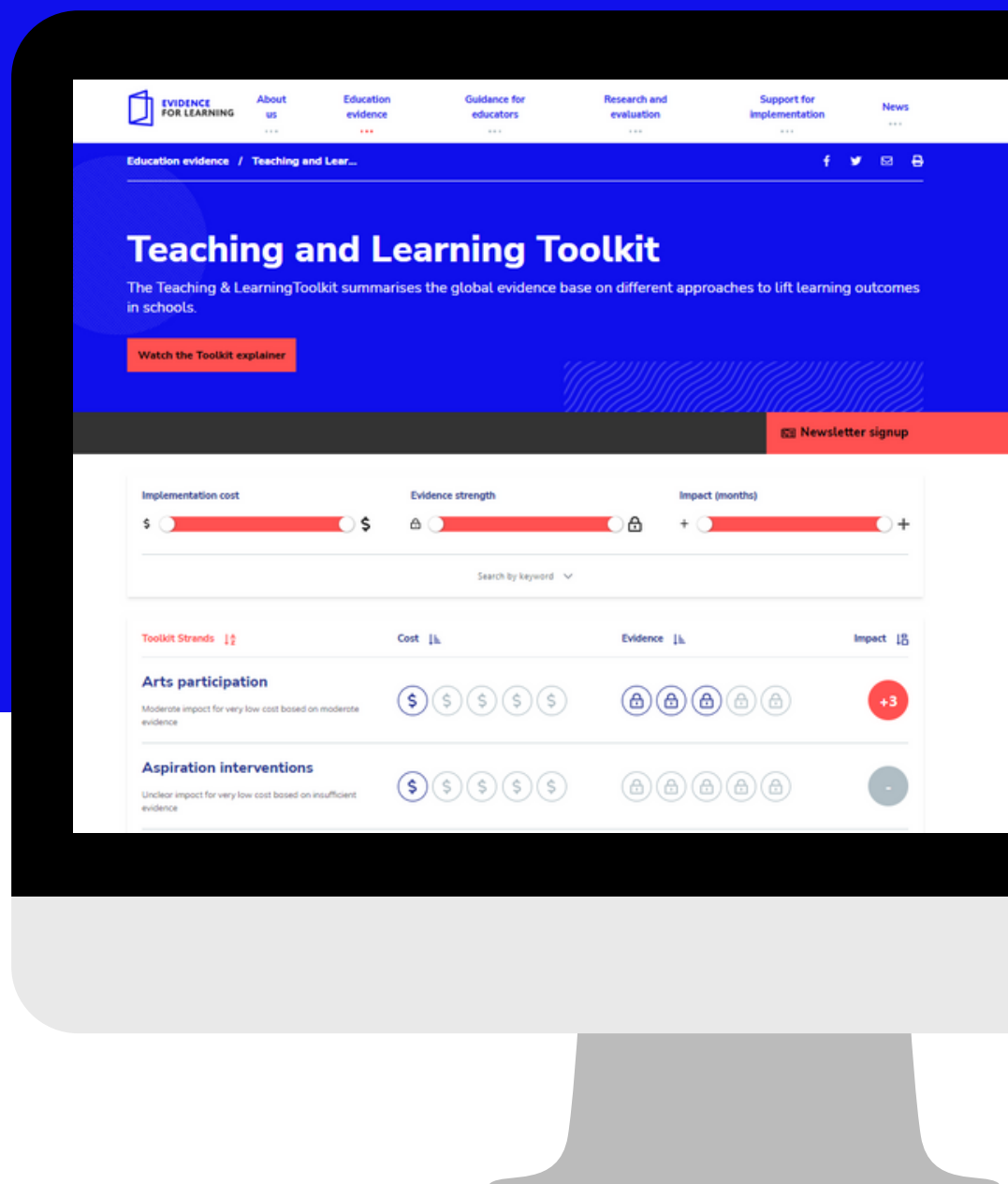




Teaching & Learning / Early Childhood Education Toolkit Guide





Evidence for Learning's Toolkits guide

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This guide has been developed based on the Education Endowment Foundation's publication '*Teaching and Learning / Early Years Toolkit Guide*'.

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About Evidence for Learning

Evidence for Learning is an independent, not-for-profit organisation committed to ensuring all children throughout Australia, regardless of background, make the best possible learning progress. We do this by improving the quality, availability and use of evidence in education and collaborating with education researchers, policy makers, systems leaders, educators, professional learning providers, philanthropists and the wider community.

Introducing the Toolkits

The [Teaching & Learning Toolkit](#) and [Early Childhood Education Toolkit](#) are accessible summaries of education research.

The two Toolkits are designed to support educators and educational leaders who are making decisions about how to improve learning outcomes, particularly for children experiencing disadvantage.

Together, the Toolkits present over 40 approaches to improving teaching and learning, each summarised in terms of:

- its average impact on achievement;
- the strength of the evidence supporting it; and
- its cost.

The Toolkits do not make definitive claims as to what will work to improve outcomes in a given school or early learning setting. Rather, they provide high quality information about what is likely to be beneficial based on existing evidence. Click [here](#) for more about how to use the Toolkits.

Both Toolkits are live resources that are updated on a regular basis as new findings from high-quality research become available.[1]

We welcome suggestions for new topics to be included in future updates of the Toolkits, as well as comments or questions. Please contact info@evidenceforlearning.org.au

Systematically summarising evidence in the Toolkits

The Teaching & Learning Toolkit pulls together a large amount of academic evidence that would otherwise sit behind academic paywalls. To avoid just selecting the positive or well-known studies, the Toolkit uses a methodology known as systematic review. This means that the criteria for being included in the Toolkit is specified in advance. Any study that meets the criteria is included. Studies cannot be excluded to increase or decrease the impact or because researchers do not like the results.

Using the Toolkits

The Toolkits are designed to support educators and educational leaders who are making decisions about how to improve learning outcomes. The findings they present are based on real life data about what has happened when particular approaches have been used in schools and early learning settings.

Because the Toolkits do not provide definitive answers, they should not be used in isolation. Your professional judgement and expertise are also needed to move from the information in the Toolkits to an evidence-informed decision about what will work best in your setting.

Top tips for using the Toolkits

1. Consider your context and goals.

It is crucial to consider the needs of your children, your goals, and any barriers you might face before adopting an approach. Much depends on your setting, its educators (their levels of knowledge and experience), and its children or young people (their level of achievement and their social background). It is important to be clear on your improvement priorities, particularly those likely to improve the outcomes of children experiencing disadvantage.

2. Look beyond the headlines and go 'behind the average'.

Having identified your goals, the Toolkits' summaries can be used to help identify 'best bets'. While there is no guarantee the average impact reported in the Toolkits will be the impact in your context, it provides a good starting point on what might be valuable.

Every Toolkit approach has a page which describes in more detail what it is, what it costs and what impact you can expect. This extra detail can really matter. Each page goes 'Behind the Average',^[2] and gives more information on the different impacts of approaches for different ages or subjects. For some strands, like Teaching Assistants in schools, there is substantial variation between the impact of everyday classroom use and trained teaching assistants delivering targeted interventions.

3. Think about cost and evidence as well as impact.

Approaches with the largest impacts do not always provide the best value for money. For example, reducing class size in schools has been shown to have a positive impact on student progress, on average (two additional months' progress), but as it requires new teachers it is expensive. Other approaches have had the same impact at a lower cost.

The strength of the evidence also matters. Homework in secondary school is estimated to deliver five months' additional progress. However, the evidence strength is very low and means that this estimate may be less reliable than topics in the Toolkits with more extensive evidence.

It's also important to reflect on the type of impact you want to achieve. It should be noted that the evidence summarised in the Toolkits takes educational outcomes as its primary metric.

4. Draw on your professional expertise and consider implementation.

The Toolkits can tell you whether an approach has a good track record, but your professional expertise, other resources, implementation considerations and ongoing evaluation are also important in making well-informed decisions on what is best to support children's learning.

For example, parental engagement approaches in schools have had an average impact of four additional months' progress. However, the evidence suggests that it can be difficult to get parents involved in new programs in the first place. So specific knowledge of your community needs to be factored in before you can decide whether a particular parental engagement approach would be feasible.

Due to the importance of context, it is crucial to use the Toolkits alongside ongoing evaluations of the impact of the decisions you make, to ensure that the approaches you use are having the desired effect. Many changes initially feel positive but have little lasting impact on learning, so this step is essential. Resources such as the [Implementation Guidance Report](#) can help with this process.

About the Toolkits

Additional months' progress

The impact measure shows the number of additional months of progress made, on average, by children and young people who received the intervention, compared to similar children and young people who did not.

For example, the '[Feedback](#)' strand shows that in the research studies included in the Teaching & Learning Toolkit, improving the quality of feedback had an average impact of six additional months' progress.

Feedback



+6

Very high impact for low cost based on extensive evidence.



This means that students in the classes where feedback interventions were provided made, on average, six months' more progress than similar students in other classes.

The months of additional progress estimates are based on 'effect sizes' reported in international research studies.

Effect sizes describe the size of the difference between two groups in a standard and comparable way. However, it can be difficult to understand what a given effect size actually means for the progress of children and young people. That is why Evidence for Learning translates effect sizes into the months' progress measure, as shown in the table below.

Months' progress	Effect size from...	to...	Description
0	-0.05	0.05	Very low or no impact
+1	0.06	0.09	Low impact
+2	0.10	0.18	Low impact
+3	0.19	0.26	Moderate impact
+4	0.27	0.35	Moderate impact
+5	0.36	0.44	High impact
+6	0.45	0.52	Very high impact
+7	0.53	0.61	Very high impact
+8	0.62	0.69	Very high impact
+9	0.70	0.78	Very high impact
+10	0.79	0.87	Very high impact
+11	0.88	0.95	Very high impact
+12	0.96	1.00	Very high impact

About the Toolkits


Evidence strength - the 'padlock' rating


The Toolkits present a rating of the security of the evidence for each approach. This is illustrated on the Toolkit pages using a padlock icon so it is sometimes referred to as the 'padlock' rating. This rating provides an overall estimate of the robustness of the evidence, to help support professional decision-making in schools and early learning settings.


Topics are awarded padlocks based on the number of studies that meet the Toolkit inclusion criteria. Additional padlocks are then lost due to a number of potential threats to security.


Studies included in the Teaching & Learning Toolkit all take place in schools rather than lab-studies, involve a comparison group (rather than simply testing students before and after intervention), and meet the definition of each topic.


The initial padlock ratings are:

 = Very limited evidence
At least 10 studies that meet the Toolkit inclusion criteria.

 = Limited evidence
Between 11 and 24 studies that meet Toolkit inclusion criteria.

 = Moderate evidence
Between 25 and 44 studies that meet Toolkit inclusion criteria.

 = Extensive evidence
Between 45 and 69 studies that meet Toolkit inclusion criteria.

 = Very Extensive evidence:
70 or more studies that meet Toolkit inclusion criteria.

Where there are fewer than 10 studies that meet the inclusion criteria a 0 padlock security rating is awarded, and months' progress are not communicated.

Additional padlocks can be lost because:

- Only a small percentage of the studies have taken place recently. This might mean that the research is not representative of current practice.
- A large percentage of the studies included are not randomised controlled trials. While other study designs still give important information about effectiveness of approaches, there is a risk that results are influenced by unknown factors that are not part of the intervention.
- A large percentage of the studies took place in conditions distinct from regular practice. While all studies included in the Teaching & Learning Toolkit take place in real classrooms (as opposed to "lab-studies"), studies that are delivered by researchers rather than teachers tell us less about how an approach will be implemented.
- A large percentage of the studies were not independently evaluated. Evaluations conducted by organisations connected with the approach– for example, commercial providers, typically have larger impacts, which may influence the overall impact of the strand.
- There is a large amount of unexplained variation between the results included in the topic. All reviews contain some variation in results, which is why it is important to look behind the average. Unexplained variation (or heterogeneity) reduces our certainty in the results in ways that we have been unable to test by looking at how context, methodology or approach is influencing impact.

About the Toolkits

Cost

The cost estimates in the Toolkits are based on the average cost of delivering the intervention. Each strand also discusses the range of potential costs— for example, many interventions are more expensive when professional development costs are added to ensure high quality delivery.

Cost estimates can include:






- the cost of new resources, such as IT hardware or software;
- the cost of training courses or professional development to support a new approach, and teacher cover to enable this to happen;
- the cost of activities for children such as outdoor education programs or music tuition.

Cost estimates do not cover resources which are required to deliver the approach and which schools or early learning settings are expected to already have, such as interactive whiteboards, or educators (unless an additional educator is necessary to deliver the approach).

This is because we think additional expenditure is the most useful figure to present to educational leaders who are deciding how to allocate budgets.

Presenting the cost for each Toolkit strand allows schools and early learning settings to consider the cost-effectiveness of different approaches, as well as their impact. For example, One to one tuition and Peer tutoring both deliver five months of additional progress on average. However, one to one tuition is considerably more expensive on average.

The cost ratings are based on a five-point scale as shown below:

Cost estimate	Description	Cost details
	Very low	up to \$4,000 per year per class or group of 25 children, or less than \$160 per child per year
	Low	\$4,001 to \$8,000 per year per class or group of 25 children, or up to \$320 per child per year
	Moderate	\$8,001 to \$30,000 per year per class or group of 25 children, or up to \$1,200 per child per year
	High	\$30,001 to \$50,000 per year per class or group of 25 children, or up to \$2,000 per child
	Very high	over \$50,000 per year per class or group of 25 children, or over \$2,000 per child

Notes:

[1] As the Toolkit is a live resource, some of the specific ratings of impact, evidence security and cost referred to in this document may change.

[2] The 'Behind the Average' section is available from July 2022 in the Teaching & Learning Toolkit and from March 2023 in the Early Childhood Education Toolkit.



EVIDENCE FOR LEARNING

Helping great practice become common practice in education.