180/16823146>
  - This *Q Behavioural Insight* outlined how school leaders can address time challenges felt by teachers and staff around competing priorities and/or new ideas or changes being introduced to the school too frequently. This was part of the Q Suite on the **issue of time as a condition of using research well** in practice
4. *Q Behavioural Insight: Influence of Social and Relational Contexts on Behaviour*. Monash University. Educational Resource. <https://doi.org/10.26180/14445642>
  - This *Q Behavioural Insight* outlined how relationships and social factors are key influencers of research use behaviours. This was part of the Q Suite on **social and collaborative ways in which educators use research** in practice.
5. *Q Behavioural Insight: Thoughtful Engagement with Research Evidence*. (Nov, 2020). Monash University. Educational Resource. <https://doi.org/10.26180/13302185>
  - This *Q Behavioural Insight* outlined key behaviours and thinking cues that underpin the tasks of finding, assessing and interpreting research for relevance. This aligned with the Q Suite on **finding and using research and evidence** in educational practice.