



The value of research evidence

Using research to strengthen your practice

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Research is the most reliable way we have to find out whether some approaches – practices, programs or policies – are more effective than others.

As an education professional, drawing on research evidence can strengthen your confidence that you're using the most effective practices – practices that will maximise children and young people's learning and wellbeing. Considering new approaches doesn't mean your existing approaches 'don't work'. It's simply recognising that knowledge evolves over time. Even when children and young people are doing well, if we ignore the research, they could miss out on opportunities to achieve more. Research evidence shouldn't replace the professional wisdom and understanding that comes with experience. Rather, it should complement your experience, enrich your existing knowledge and give you confidence you're using the practices most likely to maximise learning in your context.

The Australian Education Research Organisation (AERO) has produced 4 practice guides on using research to strengthen your practice:



[The Value of Research Evidence](#)



[Assessing Research Evidence](#)



[Looking for Research Evidence](#)



[Applying Research Evidence.](#)

If you're a teacher or educator, this practice guide and AERO's other evidence use resources can help you draw effectively on research evidence to strengthen decisions about your practice. If you're a school or service leader, you can use this guide and these resources to support your team in engaging with research evidence as part of their ongoing professional development.

Related frameworks

Early Years Learning Framework V2.0

Principles: Critical reflection and ongoing professional learning.

National Quality Standards

Standard 7.2 Leadership: Effective leadership builds and promotes a positive organisational culture and professional learning community.

Australian Professional Standards for Teachers

Focus Area 6.2: Engage in professional learning and improve practice, which includes 'Plan for professional learning by accessing and critiquing relevant research' at the Highly Accomplished level.

Australian Professional Standards for Principals

Professional Practice 2: Developing self and others.

Ways to use this practice guide

- You can use this practice guide for professional learning to become more familiar with research and to check your knowledge.
- You can use this practice guide for professional learning to discuss research evidence as a team, such as in a community of practice.
- Leaders can use this practice guide to structure dialogue and reflection about using research evidence in a school or service. These concepts can serve as a point of conversation to build shared understandings of how to engage with research evidence.

Defining research evidence

Research evidence is evidence generated by academic research, which uses established, systematic methods to collect and analyse information to answer a particular question. Most academic research is conducted by universities or research institutes and published in academic journals, but you can also find research evidence in practitioner or trade journals, reports by government departments and agencies and other reputable organisations, in books and conference papers, as well as on some websites.

Academic journals usually provide reliable research evidence

Research evidence in academic journals is usually robust and reliable because a system has been created over many years that requires researchers to check and build on each other's work. This is particularly the case for academic research that provides evidence on the effectiveness of different practices, policies and programs.

- Research is **published in peer-reviewed journals** with enough detail to enable other researchers to attempt the same study.
- Other researchers **replicate the study or test it in different contexts** and report if they find the same results.
- Each study builds on those that came before and when enough studies have reported similar findings, a **consensus** is reached.

Peer-reviewed research: Research that's been reviewed by experts in the field to ensure it's of a high standard – that is, that appropriate methods were used and that the conclusions are logical and well-supported by evidence. Reviewers also evaluate whether the findings are original and significant enough to be worth publishing. Peer review is usually 'blind', meaning that the reviewers don't know who wrote the article. This means each article is judged on its merits. Research isn't accepted for publication simply because it was written by a well-known author.

The practices you'll find described in AERO's [resources on evidence-based practices](#) have been the subject of numerous academic research studies. There's broad consensus within the research community that these practices contribute to improved student outcomes.

Importantly, reaching a consensus doesn't mean the end of research on that topic. Researchers never have all the answers, so research evidence is constantly growing and evolving.

Anecdotal evidence should be confirmed by research evidence

Experience and professional wisdom are invaluable, and we recognise that teachers and educators are committed to collaborating and learning from each other. Professional wisdom doesn't have the benefit of a peer-review process or replication, though, so it's harder to know whether it's reliable and free from bias. When colleagues share their experiences – for example, when they recommend a practice because they tried it and it seemed to work, this is called **anecdotal evidence**.

Anecdotal evidence can be persuasive because personal stories are compelling. For instance, a colleague might share their experience of how repeating a year benefitted a student they knew. However, the research evidence suggests that repeating a year can have a negative impact – notably, students who repeat a year are unlikely to catch up with their peers who’ve moved on and are more likely to drop out of school.¹

It can be tempting to rely on anecdotal evidence when research evidence isn’t available, but we wouldn’t recommend relying on anecdotal evidence alone. Find out if there’s research evidence to support what you’re hearing – for example, you could ask your colleague where they heard about the practice or where you could find more information yourself.

Important: Don’t conflate anecdotal evidence with research evidence generated through established qualitative research methods like narrative inquiry. Anecdotal evidence refers to claims made without systematic inquiry and consideration of bias.

Unconscious bias is common

Bias is often unintentional and even unconscious.

Cognitive biases are unconscious errors in thinking that occur because our brains try to simplify information to help us make decisions in a complex world. Because they’re unconscious, it’s almost impossible to avoid cognitive biases and they affect both researchers and practitioners who engage with research.

While you can’t avoid cognitive biases completely, you can be mindful of biases – both your own and those of researchers – in the way you’re interpreting or judging what you’re reading.

Table 1 explains some common types of cognitive bias to watch out for.

Table 1: Common types of cognitive bias

Name of bias	Definition
Confirmation bias	We notice, remember and give more weight to evidence that supports our existing opinion and ignore or dismiss information that contradicts it.
Anchoring bias	We tend to give more weight to the first piece of evidence we learn and interpret everything else in relation to that ‘anchor’.
Bandwagon effect	Our opinions are influenced by what those around us think and we often adopt a belief simply because it’s popular. This can be due to a desire to fit in or because we assume that if everyone else thinks something it must be right.

Name of bias	Definition
Status quo bias	We prefer to keep doing things the same way simply because that's how we've always done them, so we ignore evidence that suggests our current way isn't the best.
Pro-innovation bias	Shiny new things catch our attention, and we want to adopt them simply because they have novelty value. This tendency could be operating initially if we choose to do something different, but then we might revert to old habits in line with the status quo bias.
Self-serving bias	We blame our shortcomings or failures on external factors but take credit for our successes.
Availability heuristic	Information that comes to mind quickly seems more important than information we have to work harder to find or recall, so we rely on it without checking for other evidence.

Also be aware that prejudice and stereotypes about social groups can influence how we think, feel and behave towards those groups. For example, a lab-based study² found that knowing the gender of a fictional 8-year-old child caused adults to change the way they taught scientific content. Specifically, adults conveyed less scientific information when they thought they were teaching a girl than a boy. They also perceived girls as less academically competent in physics than boys. The results from this lab experiment suggest that gender stereotypes could reduce the quality of girls' early educational experiences in science. Findings could be different if the study was conducted in classrooms, where there could be other cues making biases more or less prevalent.

Much like viruses, biases are widespread in society. We can catch them even if we don't intend to. Reflection can help to build awareness of where our biases come from and identify how to stop them from influencing our decisions and behaviour.

The Australian Institute of Aboriginal and Torres Strait Islander Studies has developed the [Guide to Evaluating and Selecting Education Resources](#). It includes guidance for teachers to critically reflect on cognitive biases and assumptions that can affect decision-making.

Knowledge check: The value of research evidence



Take our quick quiz below or scan the QR code to test your knowledge about research evidence.

1. Research evidence in peer-reviewed academic journals is usually robust and reliable because:

- a. Academic researchers know more than everyone else about a topic
- b. Publishing is expensive so researchers only publish the best studies
- c. A system has been created so that researchers check and build on each other's work

2. Anecdotal evidence:

- a. is usually more reliable than research evidence because it comes from peers who understand your context
- b. is often compelling, but it's important to check if it's backed up by research evidence
- c. aims to offer a step-by-step explanation that can later be tested

3. The practices described in AERO's evidence-based practice resources are considered evidence-based because:

- a. Numerous academic research studies have led to a broad consensus within the research community that these practices contribute to improved student outcomes
- b. AERO's survey of educators and teachers found that these practices are the most popular with experienced educators and teachers
- c. We know these practices are effective because people have been using them for many years

4. Do you consider these statements to be true or false?

- 4.1. Research evidence should replace professional wisdom and knowledge gained from experience.
- 4.2. Research evidence is only found in academic journals.
- 4.3. Research evidence complements professional wisdom and knowledge gained from experience.
- 4.4. Research evidence is the most reliable way we have to find out whether some practices, programs or policies are more effective than others.
- 4.5. Research evidence isn't relevant when children or young people are doing well.

Next steps

For guidance on how to find research evidence, see AERO's [Looking for Research Evidence](#) practice guide.

For guidance on how to assess research evidence once you've found it, see AERO's [Assessing Research Evidence](#) practice guide.

For guidance on how to apply research evidence, see AERO's [Applying Research Evidence](#) practice guide.

Knowledge check answers: 1(c), 2(b), 3(a), 4.1(False), 4.2(False), 4.3(True), 4.4(True), 4.5(False).

Endnotes

- 1 For more examples, see Evidence For Learning's '[Top Ten Education Myths About What Improves Student Learning](#)'.
- 2 Newall, C., Gonsalkorale, K., Walker, E., Forbes, G. A., Highfield, K., & Sweller, N. (2018). Science education: Adult biases because of the child's gender and gender stereotypicality. *Contemporary Educational Psychology*, 55, 30–41. <https://doi.org/10.1016/j.cedpsych.2018.08.003>