



# Tackling under-achievement

Why Australia should embed high-quality small-group tuition in schools

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## Overview

When children struggle to keep up with classroom learning, it can spark a vicious cycle. Lack of understanding, frustration, and disengagement can set in, stymying future learning. Unless teachers intervene quickly to help children get back on track, what starts as a small crack in the learning foundation can grow as academic demands increase, with devastating consequences.

Grattan Institute analysis of 2022 NAPLAN data shows that a significant gap separates the achievement levels of advantaged and disadvantaged children in Year 3, and that by Year 9 this learning gap becomes a chasm. And once children fall behind, they often struggle to catch up, irrespective of their level of advantage. Australia must do better.

The good news is that the opportunity to boost learning and bridge these gaps is in plain sight. Small-group tuition – in which educators work with just a few students at a time in short, highly focused sessions about three times a week over one to two school terms – is among the most effective learning interventions available. Delivered well, it can add, on average, an extra four months of learning over a year, helping many students catch-up. The economic benefits are also huge: if one-in-five students received high-quality small-group tuition in 2023, they would collectively earn an extra \$6 billion over their lifetimes – about six times the annual cost of tutoring programs.

The big challenge is to ensure high-quality small-group tuition is achieved not in a few schools, but every school. Not all small-group tuition works, and it can be resource-intensive. To avoid expensive failures, our governments must capture and build on the lessons

learnt from the \$1.5 billion small-group tuition programs set up in NSW, Victoria, and elsewhere across Australia, in response to COVID-lockdown disruptions.

Governments and the Catholic and independent school sectors should commit to a five-year plan to embed effective small-group tuition in every school to tackle underachievement. They should take four steps to make this happen.

First, improve school guidelines on how to embed high-quality small-group tuition within a broader ‘response to intervention’ model. This requires schools to focus on prevention and early identification of learning gaps, along with short bursts of small-group tuition for students who need it.

Second, strengthen support to schools to implement best-practice guidelines on small-group tuition. Review schools’ capacity to do this well, then give them the support they need.

Third, invest in rigorous trials and evaluations to refine school guidelines and supports. There is still a lot we don’t know about the cost-effectiveness of different tutoring approaches, the most promising small-group literacy and numeracy interventions, the training and support that different tutors need, and the untapped potential of technology to improve tutoring. Governments should invest \$10 million to investigate these issues and provide clarity and support to schools.

Fourth, follow up with a commitment in the next National School Reform Agreement to embedding high-quality small-group tuition in all schools over five years.

## Recommendations

Governments and the Catholic and independent school sectors should commit to a five-year plan to embed high-quality small-group tuition in all schools. They should take four key steps.

### 1. Give schools clearer guidelines on how to embed high-quality small-group tuition

Guidelines should include how to deliver small-group tuition within a broader ‘response to intervention’ model, which includes a focus on prevention through high quality universal classroom instruction, as well as early identification of any learning gaps.

Guidelines should also cover how to: select students for small-group tuition; monitor their progress; provide effective, evidence-based instruction; and provide the right ‘dosage’, group size, and scheduling.

### 2. Give schools more support to implement best-practice guidelines on small-group tuition

Review schools’ capacity to implement best-practice guidelines, then give them the support they need. Ensure schools have enough support to:

- Access high-quality student assessments and diagnostic tools
- Screen and regularly monitor student progress
- Recruit high-quality tutors who are well-matched to student needs
- Adopt evidence-based literacy and numeracy approaches

- Access high-quality instructional materials, as well as high-quality training and ongoing support for tutors
- Make decisions that maintain quality and stretch the dollar further.

The review should also examine the extent to which cost-effective small-group tuition can be funded within existing school budgets.

### 3. Invest in rigorous trials and evaluations to refine best-practice guidelines and supports

Invest \$10 million to fill gaps in the research on how to best deliver cost-effective small-group tuition, the most promising literacy and numeracy interventions, how to find high-quality tutors, and how to fund tutoring sustainably. Research findings should then be used to refine government guidelines and supports for schools as new findings come to light.

### 4. Follow up with a commitment in the 2024 National School Reform Agreement to embed high-quality small-group tuition in all schools over five years

*\*Principals and teachers should also refer to our [short guide](#) – which accompanies this report – on the key steps schools can take now to embed effective small-group tuition.*

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## 1 Small-group tuition can help struggling students catch up

Small-group tuition can help close the learning gap for struggling students, especially those from disadvantaged backgrounds. But embedding effective small-group tuition in all schools will take time and effort to get right. We should persist: if done well, the learning gains will be significant, and the economic benefits will far outweigh the costs.

### 1.1 Small-group tuition works

Robust international research suggests well-designed small-group tuition is highly effective.<sup>1</sup>

A review of the global evidence showed that small-group tuition can boost student learning by as much as four months, on average, over the course of a year.<sup>2</sup>

A 2020 review of 96 ‘gold standard’ randomised controlled trials in the US found consistently large, positive results from catch-up tuition on maths and reading across grade levels.<sup>3</sup>

And a 2017 systematic review examined a range of interventions that aimed to improve educational outcomes for students from low-socioeconomic backgrounds. Of all the interventions examined, one-on-one and small-group tuition was the most effective.<sup>4</sup>

Small-group tuition has delivered positive results not only in small-scale studies under ‘ideal’ conditions but also in studies involving more than 400 students across several schools.<sup>5</sup>

1. Systematic reviews include Nickow et al (2020), Dietrichson et al (2017) and Kraft and Falken (2021).
2. Evidence for Learning (2021a).
3. Nickow et al (2020).
4. Dietrichson et al (2017).
5. Nickow et al (2020) find that about 15 studies included more than 400 students and the positive effect of small-group tuition was only slightly smaller.

One-on-one tuition is generally found to be more effective than small-group tuition. However, we recommend schools and systems look to small-group tuition first because it is more cost-effective.<sup>6</sup>

Most of the evidence on small-group tuition comes from the US and UK. There have been few rigorous studies in Australia, but some Australian programs show promise, and we are learning a lot from COVID catch-up tuition programs introduced in response to the pandemic lockdowns (see Chapter 2).<sup>7</sup>

### 1.2 What effective small-group tuition entails

Effective small-group tuition involves a tutor working with groups of about three students over at least 10 weeks to boost their learning and help them get back on track.<sup>8</sup> Scheduling sessions at least three times a week, for up to an hour each, is best practice.<sup>9</sup> Evidence suggests small-group tuition is effective for both literacy and maths, and all grade levels.<sup>10</sup>

6. Evidence for Learning (2021a).
7. Evaluations of the following Australian programs have shown promising results: a small South Australian literacy program: Buckingham et al (2014); a one-on-one numeracy tuition program in the ACT: Thornton et al (2010); and a literacy tutoring program in the Northern Territory: Wolgemuth et al (2013) and Abrami et al (2020).
8. Typically, small-group tuition is done with groups of two-to-five students at a time. Groups of more than 6 or 7 students tend to be less effective: Evidence for Learning (2021a). Groups of three tend to provide value for money while ensuring quality: Education Endowment Foundation (2021a, p. 6); Evidence for Learning (2021a).
9. Nickow et al (2020); and Evidence for Learning (2021a).
10. Nickow et al (2020) and Evidence for Learning (2021a). Nickow et al (2020) find that tutoring in literacy has stronger results for early primary school students. Tutoring is also effective at secondary school, but there are fewer studies.

The benefits of small-group tuition stem from the fact that the educator can focus exclusively on a small number of students, and set work that is more closely matched to their needs. It can offer more opportunities for retrieval practice, consolidating learning, and mastering concepts. Small-group tuition can also produce social benefits, if students create a strong connection with their tutor and gain confidence.<sup>11</sup>

Of course, the quality of small-group tuition will only be as good as the quality of the instruction provided in the sessions. The use of effective evidence-based literacy and numeracy approaches is key.<sup>12</sup>

Typically, teachers get the best results as tutors, however others, such as teaching assistants, or university students and graduates in the education field, get good results too.<sup>13</sup>

Tutors need to be well trained and supported, and should work closely with teachers to ensure instruction is aligned to classroom teaching and learning goals.<sup>14</sup> Instructional material should be targeted to students' needs, and tutors and teachers should regularly monitor students' learning.

Small-group tuition should be *additional* to, but *explicitly linked* with, whole-class teaching.<sup>15</sup> Schools should carefully consider when they schedule tutoring sessions, to avoid conflicts with core subjects, or with the same subject in which tutoring is provided.<sup>16</sup>

### 1.3 Why worry about students falling behind?

Small-group tuition can help stop students falling behind in class. If students fall well behind, it can be hard to catch-up.<sup>17</sup> Successful academic learning involves the layering up of new knowledge and skills on a solid foundation. The 'Matthew effect' shows that missing concepts or skills can impede the take-up of new skills.<sup>18</sup> If there are too many gaps in the foundation, the resulting structure may struggle to hold the weight of new learning.

Learning gaps can be hard to diagnose, and they do not tend to go away on their own, regardless of student family background.<sup>19</sup> Unfortunately, many struggling students progress from primary to secondary school without having foundational skills in literacy and numeracy. This is hard not only for students, but also teachers. For example, Grattan Institute analysis in 2016 found that in a typical Australian school, the spread in Year 9 achievement differed by as much as seven year levels.<sup>20</sup>

Studies estimate that typically about 20 per cent of students will need additional intensive learning support, on top of universal classroom instruction, to develop foundational literacy and numeracy skills.<sup>21</sup>

If students do not catch-up, there are real life consequences. Low achievement at school can limit their options for further study and work

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11. Evidence for Learning (2021b); and White et al (2022).

12. Evidence for Learning (2021a); and White et al (2022).

13. Evidence for Learning (2021a); and Nickow et al (2020).

14. Evidence for Learning (2021a).

15. Evidence for Learning (2021a) and Evidence for Learning (2021b). Two effective tutoring programs reviewed by Nickow et al (2020) had a policy that the tutoring sessions should not conflict with the subject of tutoring.

16. National Tutoring Programme (2020, p. 5).

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17. Spira et al (2005).

18. Stanovich (1986); and Hanson and Farrell (1995).

19. D. Fuchs and L. S. Fuchs (2017); Bruin and Stocker (2021); and Hempenstall (2012).

20. Goss and Sonnemann (2016).

21. Bruin and Stocker (2021); D. Fuchs and L. S. Fuchs (2017); and Hempenstall (2012).

later on.<sup>22</sup> People with poorer educational results are more likely to be unemployed and to have lower lifetime earnings.<sup>23</sup>

#### 1.4 Small-group tuition can help close the learning gap for disadvantaged students

According to the OECD's Programme for International Student Assessment (PISA), about two in five Australian students do not meet the Australian national proficiency standard in reading and mathematics by the time they are 15.<sup>24</sup>

Some student cohorts have bigger learning gaps than others. Grattan Institute analysis of 2022 NAPLAN data shows that Indigenous students are about three-and-a-half years behind non-Indigenous students in reading by Year 9. Year 9 students in remote areas are typically more than two years behind in reading compared to their peers in major cities.<sup>25</sup>

Significant learning gaps exist for students from a range of family backgrounds,<sup>26</sup> but especially for students from disadvantaged backgrounds.<sup>27</sup> Disadvantaged children – those whose parents have a lower level of education – tend to start school well behind their advantaged peers, and the gap only grows wider with every year of schooling. NAPLAN data in 2022 show that the learning gap between

disadvantaged and advantaged students in Australia more than doubles in reading and numeracy between Year 3 and Year 9 (see Figure 1.1 and Figure 1.2).<sup>28</sup>

In reading, students in Year 3 whose parents did not finish school are two-years-and-five-months behind students whose parents have a university degree. By Year 9, this learning gap has grown to more than five years.

In numeracy, the learning gap for Year 9 students whose parents did not finish school is four years behind compared to students with university-educated parents.

International comparisons show Australia's disadvantaged students are also behind disadvantaged students in other countries. According to PISA, in 2018 our disadvantaged students in reading were behind those in Canada, the UK, and South Korea, and on par with those in the US.<sup>29</sup>

#### 1.5 But we need to get implementation right

Small-group tuition *can* produce big gains in learning for students, especially disadvantaged students, but not all small-group tuition works. Success depends on how well small-group tuition programs are designed, and whether best-practice can be achieved not just in ideal settings but in all schools.

Schools can find it hard to maintain fidelity to effective small-group tuition programs when inevitably confronted with unplanned interruptions, absences, and other real-world difficulties.

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22. OECD (2014).

23. Leigh (2010), Cassells et al (2012) and ABS (2014). Low literacy outcomes are also associated with several adverse health outcomes: Dewalt et al (2004).

24. OECD (2018a), summarised in Thomson et al (2019, p. xv). The Australian proficiency standard in PISA is set out in ACARA (2015).

25. Grattan analysis of ACARA (2022) using Grattan (2016) methodology for determining equivalent year levels. See Grattan report: Goss and Sonnemann (2016).

26. The Productivity Commission found that learning gaps exist whether or not a student is from a disadvantaged background: Productivity Commission (2023, p. 21).

27. Evidence for Learning (2021a).

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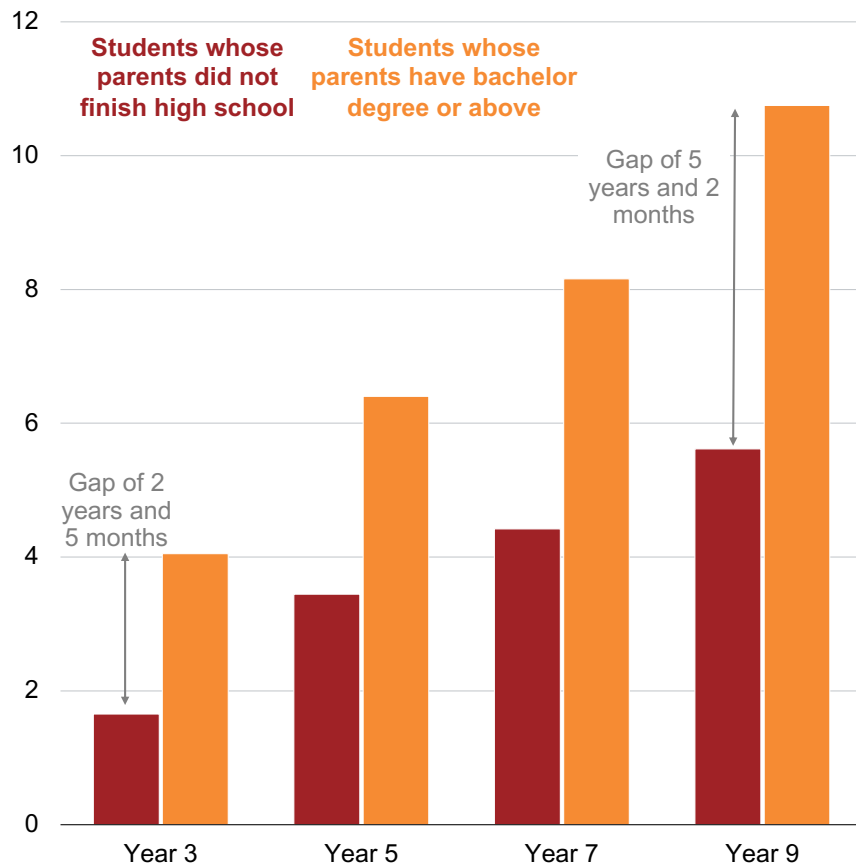
28. Grattan analysis of ACARA (2022).

29. OECD (2018b, Table II.B1.2.3).



**Figure 1.1: The learning gap in reading between advantaged and disadvantaged students doubles from Year 3 to Year 9**

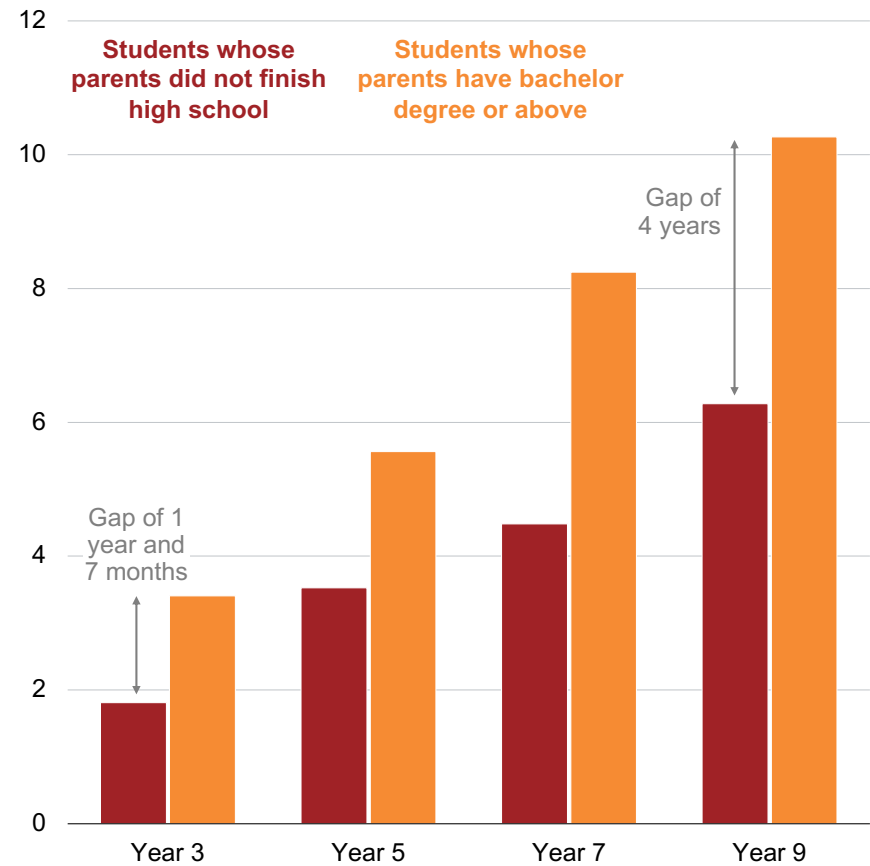
Equivalent year level, NAPLAN reading, mean, Australia, 2022



Source: Grattan Institute analysis of ACARA (2022) using Grattan methodology for determining equivalent year levels: Goss and Sonnemann (2016).

**Figure 1.2: The learning gap in numeracy between advantaged and disadvantaged students doubles from Year 3 to Year 9**

Equivalent year level, NAPLAN numeracy, mean, Australia, 2022



Source: Grattan Institute analysis of ACARA (2022) using Grattan methodology for determining equivalent year levels: Goss and Sonnemann (2016).

There are also important gaps in the evidence on which program delivery methods work best, and for whom. For example, we know training and instructional materials matter, but we know too little about exactly which specific training and materials different tutors need, especially tutors who are not qualified teachers.

We also need to know more about which small-group tuition models are most cost-effective – because tutoring is moderately expensive compared to other education interventions and we want to reach every student who needs it.<sup>30</sup>

We need better information on how to find enough high-quality tutors – because teachers are in short supply. And we need a change in mind-set: to a more systematic approach, discussed below.

### 1.6 A more systematic approach: small-group tuition within a ‘response to intervention’ model

High-quality small-group tuition should be delivered within a systematic ‘response to intervention’ model in schools. This is where all students receive high-quality classroom instruction, and some students who need more support also receive targeted additional teaching ‘doses’ for short periods of time.<sup>31</sup> There are three tiers of teaching support, each with increasing intensity depending on student needs (see Box 1).

Under a ‘response to intervention’ model, there is a strong focus on preventing gaps in learning from emerging in the first instance, through high-quality universal instruction. There is universal screening of students to ensure that any learning gaps that open up are identified early. If a large or growing share of students are identified as needing small-group tuition, school leaders should investigate the quality of

whole-class instruction, and whether sufficiently strong evidence-based literacy and numeracy approaches are being used.

Under this model, there is a shift from regarding small-group tuition as a stand-alone program, or collection of programs, to ensuring a coherent system of student support is in place. Currently schools can be expected to implement multiple small-group tuition programs at once, with overlapping objectives, which can create confusion and a disjointed approach. A ‘response to intervention’ model is much more systematic, and should be implemented as part of a broader ‘multi-tiered system of support’, which includes both academic and behaviour support.<sup>32</sup>

### 1.7 Small-group tuition pays off

Small-group tuition is moderately expensive compared to many other education interventions, and it will take time to get right in every school. But it will be worth the effort. Effective small-group tuition can produce big benefits for students’ lives, including in their future study and work, their health, and their community engagement, as well as greater social cohesion generally.<sup>33</sup> It also produces big benefits for the economy, because people who do well at school tend to earn more later on.<sup>34</sup>

Our analysis shows that the benefits of effective small-group tuition for the economy significantly outweigh the costs. Providing one in five students across Australia with a one-off, high-quality small-group tuition program could deliver a total benefit in additional lifetime earnings of about \$6 billion in today’s dollars. These benefits are about six times the approximate program costs of \$1 billion.<sup>35</sup>

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30. For example, see Evidence for Learning (2021a).

31. Hempenstall (2012), Fletcher and Vaughn (2009), National Center on Response to Intervention (2010), Haan (2021) and D. Fuchs and L. S. Fuchs (2017).

32. For discussion of a ‘multi-tiered system of support’ see: Bruin and Stocker (2021), Sailor et al (2021) and Berkeley et al (2020).

33. Norton et al (2012).

34. French et al (2015); and ABS (2014).

35. For discussion of the methodology, see Appendix A.

**Box 1: Small-group tuition within a ‘response to intervention’ model**

A ‘response to intervention’ model typically has three tiers:<sup>a</sup>

- Tier 1 involves high-quality universal instruction to meet the needs of all students.
- Tier 2 involves targeted and additional support for students at risk of falling far behind, often in small groups (usually for about 15 per cent of students).
- Tier 3 involves even more intensive support, often one-on-one, for students who show minimal response to Tier 2 (usually for about 5 per cent of students).

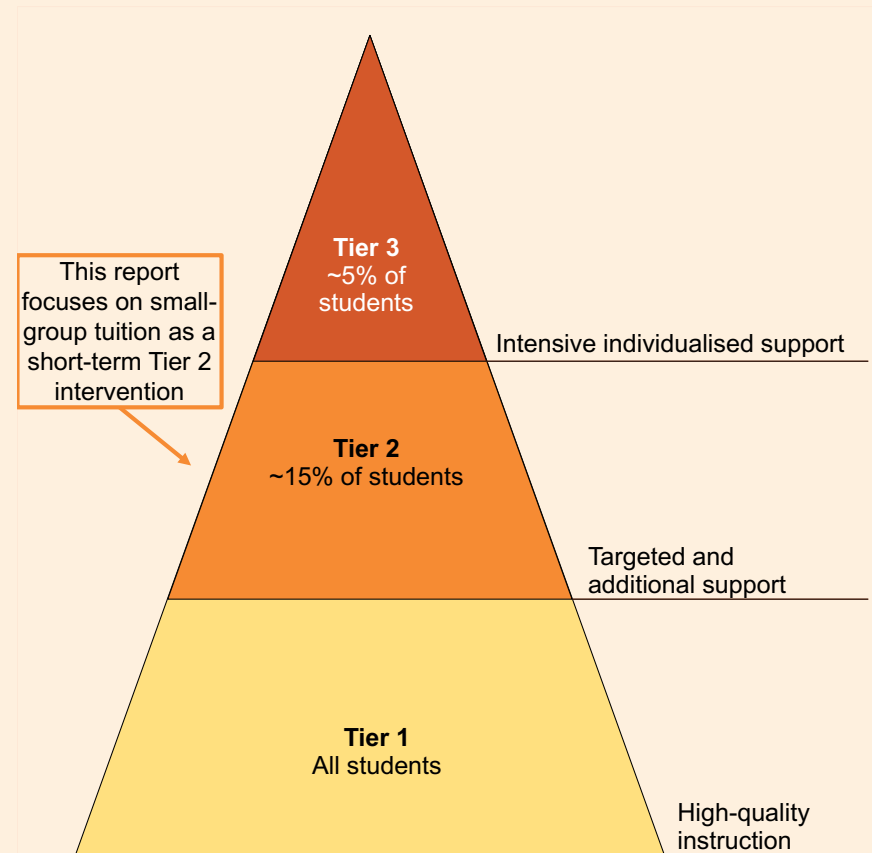
A key feature of ‘response to intervention’ models is that teachers continually monitor their students to determine when they may need more or less extra help.

In this report we focus on small-group tuition as a short-term intervention (Tier 2) to help students return to whole-class instruction (Tier 1) – see Figure 1.3.

Small-group tuition can serve other purposes beyond being a short-term boost for students who are behind. For example, tutoring can help students with acute learning needs or disabilities (in Tier 3), or to re-engage students who miss school. This may involve specialist tutors, be provided one-on-one, and occur on an ongoing basis. Tutoring for these purposes is important, but beyond the scope of this report.

a. Bruin and Stocker (2021); Hempenstall (2012); Fletcher and Vaughn (2009); National Center on Response to Intervention (2010); D. Fuchs and L. S. Fuchs (2017); Haan (2021); and Hempenstall (2013).

**Figure 1.3: The three tiers of support in a ‘response to intervention’ model**



Source: Bruin and Stocker (2021, p. 20).

## 2 Australia must seize the opportunity to build on COVID catch-up tuition programs

Big investments in catch-up tuition in response to the pandemic have created a tremendous period of educational innovation in Australia and around the world. Australian governments should build on the lessons learnt to help embed effective tutoring in schools.

Recent evaluations of the COVID catch-up programs are insufficient to answer all the questions that remain about effective implementation of small-group tuition. There is unfinished business here.

### 2.1 There's been big investments in COVID catch-up tuition

The pandemic caused unprecedented disruptions to schooling, and our governments responded with unprecedented investments. About \$1.5 billion is being invested in COVID catch-up tuition in Australia to help struggling students after the pandemic lockdowns.

Most of this funding is being spent in NSW and Victoria, which had the longest lockdowns. The NSW COVID Intensive Learning Support Program and the Victorian Tutor Learning Initiative will cost about \$720 million and \$738 million respectively over three years from 2021 to 2023.<sup>36</sup> Together, they provide catch-up learning to up to hundreds of thousands of students a year.<sup>37</sup>

Several smaller innovative catch-up initiatives also emerged during the pandemic (see Figure 2.1). For example, the Smith Family Catch-Up Learning program is being delivered online, one-on-one, in the home,

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36. For more information see NSW Department of Education (2022a) and Victorian Department of Education (2022a). Both programs began in 2021 and will continue in 2023.

37. The Victorian program was expected to reach 200,000 students in 2021 (see Premier of Victoria (2020)) and the NSW program is expected to provide between 200,000 and 260,000 student placements each year (see 'About the Program' in NSW Department of Education (2022a)).

outside of school hours for about 600 disadvantaged students around Australia.<sup>38</sup> The South Australian government also conducted an online maths program, Learning Plus, for 1,180 students in 2021.<sup>39</sup> As well as the COVID catch-up programs, there are other existing government-funded small-group tuition initiatives in Australia too.<sup>40</sup>

Internationally there have also been big investments in COVID catch-up tuition, including more than AU\$2.5 billion in the UK,<sup>41</sup> as well as investments in the Netherlands and Canada.<sup>42</sup> The US committed at least AU\$40 billion to school COVID learning-loss initiatives, including tutoring programs (see Figure 2.1).<sup>43</sup>

### 2.2 Innovation creates opportunities to learn

The various COVID catch-up tuition initiatives in Australia involve a variety of delivery methods, enabling us to see which approaches work well.<sup>44</sup>

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38. See The Smith Family (2021) and The Smith Family (2022).

39. The SA Learning Plus pilot was not implemented in response to COVID but occurred at the same time. For more information see: South Australia Department for Education (2022).

40. For example, the Victorian Middle Years Literacy and Numeracy Support (MYLNS) initiative, the NSW Centre for Effective Reading, the NSW School Success Model, and WA's Specialist Learning Program.

41. As at 7 March 2022: Roberts et al (2022).

42. Ontario, Canada is investing nearly AU\$200 million on small group tuition: Government of Ontario (2022). The Netherlands committed AU\$410 million in June 2020 to school support, a significant proportion of which went to tutoring: Slavin (2020).

43. Loeb and Barone (nd).

44. This section compares the Victoria Tutor Learning Initiative (see Victorian Department of Education (2022a)), the NSW COVID Intensive Learning Support Program (see NSW Department of Education (2022a)), the Smith Family Catch-Up Learning pilot (see The Smith Family (2021) and The Smith Family (2022)), and



For example, some of the initiatives allow pre-service trainee teachers to take up a tutoring role, while others only permit qualified teachers.

Some initiatives have a centralised tutor recruitment process, with rigorous screening and matching of tutors to students, while others give schools more of this responsibility.

Some initiatives encourage schools to use specific instructional materials and training, while others are more flexible.

Most catch-up tuition is done face-to-face during the school day, but the small pilot programs have been delivered online. The online pilots have been one-on-one, in the home, outside school hours, and have sometimes involved families and carers in student learning.

COVID catch-up tuition is also delivered in a variety of schools, including ‘special purpose schools’ for students with disabilities and additional needs. And government, Catholic, and independent schools all participated in the catch-up initiatives, giving rich opportunity for cross-sector comparisons.

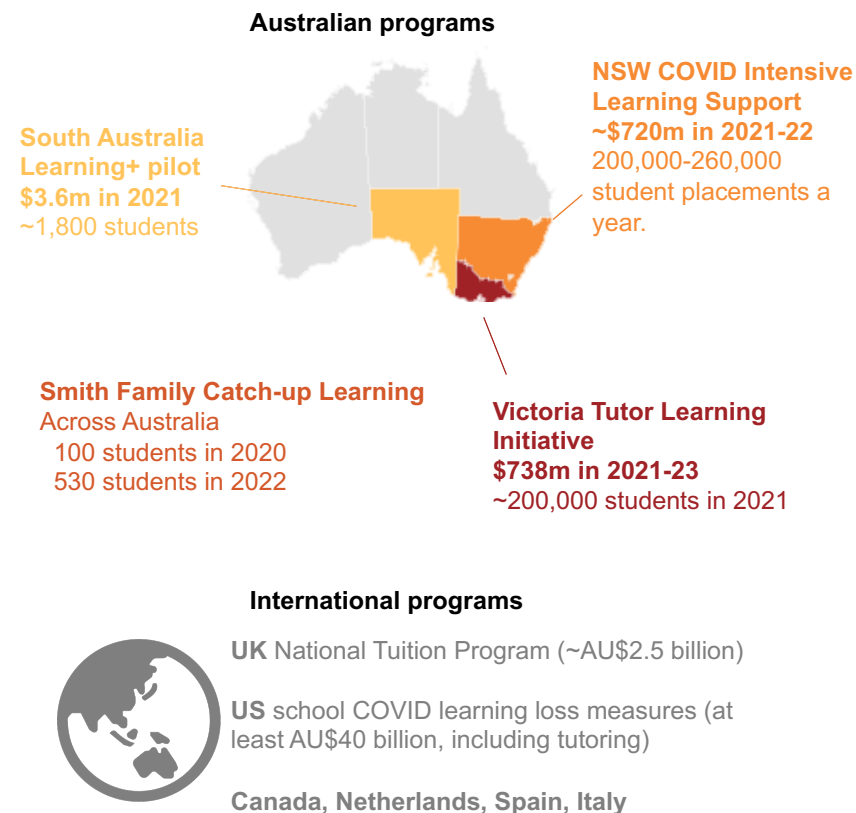
### 2.3 Evaluations are giving some insights into implementation

Several evaluations have now been conducted on the COVID catch-up tuition initiatives across Australia. We discuss below the findings from the publicly available evaluation reports.<sup>45</sup> We focus on the learnings on program implementation, with a discussion of the impact on student results in Box 3. Not all evaluation reports have been publicly released, and some evaluations are still ongoing.

the SA Learning Plus pilot (see South Australia Department for Education (2022)). For a full comparison of the various delivery approaches in COVID catch-up initiatives in Australia, see Appendix B.

45. For information on program evaluation methods and a summary of key findings of public reports, see Appendices B, C and D.

Figure 2.1: There have been big investments in catch-up tuition in response to COVID school lockdowns



Source: South Australia Department for Education (2022), The Smith Family (2021), The Smith Family (2022), NSW Department of Education (2022a), Victorian Department of Education (2022a), Roberts et al (2022), Bauld (2022), The White House (2022), Gortazar et al (2022) and Carlana and Ferrara (2022).

### Box 2: Online tuition and other uses of technology are showing promise

Online catch-up tuition in response to the pandemic has shown positive signs. The Smith Family's online Catch-up Learning pilot and South Australia's online Learning Plus pilot both improved student engagement, and the Smith Family evaluation found significant improvements in students' literacy and numeracy.<sup>a</sup> Internationally, online catch-up tuition is showing positive signs in randomised control studies in Spain and Italy, and a pilot study in the UK.<sup>b</sup>

Online tuition is often delivered one-on-one but can also be done in small groups.<sup>c</sup> There are a few explanations for its positive impacts so far. Online tuition can overcome geographic distance to better match tutors to students, which is especially useful in regional and remote areas. Digital learning tools and online assessments can help tutors to better assess student needs, monitor student progress, and adjust lesson content. When delivered in the home, online tuition can help engage primary carers, and avoid withdrawing students from whole-class instructional time.<sup>d</sup> Online tuition in the home could also help re-engage students with low school attendance, who may be at risk of dropping out of school altogether.

The use of computer-assisted 'intelligent tutoring systems' – which provide personalised pathways and digital assessments – also holds promise.<sup>e</sup> For example, 'Amira', an AI-powered intelligent tutor focused on accelerating reading mastery one-on-one for primary students, has shown impact on-par or better than human tutors in controlled randomised studies.<sup>f</sup> More than 25 million students are now using one US-based adaptive maths platform, ALEK, and many other platforms are rising in popularity internationally. However, evidence is still in its infancy, and study findings are mixed.<sup>g</sup>

There are still challenges with online tuition too: some students don't have access to technology, internet connectivity at home can be poor or non-existent, some home environments make concentration and learning difficult, online tutors can find it hard to align their tutoring with the student's classroom lessons, and some tutors are not proficient in using technology.<sup>h</sup> NSW tutors also reported difficulties with student engagement and attendance in online tuition that was delivered in the home during an unexpected switch to remote learning in 2021.<sup>i</sup>

a. For discussion of the Smith Family evaluation findings, see Box 3.

b. Spanish randomised controlled trial: Gortazar et al (2022). Italian randomised study: Carlana and Ferrara (2022). UK National Tutoring Programme: Education Endowment Foundation (2021b).

c. For an example of an online tuition program using small groups of up to six students, see Tutored by Teachers (Tutored by Teachers (2022)) in the US, also described here: National Student Support Accelerator (2022a).

d. The Smith Family (2021) and The Smith Family (2022).

e. Discussed in Loble and Hawcroft (2022).

f. See Amira Learning (2022) and Mostow et al (2002).

g. For example, Paul and Clarke (2016) show poor results of computer-assisted programs at secondary level between 1999 and 2014.

h. The Smith Family (2021).

i. NSW Department of Education (2022b).

### Evaluations highlight what matters for successful implementation

COVID catch-up tuition evaluations are giving some insight on what matters for effective small-group tuition in Australia, including:

- The recruitment of skilled and experienced tutors, with knowledge of effective pedagogy, the curriculum, content, and how to plan, as well as good interpersonal skills
- Use of robust assessments and information on how to identify students who need tutoring and then monitor their progress
- Use of high-quality supporting resources and lesson plans
- Use of evidence-based instructional approaches in literacy and numeracy
- Strong alignment between content taught in the classroom and in the tuition sessions
- Strong relationships between students and tutors
- Good collaboration between tutors, teachers, and school leaders.<sup>46</sup>

More broadly, the Victorian *Implementation Insights* report highlights the importance of school ‘readiness’ for catch-up tuition, which involves having a well-defined school improvement model, with experience in delivering intervention models, as well as embedded approaches to assessment.<sup>47</sup>

In addition, online tuition has had promising results in some cases (see Box 2).

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46. This list captures common themes from evaluations: NSW Department of Education (2022c), NSW Department of Education (2022b), The Smith Family (2021), The Smith Family (2022) and Victorian Department of Education (2022b).

47. Victorian Department of Education (2022b).

### Evaluations highlight some challenges

The public evaluations also point to several delivery challenges, including:

- Finding eligible tutors to deliver small-group tuition<sup>48</sup>
- Finding physical space to deliver tuition
- Finding time for teachers and tutors to collaborate
- Students missing out on class content if tutoring is delivered during class time
- Work covered in the tutoring sessions not always aligning to the students’ classwork.<sup>49</sup>

### 2.4 But the evaluations do not go far enough

The Australian-based evaluations of COVID catch-up initiatives fall short in two ways.

First, the evaluations give *some* insights into implementation, but we still need to fill gaps in the evidence base. For example, there are still gaps in our understanding of the specific types of training that different tutors need, or which high-quality instructional interventions and materials are most effective.

Answering these types of questions with confidence requires a different type of research method. The recent COVID catch-up tuition evaluations, by their nature, cannot reliably show whether particular

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48. The NSW decision in 2021 to expand the pool of tutors to include support officers, third party providers, and allied health professionals, was designed to help alleviate this issue for the 2022 program: NSW ISLP Evaluation Phase 1: NSW Department of Education (2022c).

49. This summary is from three evaluation reports: NSW Department of Education (2022c), NSW Department of Education (2022b) and The Smith Family (2021).

delivery aspects are likely to have caused improvements in student results. This requires far more rigorous research, discussed further in Section 3.2.

Second, the evaluations do not include enough detailed information on the barriers to delivering catch-up tuition in schools, or how widespread high-quality tutoring practice is across schools. This lack of information makes it difficult to know how far schools are from embedding effective practice, and what system supports schools need beyond the pandemic.

For example, Victoria's *Implementation Insights* report highlights the 'readiness' of schools to deliver catch-up tuition as a key success factor, but it is not clear how many schools are currently 'ready'.<sup>50</sup>

Understanding the capacity of individual schools to deliver high-quality catch-up tuition is key to identifying the size and nature of the implementation challenge and the steps governments need to take now to embed high-quality small-group tuition in all schools.

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50. Victorian Department of Education (2022b).



### Box 3: We don't yet know the impact of COVID catch-up tuition on student results

The public evaluations of COVID catch-up tuition in Australia are showing positive impacts on student engagement and confidence.<sup>a</sup> But most of these evaluations have not tracked, or made public, the impact on student results.

The only Australian-based evaluations which have published the impact on student results are the 2021 and 2022 Smith Family pilots, which involved students from disadvantaged backgrounds in one-on-one online tutoring. The evaluation of the first pilot in 2021 showed greater than expected gains in both literacy and numeracy.<sup>b</sup> A larger second trial and evaluation of the program in 2022, involving more than 400 students, again showed strong results. It found that 67 per cent made higher-than-expected progress in numeracy, and 53 per cent made higher-than-expected progress in literacy.<sup>c</sup>

Internationally, evaluations of tutoring programs implemented in response to the pandemic are still emerging. Randomised studies of small online tutoring programs in Spain and Italy have shown positive student results.<sup>d</sup> An evaluation of one part of the UK's National Tutoring program, where tuition was delivered by third party providers, found no discernible improvement in learning, although technical difficulties means findings should be interpreted cautiously.<sup>e</sup> An evaluation of another part of the program, called 'academic mentors', where tutors are employed in schools, was inconclusive because of data limitations, although teachers reported positive perceived impacts on student learning in a separate report by Teach First.<sup>f</sup>

- a. NSW Department of Education (2022c); NSW Department of Education (2022b); The Smith Family (2021); and Victorian Department of Education (2022b).
- b. The 2021 evaluation of 81 students found that 72 per cent made higher-than-expected progress in literacy, and 46 per cent made higher-than-expected progress in numeracy, where 'expected progress' was estimated based on students' initial skill levels: The Smith Family (2021).
- c. 'Expected progress' here was estimated using a reference group of students who hadn't participated in the program: The Smith Family (2022).
- d. Spanish trial: Gortazar et al (2022). Italian trial: Carlana and Ferrara (2022).
- e. Lord et al (2022).
- f. Roy et al (2022) and Teach First (2021).

### 3 What governments should do now

Governments, alongside the Catholic and independent school sectors, should commit to a five-year plan to embed high-quality small-group tuition in every school in Australia.

We have learnt a lot from COVID catch-up tuition, but a transition path is now needed to embed effective small-group tuition around the country beyond the pandemic.

Five years will give sufficient time for governments to test and refine the best small-group tuition approaches, and to improve guidelines and supports to schools to build their capacity to deliver.

There should be a focus on improving literacy and numeracy within small-group tuition, in both primary and secondary schools.

We make four recommendations to make this happen:

1. Improve guidelines for schools on how to embed effective small-group tuition within a ‘response to intervention’ model.
2. Strengthen support for schools to ensure they are equipped to implement high-quality small-group tuition.
3. Invest in rigorous trials and evaluations to refine government guidelines and supports for schools.
4. Follow up with a commitment in the 2024 National School Reform Agreement to embed high-quality small-group tuition in all schools over five years.

#### 3.1 Improve school guidelines on how to embed effective small-group tuition within a ‘response to intervention’ model

Governments should take a more active role in translating evidence on best practice into practical guidelines for schools. Guidelines are

essential to help schools make good everyday decisions, and can be adapted to school contexts based on teacher professional expertise and student needs.

It will be a big shift for many schools to embed high-quality small-group tuition, especially within a systematic ‘response to intervention’ model for teaching and learning, as discussed in Chapter 1.

Schools need clear guidelines on what implementing small-group tuition within a ‘response to intervention’ model entails, and how it sits within a ‘multi-tiered system of support’, as explained in Chapter 1. The focus on preventing learning gaps from emerging in the first place, by providing high-quality whole-class instruction, is no small feat.

Guidelines will also need to make clear what is required in terms of screening and regular assessment of students to ensure early identification of learning gaps, and what steps to take to determine when students need more or less intensive support.

Guidelines should outline the best evidence on the nuts and bolts of tutoring, including how to select students, monitor progress, provide the right ‘dosage’, group size, and scheduling, and how to ensure evidence-based instruction within small-group tuition itself. Advice on how to build positive tutor-student relationships is also key.

#### 3.2 Review support to schools to ensure they are equipped to implement effective small-group tuition

Governments have a responsibility to ensure schools are well-equipped to implement best-practice guidelines. The level of support schools require should not be underestimated.

Governments should conduct a review of schools' capacity to implement small-group tuition within a 'response to intervention' model, and identify which type of schools and areas need extra support.

Governments must ensure schools are adequately supported to be able to:

- Screen and regularly monitor student progress to determine whether students need more or less help
- Access high-quality assessments and diagnostic tools
- Recruit high-quality tutors who are well matched to student needs
- Adopt evidence-based literacy and numeracy approaches suitable for whole-class instruction as well as small-group tuition
- Access high-quality training and instructional materials for small-group tuition aligned to classroom content
- Provide extra training and supports for classroom teachers and tutors, and especially teaching assistants, pre-service teachers, or university students who step into tutor roles
- Implement the best evidence on the nuts and bolts of tutoring, including 'dosage', group size, scheduling, and building positive tutor-student relationships
- Make cost-effective decisions on how to maintain quality, while stretching the dollar further.

We recommend the review examine school capacity in the above areas through a deep examination of a small number of schools, say 25-to-50 in each state.<sup>51</sup>

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51. NSW Department of Education (2022b).

### Key issues to consider

We identify five key issues for the review to consider based on our consultations for this report.

First, the review should consider whether schools need more support in selecting students for small-group tuition.

Typically, students who have fallen behind grade-level standards should be selected, but these decisions can be complex, especially when school budgets are tight.

For example, at a secondary school, it is hard to know whether teachers should select the students who are well behind in reading and will take a lot longer to catch up, or whether they should give priority to students who are not as far behind in reading but can catch up much faster. Schools may take different approaches, and the review should compare the effectiveness of different approaches in various settings.

Second, the review should consider supports to help schools focus on numeracy within small-group tuition where appropriate – given numeracy tends to get less attention in small-group tuition in schools.

Third, the review should examine the extent to which small-group tuition can be funded within school budgets. A key issue is whether government schools will receive sufficient extra funding under the planned increases to government school funding under the Gonski 2.0 reforms in 2017, to cover the costs of embedding small-group tuition within a 'response to intervention' model. If the planned increases are not sufficient to cover costs, governments should examine school capacity to make more effective trade-offs within their existing budgets.<sup>52</sup>

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52. See Grattan Institute report: Goss and Sonnemann (2020), for previous analysis of projected increases in school funding under Gonski 2.0 reforms in 2017.

Four, primary and secondary schools face different challenges in delivering small-group tuition. For example, secondary schools tend to have more difficulties in timetabling sessions.

Fifth, school leader capacity to deliver a robust ‘response to intervention’ model should be closely assessed. Careful whole-school planning and coordination, with close collaboration between teachers, tutors and other staff, is key.

### Help all schools, but focus on disadvantaged schools first

Governments should better support *all* schools to embed small-group tuition within a ‘response to intervention’ model, because there are low-achieving students in every school.

But governments should give top priority to schools with large numbers of disadvantaged students. This will help to close the learning gap faster.

### 3.3 Invest in rigorous trials and evaluations to refine guidelines and supports for schools

High-quality small-group tuition can work, but there is still a lot we don’t know about how to do it well.

Governments should invest in rigorous research on implementation issues, so they can improve guidelines and supports to schools. The recent evaluations of COVID small-group tuition programs leave many implementation questions unanswered, as shown in Chapter 2. Schools should not be left to innovate by themselves in the dark.

Governments should learn from the COVID catch-up evaluations, and test and refine findings further in a new program of rigorous research.

Governments should invest \$10 million in a three-year research program, to identify practical research studies which can help to improve small-group tuition.

The new research effort should be coordinated across the country, with findings made public, to help share the lessons learnt.

This research program would cost little, and it could vastly improve results.

### Priority areas for new research studies

Future research studies should focus on practical implementation questions for policy makers and schools. We provide a list of potential high-value research questions in Box 4.

The studies should aim to identify which assessment tools are best for monitoring student progress, and the type of instructional materials, training, and supports that different tutors require.

The studies should seek to determine which literacy and numeracy programs in Australia, including structured sets of materials and training, are best for small-group tuition.<sup>53</sup>

The studies should examine ways to ensure small-group tuition is additional to whole-class instruction – a critical success factor in the existing research base.<sup>54</sup> This includes examining when and how to best withdraw students from class, how to find time during the school

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53. Few rigorous studies exist in Australia. One evaluation of the Thinking Maths program found it improved primary school student learning by two months: Evidence for Learning (2018). There is also some evidence that the MiniLit program in NSW and the Corrective Reading program in Victoria have had positive results: see Quach et al (2019) and Hempenstall (2008).

54. Evidence for Learning (2021b).



day to timetable tutoring sessions, and strategies to help to align tutoring sessions with class content.<sup>55</sup>

Ways to foster positive tutor-student relationships, and how to get the best match of tutors to individual students, should also be key areas for investigation.

And the studies should focus on the cost-effectiveness of different tutoring models, how to find enough high-quality tutors, ways to ensure no child who needs small-group tuition misses out, and how to fund a nationwide program. Each of these issues is discussed below.

#### Exploring cost-effective tutoring models

Small-group tuition is moderately expensive, so governments need to better understand what are the most cost-effective delivery methods. This involves identifying the key factors that drive up tutoring costs, and then rigorously testing their effects on student results.

The big cost-drivers are likely to be: tutor type, student-tutor ratio, time students spend with tutors each week, whether tutoring is delivered in-person or online or a combination of both, and the use of computer-assisted learning technologies (see Figure 3.1).<sup>56</sup>

For example, when tutors are teaching assistants rather than qualified teachers, the salary costs are reduced substantially, and evidence shows only small reductions at most in student results, provided teaching assistants are well supported and trained.<sup>57</sup> If cost-savings were then re-invested to employ more tutors to reach more students, there could be bigger learning gains overall.

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55. For example, the Victorian Tutor Learning Initiative developed a number of different 'practice models' for conducting tutoring sessions in-class and out-of-class.

56. For further discussion see: Robinson and Loeb (2021).

57. Evidence for Learning (2021b) and Nickow et al (2020).

#### Box 4: Ten questions for the new research program

1. What knowledge and skills do tutors need?
2. What training and support do different tutors require, especially teaching assistants and university students?
3. Which structured literacy and numeracy programs get the best results?
4. What diagnostic and assessment tools work best?
5. When is it desirable to withdraw students from class for tuition, and when should that be avoided?
6. What are the best strategies for aligning tuition with class content?
7. Under what circumstances is online tutoring outside of school hours more effective than in-person tutoring during the school day?
8. What are the best ways to build tutor-student relations?
9. What are the most cost-effective models for tutoring?
10. Can schools fund tutoring within existing budgets, and do they need more guidance to do this?

Slightly increasing the size of tuition groups can make a big difference to cost. For example increasing group size from three students to four can reduce costs by 25 per cent. If evidence shows that such a slight increase in the size of the group causes little or no reduction in student learning, more students could be reached.

Grouping students by learning need can help to ensure small-group tuition gets maximum results for the dollars spent. For example, students who need additional practise in decoding certain sound and letter combinations should be grouped together so that tutors can best target the tuition to student needs.

Technology offers potential cost-savings in various ways. Small-group online tuition, or a blended model of online and in-person tuition, may have positive results, although evidence is still emerging.<sup>58</sup> Online delivery can overcome the tyranny of distance, better matching tutors to students in regional and remote areas, and help get better results for a similar cost.

High-quality digital materials and assessments can improve the quality of small-group instruction, as well as reduce costs by reducing the amount of time tutors need to prepare.

And computer-assisted ‘intelligent tutoring systems’ – which tend to have personalised learning paths and digital assessments – could produce extra learning gains, and also lower the cost because they

enable tutors to take on higher caseloads.<sup>59</sup> However evidence is still in its infancy.<sup>60</sup>

### Finding enough high-quality tutors

If small-group tuition is to be embedded in every Australian school, governments need to start planning now to build the supply of tutors with the right skills.

Tutors could be drawn from the ‘latent’ teacher workforce, including retired teachers and part-time teachers. But given concerns about teacher shortages, it is unlikely schools could rely on teachers alone.

Governments should focus new research studies on the efficacy of employing teaching assistants, pre-service teachers, and university students as tutors.<sup>61</sup>

Evidence shows these groups can deliver good results if they are given the right supports and training, including the use of a structured literacy or numeracy program.<sup>62</sup>

But there are big risks if support is lacking, as seen in the UK where teaching assistants’ work was substituting for, rather than complementing, the work of teachers, leading to negative impacts on student results. Students with the highest needs got less time

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58. Robinson and Loeb (2021). Other evaluations include the Smith Family Learning Pilot research report (2021 and 2022), the UK National Tutoring Programme (Education Endowment Foundation (2021b)), a Spanish randomised controlled trial (Gortazar et al (2022)), and an Italian randomised study (Carlana and Ferrara (2022)).

59. For example a study by Chambers et al (2011) involves a group size of six students using computer assisted technology. Per student costs may be high initially if there are large digital set-up costs, but would reduce as more students participate.

60. For example one rigorous evaluation shows computer-assisted intelligent tutoring can get good results, see Mostow et al (2003), while a systematic review by Paul and Clarke (2016) show poor results at secondary level between 1999 and 2014.

61. US research also highlights the possibility of employing high school students as tutors: Kraft and Falken (2021).

62. Evidence for Learning (2021b) and Nickow et al (2020). These groups may also benefit from using evidence-based scripted instructional programs.

in class instruction with their teacher – the person with the highest qualification.<sup>63</sup>

Some Australian schools will find it hard to recruit high-quality tutors, or a tutor at all, especially schools in remote areas and disadvantaged schools which tend to have a more challenging time in recruitment generally.

Governments should commission research into potential solutions, such as online tuition as well as the use of well-supported teaching assistants, pre-service teachers, or university students who live locally.

Another key issue will be building a supply of tutors who can assist with numeracy small-group tuition, given schools tend to focus less on numeracy to date and there is a large need to be met among students.

### Sustainable funding

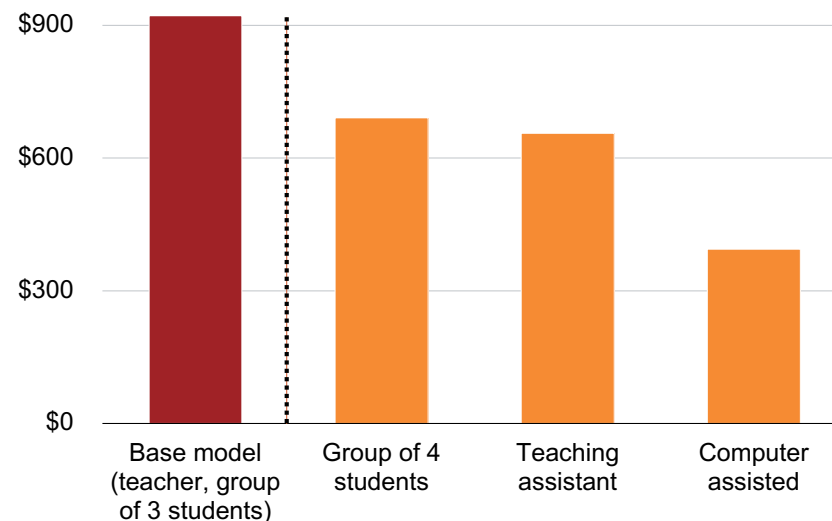
Governments should also commission research studies that examine the extent to which schools can fund small-group tuition from within existing school budgets. This is a live issue in NSW and Victoria, where government-funded small-group tuition programs are due to finish in 2023.

The studies should gather information on whether schools have the capacity to make cost-effective decisions on how to run high-quality small-group tuition.

The research could examine schools that have already embedded high-quality small-group tuition without additional funding, to understand how they manage to achieve this.

63. Education Endowment Foundation’s (EEF) guidance booklet Sharples et al (2019), and Teaching Assistant Interventions Evidence for Learning (2021c) and Evidence for Learning (2019).

**Figure 3.1: Different tutoring models can be more cost-effective**  
Approximate cost per student



Notes: The underlying assumption for all scenarios is a 12-week tutoring program of four 30-minute sessions a week, for two subjects (so a total of 24 weeks). The base model assumes a teacher as tutor, with groups of three students, 15 hours of tutor training, and \$100 in resources per tutor. The second scenario assumes tutoring in groups of four, 15 hours of tutor training, and \$100 in resources per tutor. The third scenario assumes a teaching assistant as tutor, with groups of three, 24 hours of tutor training, and \$300 in resources per tutor. The fourth scenario assumes a teaching assistant as tutor but with tutoring primarily delivered by a computer-assisted ‘intelligent tutoring system’ (for discussion see Robinson and Loeb (2021)), in groups of six students (consistent with Chambers et al (2011)), with 30 hours of tutor training, and \$300 in resources per tutor. In this scenario, there is an additional subscription fee for purchasing the software, estimated at \$50 per student.

### Ensuring the research studies are high-quality

It is essential that this new research is conducted according to rigorous quality standards. The new research should include randomised controlled trials (RCTs), which test what works against well-designed comparison groups.<sup>64</sup> This may include ‘efficacy’ trials, which test what works under ideal conditions, as well as ‘effectiveness’ trials, which test what works under regular conditions in a larger number of schools. These trials are usually the next stage after pilot studies (Figure 3.2).<sup>65</sup> They are more robust than other studies because they randomise a ‘treatment’ to participants, helping to reduce bias that may arise from self-selection into ‘treatment’ and ‘control’ groups.

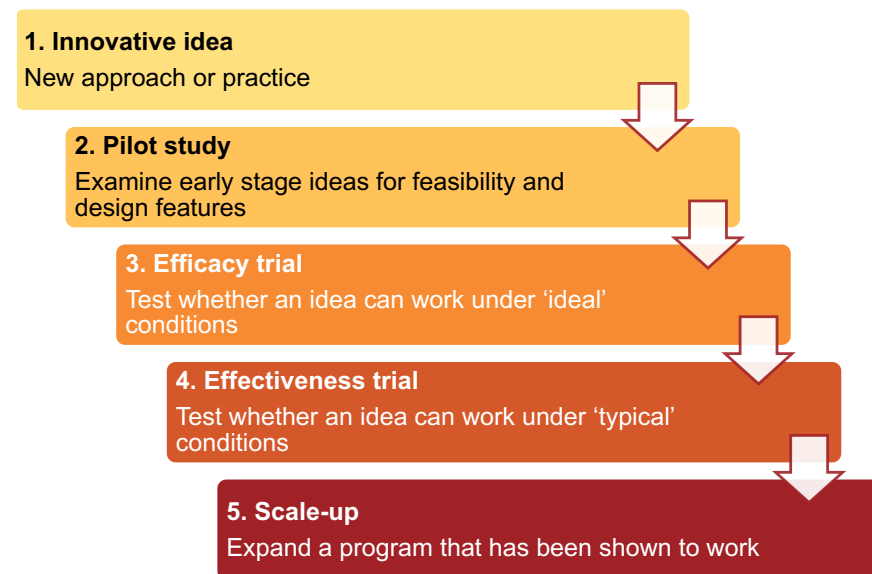
Research could also include well-designed quasi-experimental studies with large amounts of observational data. These sorts of studies have the advantage of being less expensive and time-consuming than RCTs, and can provide accurate results under certain conditions.<sup>66</sup>

### How the new research program should be done

The new research program should be done over three years, to allow time for the design and delivery of rigorous studies. It should start immediately and be conducted in every state and territory. In Victoria and NSW, it can run alongside the renewed small-group tuition program in 2023.

Australia does not need to start from scratch in designing this research program. We can look to international examples. For example, the

Figure 3.2: Rigorous efficacy and effectiveness trials are important in testing and refining ideas



Source: Education Endowment Foundation (2022a).

64. See US Institute for Education Science guidelines on standards for education research: Institute of Education Sciences, U.S. Department of Education, and the National Science Foundation (2013). Also see the UK report on developing public policy through RCTs: Haynes et al (2013).

65. See the Education Endowment Foundation’s stages of a project pipeline: Education Endowment Foundation (2022a).

66. Weidmann and Miratrix (2021).



Annenberg Institute at Brown University in the US is partnering with several government districts on practical research questions on the roll-out of COVID catch-up tutoring in 2022-23 (see Box 5). And the UK Education Endowment Foundation has conducted several ‘nimble’ RCTs to evaluate COVID catch-up tuition designs.<sup>67</sup>

These international examples demonstrate the feasibility of conducting rigorous research to identify best-practice approaches to small-group tuition. Australian governments should similarly commit to evidence-informed policy design and implementation, to help struggling students.

The international research findings are a good start, but Australian governments and schools need more information still.

For example, international research shows that structured instructional programs are ‘advisable’ for tutors who are teaching assistants, but there are few rigorous evaluations of exactly *which* Australian structured instructional programs get the best student results.

### **3.4 Follow up with a commitment in the next National School Reform Agreement to a five-year plan to embed effective small-group tuition in all schools**

Australia’s different jurisdictions should act now on the recommendations outlined in this report.

There is also an opportunity to work together to commit to embedding high-quality small-group tuition in the next National School Reform Agreement (NSRA), which is currently under negotiation. The NSRA is an agreement between the federal, state, and territory governments that sets out strategic reforms in areas of national interest. The next NSRA is due to be signed in late 2024 and run for the following five years.

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67. See the Education Endowment Foundation’s nimble RCT trials: Education Endowment Foundation (2022b) and Evidence for Learning (2021a).

#### **Box 5: Lessons from the US**

The Annenberg Institute at Brown University in the US launched what it calls the *National Student Support Accelerator*, in response to the pandemic. The ‘accelerator’ looks at the evidence on effective tutoring for schools and districts, and identifies new areas for research.

The accelerator includes a new research program, conducted in partnership with 10 US government districts in 2022-23, to examine specific characteristics of effective tutoring programs.

Researchers are gathering evidence on key program design features common among effective tutoring programs, and features that could substantially affect the cost or effectiveness of a large-scale program. The research includes a mix of randomised control trials and quasi-experimental studies.

For example, researchers are examining the impact of tuition group sizes, tutor-student matches, tutor characteristics, tutor preparation and supports, scripted curriculum for para-professionals, tutor-teacher communication, frequency of tutoring sessions, the importance of the same tutor over time, virtual tutoring, and more.<sup>a</sup>

a. For more information see: National Student Support Accelerator (2022b).

We recommend all governments agree to embed high-quality small-group tuition in the 2024 NSRA as part of a national effort to tackle inequity in schooling.<sup>68</sup>

The new NSRA should require federal, state, and territory governments to co-invest in the rigorous new research program recommended in this report. This would enable better coordination of research across the country and across school sectors.

A new national commitment would be in line with the Productivity Commission's 2023 *Review of the NSRA: Study Report*, which highlights the need for Australia to tackle inequity in student results.<sup>69</sup> The Productivity Commission report states that tailored supports such as small-group tuition can be effective for students who have fallen behind.<sup>70</sup>

A shared, national commitment would also help fast-track efforts to embed high-quality small-group tuition in all Australian schools.

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68. For discussion of the criteria for effective federal -state agreed reforms on education, see the Grattan Institute report: Sonnemann and Goss (2018).

69. Productivity Commission (2023).

70. Productivity Commission (ibid). In its submission to the Productivity Commission's review, the Australian Education Research Organisation (AERO) called for the next NSRA to focus on intensive learning supports for low-performing students: AERO (2022).

## Appendix A: Methodology for estimating the economic benefits and costs

Our methodology for estimating the economic benefits and costs of effective small-group tuition in Australia is shown below.

### A.1 Benefits in additional lifetime earnings

We estimate additional lifetime earnings of about \$6 billion, using the following assumptions:

- 20 per cent of students receive small-group tuition (given that, on average, 21 per cent of Year 9 students were at or below National Minimum Standards in reading and numeracy in NAPLAN 2022).<sup>71</sup>
- One-off tutoring provides, on average, an extra four months of learning.<sup>72</sup>
- For each additional year of schooling a person completes, their future lifetime income rises by 10 per cent.<sup>73</sup>
- A discount rate of 4 per cent.
- Other assumptions are the same as those used in Grattan's 2020 report on catch-up tutoring.<sup>74</sup>

Our estimate of additional lifetime earnings is conservative for three reasons.

First, it is based on students earning labour income in the bottom two income deciles, whereas small-group tuition delivered under a 'response to intervention' model is likely to boost learning for students across a broader income distribution mix.

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71. ACARA (2022).

72. Evidence for Learning (2021a).

73. Leigh and Ryan (2008); Leigh (2010); and Psacharopoulos and Patrinos (2018).

74. Sonnemann and Goss (2020).

Second, we estimate the benefits of a one-off small-group tuition program, but any subsequent learning benefits in later years from that intervention are not included.

Third, our estimate does not include extra taxes paid or lower welfare payments received.<sup>75</sup>

### A.2 Program costs

We estimate the total program cost will be about \$1 billion per annum, using the following assumptions:

- 20 per cent of students receive small-group tuition
- A cost of \$900 per student receiving small-group tuition, for literacy and numeracy (for 12 weeks each), using the same assumptions as in Grattan's 2020 analysis.<sup>76</sup>
- An extra 35 per cent for program supports for implementation and program evaluation.

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75. ABS (2022, Tables 12a to 12h).

76. Sonnemann and Goss (2020).

## Appendix B: Summary of COVID catch-up tuition initiatives in Australia

	<b>Victorian Tutor Learning Initiative</b>	<b>NSW COVID Intensive Learning Support Program</b>	<b>South Australia Learning+ pilot</b>	<b>Smith Family Catch-Up Learning pilot</b>
<b>Students</b>	200,000 students in 2021	200,000 - 260,000 student placements in 2022	1,180 students in 2022	100 students in 2021 400 students in 2022
<b>Tutoring focus</b>	Literacy and numeracy	Literacy and numeracy	Maths	Literacy and numeracy
<b>Tutor type</b>	Qualified teacher Pre-service teacher Speech and occupational therapists	Qualified teacher Pre-service teacher University academics Post-graduate with education qualification* Student Learning Support Officers and allied health* External tutoring companies*	Qualified teacher with experience in teaching maths	Qualified teacher
<b>Size of group</b>	Fewer than 5 recommended	2, 3, 4, or 5 recommended	One-on-one	One-on-one
<b>Delivery mode</b>	Face-to-face predominantly	Face-to-face predominantly, plus online	Online	Online
<b>Duration, frequency</b>	45-minute sessions, 3 times a week (advised only, can vary)	20-to-50-minute sessions, 3-to-5 times a week (advised only, can vary)	30-minute sessions, twice a week (advised)	60-minute sessions, 2-to-3 times a week (advised)
<b>Length</b>	26 weeks assumed in funding allocation (advised only, can vary)	10-to-20 weeks (advised only, can vary)	10 weeks (advised)	20 weeks (advised)
<b>Training</b>	Victorian Department provided training (opt-in), including webinars, modules, professional learning communities	NSW Department provided training (opt-in), including webinars, modules, online 'support' channels, responsive individualised school support	SA Department provided training (strongly advised), including induction, assessment, maths content and pedagogy, professional learning communities, plus 1:1 tutor coaching	3rd party (ClassCover) provides training

Note: \*Introduced later in the program.

...continued

	<b>Victorian Tutor Learning Initiative</b>	<b>NSW COVID Intensive Learning Support Program</b>	<b>South Australian Learning+ pilot</b>	<b>Smith Family Catch-Up Learning pilot</b>
<b>Who recruits tutors</b>	School responsible for recruitment, Victorian Department undertakes basic screening for online recruitment portal	School responsible for recruitment, NSW Department undertakes basic screening through online recruitment portal	SA Department centrally recruits tutors, using a central panel to select tutors and match them to students	3rd party (ClassCover) selects tutors and matches them to students
<b>Instructional materials</b>	Victorian Department provided a website with a range of online resources (opt-in)	NSW Department provided a website with a range of online resources (opt-in)	SA Department provided a specific set of instructional maths materials which are fit-for-purpose (strongly advised)	Program provided a wide variety of resources for tutors (opt-in)
<b>Assessment tools</b>	Not mandated, options to use the Progressive Achievement Test (PAT), Digital Assessment Library, Online interview (English / maths)	Advised to use NSW NAPLAN Check-in assessments, own diagnostic assessments as well as full NAPLAN test	Strongly advised to use Number Interview assessment	Strongly advised to use New Group Reading Test and The Mathspace Waypoints assessment in 2021, and Progressive Achievement Tests (PAT) in 2022
<b>Location and timing</b>	On school campus. Majority chose to deliver a mix of in- and out-of-class	On school campus mostly. Majority chose to deliver out-of-class	Off campus, after school hours, in the home	Off campus, after school hours, in the home



## Appendix C: Evaluation methods of COVID catch-up tuition initiatives

	Evaluation	Public	Who by	Focus	Methods
<b>Victorian Tutor Learning Initiative</b>	Evaluation of 2021 and 2022 programs	No	External provider (Deloitte Access Economics)	Process evaluation Impact evaluation	<ul style="list-style-type: none"> <li>• Survey, case-studies, interviews</li> <li>• Assesses results using a 'matched' set of student data</li> </ul>
	Implementation insights of 2021 program	Yes	Victorian Department of Education and Training	Process evaluation	<ul style="list-style-type: none"> <li>• Case-studies, interviews</li> <li>• Identifies common success factors in schools with high-growth students from the program</li> </ul>
<b>NSW COVID Intensive Learning Support Program</b>	Evaluation, Phase 1 of 2021 program	No	NSW Centre for Education Statistics and Evaluation	Process evaluation	<ul style="list-style-type: none"> <li>• Survey, case-studies, interviews</li> </ul>
	Evaluation, Phase 2 of 2022 program	Yes	NSW Centre for Education Statistics and Evaluation	Process evaluation Impact evaluation	<ul style="list-style-type: none"> <li>• Survey, interviews, focus groups</li> <li>• Assesses results using a 'matched' set of student data</li> </ul>
	Evaluation, Phase 3 of 2022 program	July 2023	NSW Centre for Education Statistics and Evaluation + external provider	Process evaluation Impact evaluation	<ul style="list-style-type: none"> <li>• Surveys, case-studies, focus groups</li> <li>• Assesses results using a 'matched' set of student data</li> </ul>
	Auditor-General report on 2021 program	Yes	NSW Auditor-General	Audit of implementation	<ul style="list-style-type: none"> <li>• Case-studies, interviews</li> </ul>
<b>South Australian Learning+ pilot</b>	Evaluation of 2021 program	Partially	External provider and independent evidence broker (Telethon Kids Institute and Evidence for Learning)	Process evaluation Impact evaluation	<ul style="list-style-type: none"> <li>• Surveys, focus groups</li> <li>• Assesses results in student efficacy</li> <li>• Phase 2 evaluation will examine student achievement</li> </ul>
<b>Smith Family Catch-Up Learning pilot</b>	Evaluation of 2021 and 2022 program	Yes	The Smith Family	Process evaluation Impact evaluation	<ul style="list-style-type: none"> <li>• Student observations, tutor survey, interviews</li> <li>• Assesses results using pre and post results against 'expected progress'. The 2022 evaluation used a reference group of Australian students who did not participate in the program.</li> </ul>

## Appendix D: Evaluation findings of COVID catch-up tuition initiatives

Appendix C summarises findings of public evaluation reports on the following COVID catch-up tuition initiatives in Australia:

- C.1 Victorian Tutor Learning Initiative
- C.2 NSW COVID Intensive Learning Support Program
- C.3 South Australian Learning Plus Pilot
- C.4 The Smith Family Catch-Up Learning Pilot

### D.1 Victorian Tutor Learning Initiative

#### D.1.1 Program description

The Tutor Learning Initiative<sup>77</sup> is designed to support about 200,000 students each year whose learning has been disrupted by the pandemic, with schools engaging tutors to provide small-group tuition in literacy and numeracy, to primary or secondary students.

#### D.1.2 Public evaluation report

*What works? Implementation insights for 2022* identifies success factors of schools with high-growth in student results during the tutoring initiative, using case studies, focus groups, surveys, and external evaluation findings.

#### D.1.3 Findings on program implementation

- Students participating were those who speak English as an additional language, are disadvantaged, or those at greater risk of falling behind during remote learning.
- An out-of-class tutoring model was frequently used for Year 11 and 12 students receiving tutoring. It was also the most common primary-level model, with 46 per cent of primary schools using an out-of-class approach. Out-of-class tutoring is where students can remain in the classroom during introductory instruction and return to class the conclusion of the lesson, or where students can be engaged in small-group tutoring for a whole class.
- A hybrid approach, involving a mix of tutoring in-class and out-of-class, was used by 64 per cent of secondary schools and

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77. Victorian Department of Education (2022b).

41 per cent of primary schools. Tutoring in-class can involve a tutor attending regularly scheduled classes to provide intensive, ongoing small-group or individual learning, where the tutor reinforces classroom teacher instruction and supports regular classroom learning. It may involve teaching mini lessons to the small-group.<sup>78</sup>

- Schools believed that effective tutor learning should include:
  - Structured supporting resources and lesson plans with clear objectives; assessments to identify students, guide curriculum areas, and track progress; and alignment between content taught in the classroom and learning in tuition sessions.
- Schools that demonstrated high levels of growth for students who participated in the catch-up tuition program identified the following factors as important to success:
  - ‘School readiness’ to implement the Tutor Learning Initiative, which was when qualified tutors were recruited early, tutor and teacher expertise was high, and there was a clearly defined and aligned school improvement model with a related intervention model.
  - Middle leaders, teachers, and tutors work together to implement robust assessments, involving multiple forms of assessment and effective moderation practices between middle leaders, teachers, and tutors.
  - Student readiness and well-being.
  - Tutor skills and expertise (pedagogy, curriculum, how to plan) and high-quality instructional support.

- Explicit instruction should be used with a multi-tiered system of support, with high-quality Tier 1 instruction contributing to successful Tier 2 tutoring support.
- Collaboration among tutors and teachers, including the co-design of learning programs, as they became exposed to new teaching and learning strategies through the initiative.

#### D.1.4 Findings on impact on student learning

The public report states that Progressive Achievement Test (PAT) data showed some emerging positive signs of improved student academic results, although actual data results are not provided.

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78. For more information on how in-class and out-of-class is defined see here: Victorian Department of Education (2022c).

## D.2 NSW COVID Intensive Learning Support Program

### D.2.1 Program description

The NSW COVID Intensive Learning Support Program involves schools engaging tutors to provide small-group tuition in literacy and numeracy, to primary or secondary students. The program is expected to provide between 200,000 to 260,000 student placements each year.

There are two separate evaluations so far: Phase 1 of the 2021 program, and Phase 2 of the 2022 program. Both are summarised below. Phase 3 will be completed in mid-2023.

### D.2.2 Phase 1: findings on implementation

Phase 1 involved a process evaluation of how the program has been implemented as well as the impacts of specific small-group tuition approaches on particular cohorts and contexts. The main research methods included school case-studies, surveys, and data from departmental reporting systems.

Findings on program implementation:

- Students participating in the program are predominantly disadvantaged (from low-income families, Indigenous, and/or with lower average achievement scores).
- Tuition mainly delivered by teachers (74 per cent), with the primary focus on literacy.
- Schools are using multiple sources to monitor student progress, including teacher judgment, check-in assessments, and observations.
- Tuition is mainly delivered during school hours, with the students withdrawing from class.

- About one-third of educators used specific programs to deliver tuition, mostly literacy programs.
- Strong leadership teams built on existing resources in program design, including expanding existing support models.
- School leaders provided positive feedback on the resources provided, including professional learning modules, literacy and numeracy approaches, as well as an online space for staff to collaborate. These have helped to upskill teachers.
- Some schools use the Intensive Learning Support Program to emphasise the importance of evidence-based practice and robust conversations on student learning.
- Challenges include staffing the program, finding physical space to deliver tuition, and teachers and tutors finding time to collaborate. The pool of educators was expanded to include support officers, third-party providers, and allied health professionals. Some teachers were also concerned that withdrawing students from classes meant students were missing important work.

### D.2.3 Phase 1: findings on impact on student learning

Qualitative data suggest schools believe the program is having positive impacts on student achievement, and that students' confidence and self-esteem is improving.

### D.2.4 Phase 2: findings on implementation

Phase 2 involved a process evaluation of how the program has been implemented. Main research methods included school case-studies, surveys, and data from departmental reporting systems. Data on academic results were not available due to technical difficulties.

Findings on program implementation:

- Similar findings on delivery as those outlined in Phase 1 (above) in terms of the nature of students participating, the type of tutor skills, and withdrawal from class being the pre-dominant approach for tutoring.
- The teaching and learning resources were considered helpful, and assisted with knowledge of evidence-based practice in literacy.
- Extended periods of learning from home disrupted the program, causing significant challenges. Related to this, secondary schools reported challenges in student attendance and engagement. Primary school educators said key challenges were conducting formative assessments to understand students' progress and having to rely on parents and carers to be able to use the relevant technology.
- Other challenges included recruitment of educators and timetabling of sessions, and difficulties caused by withdrawing students from class.

### **D.2.5 Phase 2: findings on student learning**

Qualitative data suggest schools believe the program has had a positive impact on learning progress, confidence, engagement, and motivation, although there were interruptions to data collection during extended periods of learning from home.

## **D.3 South Australia Learning Plus pilot, 2021**

### **D.3.1 Program description**

An online maths tutoring program for Year 6 and 8 students (of all academic abilities), one-on-one, delivered by qualified teachers, after school hours. An estimated 1,180 students participated in the program in 2021. The program is running again and expanding in 2022, serving students in Years 6, 7, 8, and 9.

### **D.3.2 Evaluation purpose and methods**

The independent evaluation aims to understand how the program supports Maths learning, especially Maths self-efficacy, as well as a process evaluation that examines impacts on tutor self-efficacy, pedagogical content knowledge, and beliefs about maths learning. A mixed methods research design, including pre- and post- surveys and focus groups was delivered by third-party provider, Telethon Kids Institute, and independent evidence broker, Evidence for Learning.

### **D.3.3 Findings on program implementation**

- Small to moderate improvements were observed in in tutors' professional attitudes and beliefs, particularly around maths teaching confidence, knowledge of the Australian maths curriculum, and beliefs about their students as learners. Tutors believed that the program had improved their digital literacy and instructional design skills.
- Students rated their tutors' teaching quality as high, including tutors' ability to check for understanding, explain answers, and challenge students' thinking on maths.
- The matching process of students to tutors based on skill and experience was important to effectively accommodate students across achievement levels.



- Factors that support program uptake and engagement (reported by participating students):
  - One-to-one tutoring, to enable customisation of learning content and pace, provide a 'safe space', and expose students to different pedagogies.
  - Dosage structure of short, regular sessions for a set period of time.
  - Online delivery improves flexibility and accessibility of tutoring and did not compromise quality.
- Program improvements identified:
  - Some high-achieving students wanted small-group tutoring, rather than one-on-one tutoring, to connect with their peers and challenge each other's learning. The Department will trial this in 2022 for these students.
  - For some struggling students, the ten weeks of tutoring was too short. The Department will trial a 20 week program in 2022 with some students.
  - A small proportion of students found it difficult to attend tutoring regularly.
  - Some students reported distractions at home that made it challenging to focus or take part. The Department is providing advice to parents on how to support students to engage successfully with tutoring at home.

System improvements identified:

- The Department will continue holding professional development events for tutors and further develop resources for tutors to use in an online environment.

- The Department has introduced scheduling software so students can be matched with tutors based on skill level, availability, and other important characteristics.
- The Department is continuing to refine the online user-experience to ensure a smooth and efficient process for students and tutors.

#### D.3.4 Findings on student learning

- The program showed improved students maths confidence, which can sometimes be an early indicator of student achievement. But more research is needed to understand if changes in maths confidence after the Learning+ program translate to student academic achievement.
- Students demonstrated moderate improvements in both their general maths confidence, and their confidence to solve specific problems from the Australian Curriculum.
- Students who participated in Learning+ reported more growth than students who did not participate in Learning+, based on a sample of 342 Year 8 students who completed pre and post self-efficacy questionnaires.
- Phase 2 of the pilot evaluation will include an assessment of the impact on student achievement.

## D.4 Smith Family Catch-Up Learning pilots

### D.4.1 Program description

The Smith Family Catch-Up Learning pilots<sup>79</sup> involved online, one-on-one tutoring of financially disadvantaged students in their homes. Participating students were already a part of The Smith Family's *Learning for Life* scholarship program and in Years 4-to-8. They were also struggling with English and Maths, having recently received a D in both subjects.

Two pilot programs were conducted, one in 2021 and the second in 2022. In the 2021 pilot, an estimated 81 students completed the program. The 2022 pilot built on the first, and was expanded to reach an estimated 400 students.

The 2022 program included students from all states and territories, with one-third living in regional communities, almost one-in-five of Aboriginal and/or Torres Strait Islander background, and 44 per cent having a health or disability issue.

### D.4.2 Public evaluation reports

Two evaluation reports have been published. The first report, published in July 2021, *Impacting Young Australians' Literacy and Numeracy, The Catch-up Learning program*, examined how the program was implemented, the impact on student engagement, the impact on student achievement in literacy and numeracy, and factors that contributed to improvements. The evaluation was done by The Smith Family and involved examining student data, tutors' written observations, surveys, and interviews.

The second report, published in December 2022, *The Catch-Up Learning program: Supporting students experiencing disadvantage*

*through online tutoring at home*, examined the program in 2022, with a similar evaluation focus to the first report.

### D.4.3 2021 report: findings on program implementation

- Students who participated in the program were on average three years behind their peers.
- The tuition sessions had a good overall attendance rate of 73 per cent. The program is thought to be of particular value to students who have struggled to attend school, given the program is delivered online in the home.
- Program enablers included:
  - Strong delivery partners. For example, ClassCover helped to recruit educators and match them to students, as well as providing tutors with access to online learning and assessment tools and administrative and teaching supports.
  - Qualified and experienced teachers who were matched to students and able to tailor pedagogical approaches to student needs.
  - The online delivery mode enhanced the reach of the program, helping to best match tutors to students. And digital learning tools helped tutors to monitor their students' progress and adjust lessons as needed.
  - The home-learning environment and engagement of primary carers helped to reinforce the value of the learning, and to pass on strategies to carers.
- Challenges which may have impacted the extent to which some students progressed included:

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79. The Smith Family (2022); and The Smith Family (2021).

- Technology, especially poor internet connectivity and old devices, despite efforts to ensure that families had adequate access to technology before the program started.
- Complex home environments, with distractions, sometimes including the over-involvement of a primary carer.
- Aligning tutoring to classroom lessons, with classroom teachers and tutors not always connected.
- The length and intensity of the program was a concern for some students.
- Tutor preparedness for online tutoring or for under-performing students, and tutor matching to secondary students where the students' skills were well below their peers.
- Providing pre-program training to tutors was not possible given the timing of the pilot.

#### **D.4.4 2021 report: findings on student learning**

The 2021 program produced strong learning results, with 72 per cent of students achieving higher-than-expected progress in literacy, and 46 per cent achieving higher-than-expected progress in numeracy.

Impacts on student learning were tracked using the New Group Reading Test and The Mathspace Waypoints assessment. 'Expected progress' was estimated using literacy and numeracy assessments that take into account students' initial skill levels and the length of time the tutoring program ran.

There were also improvements in students' confidence and engagement with learning.

#### **D.4.5 2022 report: findings on program implementation**

- In 2022, the average program attendance rate was 86 per cent – higher than the 2021 program. Most participants attended at least two sessions per week for the duration of the 20-week program.
- Key factors contributing to the strong results in 2022 were similar to 2021: the importance of qualified and experienced teachers; strong relationships between tutors, students, and parents/carers; sessions tailored to individual students; and the variety of instructional materials available.
- Key program challenges in 2022 were similar to those identified in the 2021 evaluation report, despite efforts to improve in these areas. Technology remained a challenge for some families, in particular internet connectivity, hardware issues, and difficulties in using the online platform. Program intensity was an issue for a small number of students, especially students with a health or disability issue. And some tutors suggested the program may be better run across Terms 2 and 3 rather than at the beginning or end of the school year.

#### **D.4.6 2022 report: findings on student learning**

The 2022 program produced strong learning results. About 67 per cent of students made greater progress in numeracy than might typically be expected over a six-month period. About 53 per cent of the participants made greater than expected progress in literacy.

Impacts on student learning were tracked using Progressive Achievement Tests (PAT) for Maths and Reading. The progress of participating students was compared to the average progress of a reference group of Australian students who did not participate in the program. Where progress was greater than the typical progress of students in the reference group, the participants' progress was

interpreted to be greater than might be expected without program participation.

Catch-Up Learning was beneficial for all groups of students, particularly in numeracy. The report found that students with lower pre-program skill levels were more likely to make greater progress than expected in numeracy and literacy, suggesting the program may be of particular benefit to disadvantaged students who are furthest behind their peers.

The evaluation showed the program also contributed to increased student confidence and commitment to learning.

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