AERO's submission to the Review to inform a better and fairer education system

August 2023

The next National School Reform Agreement (NSRA) should focus on a small number of key reforms that are well supported by research. A move towards fewer, targeted initiatives that speak directly to the factors that make a difference to student learning will ensure that the NSRA has the greatest impact on student outcomes. AERO's submission argues that the reform that would best meet these criteria is ensuring systematic provision of additional support for students who have fallen behind in their learning to help them catch up. The NSRA should also include commitments to a national program of research, and improvements in the national education data infrastructure, as these will enhance the effectiveness and sustainability of other reform measures.

The Australian Education Research Organisation (AERO) is Australia's independent education evidence body. AERO's vision is for Australia to achieve excellence and equity in educational outcomes for all children and young people through effective use of evidence. In support of this vision, we:

- generate high-quality evidence
- present high-quality evidence that is relevant and accessible
- encourage adoption and effective implementation of evidence in practice and policy.

AERO would like to thank the Expert Panel for the opportunity to contribute to the Review to inform a better and fairer education system. The new NSRA represents an important opportunity to ensure that national policy efforts are cohesive, systematic, evidence-based and meet the ambitions of the Alice Springs (Mparntwe) Declaration.

Recommendation 1: A limited number of targeted reforms

The next NSRA should focus on a limited number of targeted reforms which capitalise on previous national reforms and build on the evidence base of what works, in terms of both educational outcomes and system-level reform.

The number of reforms chosen by governments for the next NSRA has implications for how successfully they can be implemented. Previous NSRA initiatives have gone some way towards creating positive change in the Australian education landscape, for instance, previous NSRAs or their predecessors have seen the introduction of the Australian Curriculum[1], NAPLAN and even AERO itself. For significant reforms like these to be effective in achieving change, they need to be implemented comprehensively, systematically and universally. Focusing on fewer national policy initiatives will allow a greater focus on their successful implementation, both by policymakers and at the busy school level.

The reform or reforms chosen should reflect the evidence-base about what works to improve outcomes. We know that the main variance in student achievement comes down to two factors – teaching quality and student characteristics (see for example, Hattie, 2003 and Deloitte Access Economics, 2019). Research shows us that the most successful system-level reforms have a focus on high quality teaching, intervention for students who have fallen behind, and using data to ensure reforms are on track (Barber and Mourshed, 2007).

Reform initiatives should address both what the evidence says are the drivers and solutions to improving outcomes for students, and how system-level reforms are best implemented to achieve the desired outcomes. The evidence consistently shows that for whole system reform, there needs to be a systemic rather than fragmented approach. It also shows that reform initiatives should avoid being short-term responses to political and public aspirations, and developed in the light of careful consideration of what is actually deliverable as educational objectives. The research shows us that for system-level reforms to work effectively they must: provide a clear rationale for why strategy x produces result y; cause whole of system improvements; and be measurable in practice and in results.

Recommendation 1

That the next NSRA focus on a limited number of targeted reforms which capitalise on previous reforms and build on the evidence base of what works, in terms of both educational outcomes and system-level reform.

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[1] See Appendix 1 for a note about the Australian Curriculum

Recommendation 2: Systematic provision of additional support for students who have fallen behind

The next NSRA should include a commitment to systematically provide additional support for students who have fallen behind in their learning. Ensuring students who are falling behind have access to early, targeted support such as small group tutoring and 1:1 tuition[2] will lift outcomes for low performing students and disproportionately benefit students in equity groups, who are overrepresented among students consistently achieving at or below NAPLAN National Minimum Standard (NMS)[3].

Research tells us that the most effective and efficient method to maximise student learning is to ensure the use of evidence-based teaching practices in all classrooms, including explicit instruction, paired with systematic provision of additional support for students who have fallen behind in their learning (de Bruin et al., 2023; Burns and Symington, 2002; Burns et al. 2005). Small group tutoring has been found to be a particularly effective form of additional support for students who have fallen behind in their learning (Nickow et al., 2020), with a small proportion of these students requiring more intensive and individualised instruction (de Bruin et al., 2023; Burns and Symington, 2002; Burns et al., 2005).

We know that current approaches to students who have fallen behind in their learning are not succeeding, with a significant proportion of students finishing high school without the foundational literacy and numeracy skills necessary to succeed in employment, further education, or training. Many of these students are identified through NAPLAN testing in Year 3, with 1 in 3 students who are at or below National Minimum Standards (NMS) in Year 3 remaining at or below NMS in each NAPLAN year to Year 9 (AERO, 2023a). An upcoming AERO analytical insights paper (2023a) finds that students from equity groups are especially vulnerable, being overrepresented in the group of students who consistently remain at or below the NMS each NAPLAN year to Year 9:

- Students with the lowest parental education backgrounds make up just under one-third of low performers and are approximately 6 times more likely to be in this group than those with the highest parental education.
- First Nations students make up one-quarter of low performers and are nearly 5 times more likely than non-First Nations students to be in this group.
- Students from remote and very remote areas comprise 1 in 10 of the low performers group and are almost twice as likely to be in this group than regional and metropolitan students.

The need for systematic provision of additional support for students who have fallen behind in their learning has been recognised in both the consultation paper and the

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[2] A subset of students who do not respond to small-group tuition or who have specific needs may require 1:1 tuition.

[3] AERO notes that in 2023, NAPLAN results reporting changed and students are now classified into one of 4 proficiency levels: Exceeding, Strong, Developing and Needs additional support. As AERO's analysis to date has all been conducted using historical data classified against the previous scale, AERO is using the 'NMS' nomenclature and definition in this document when discussing past performance.

previous Productivity Commission's Review of the NSRA. It is also consistent with the implied commitment in the new NAPLAN proficiency standards – with students in the lowest performance level now identified as 'needing additional support'.

Introducing a new commitment for systematic provision of additional support for students who have fallen behind in their learning also aligns with how high performing and high equity education systems, like Singapore, Finland and Hong Kong, work to make sure that all students are on track with their learning. These systems ensure that as soon as students are identified as having fallen behind their peers, there is an intervention to help them catch back up, before learning loss accumulates and the students' self-belief is undermined. For example, in Finland, 23% of comprehensive school students received intensive or special support in 2021 (Statistics Finland, 2022). The ubiquity of this additional support also helps to reduce the potential stigma of receiving targeted teaching.

Regarding the implementation of a systematic support guarantee for students who fall behind their peers, where the evidence is clear about the most effective design features for such interventions, this should be reflected in the commitment governments make in the NSRA, with flexibility in implementation for systems where there is the evidence is less clear. Support should predominantly come in the form of small group tuition, with instruction targeted to the specific areas of student need. Evidence tells us that for success to be achieved with small group tutoring, targeted interventions should be delivered to small groups of students (e.g., 2-5), at frequent intervals (e.g., 3 or more times per week) with each session running for close to an hour, for a defined period (e.g., a single school term) (Education Endowment Foundation, 2021). The research notes that the quality of the instruction is also important, as is coherence with classroom instruction and clear learning objectives (Evidence for Learning, 2016). Schools should also implement small group tuition within a multi-tiered system of supports framework (see Box 1).

Box 1: Multi-tiered system of supports

The Multi-Tiered System of Supports (MTSS) framework is a promising approach for implementing targeted interventions for students who struggle academically. It encourages the integration of a support package within schools by providing a clear structure aligned to evidence. An MTSS model emphasises:

1. using proven, evidence-based teaching methods for all students, teaching content explicitly and systematically
2. regular assessment of all students to identify gaps in learning
3. delivering frequent small group (Tier 2) or 1:1 (Tier 3) interventions with the instructional content targeted to the learning gaps identified, and with the amount of time dedicated determined by student need
4. continuous, data-based tracking of student progress to ensure interventions deliver real gains.

(AERO, 2023b)

Consideration should also be applied to the opportunities afforded by the use of technology to support systematic intervention in the form of small group tutoring. For example, the use of intelligent tutoring systems, which mirror the process of individualised tuition by providing diagnostic assessments at the beginning of a unit to gauge understanding, providing individualised exercises and feedback at each stage of each task (Loble and Hawcroft, 2022). This could assist in reducing costs, although the effectiveness of such methods with low performing students has not yet been established. This could be a focus of research as the reform is implemented.

An appropriate measure of success for this reform would be a reduction in the proportion of students assessed as 'needs additional support' in NAPLAN, as they progress through their schooling. Currently, the proportion of students who are struggling in numeracy and reading increases from one NAPLAN instance to the next. For example, NAPLAN data tells us that in 2015, 12.9% of Year 3 students were at or below the NMS in reading, and by the time this cohort reached Year 9 this had grown to 25.4% (ACARA, 2015 and ACARA, 2021). If these students participate in an effective program targeting their identified need, the proportion of students needing additional support should fall as they progress through school.

Recommendation 2

That in the next NSRA, governments commit to ensure small group tutoring Is provided to students who are assessed as needing additional support in NAPLAN or who are at risk of this. The NSRA should specify key design features for this tutoring that have been shown to be effective, namely: groups of no more than 5 students, three or more sessions per week, with each session running for close to an hour, for a duration of 6-12 weeks, and with tutoring explicitly linked to class learning objectives. The success of this measure should be a reduction in the proportion of students assessed as 'needs additional support' in NAPLAN as they progress through schooling.

Recommendation 3: A national program of research to continually optimise the chosen reform(s).

AERO understands governments will commit to monitoring and accountability mechanisms regarding implementation of agreed NSRA reforms, as is appropriate.

AERO proposes that an additional commitment be made to a national program of research with a primarily formative purpose, being ongoing learning about, and refinement of, whichever central reform is chosen. While this research could support or complement summative accountability measures, its primary purpose would be providing insights about the relative effectiveness of variations in the implementation of the NSRA's agreed central policy reform, so that all systems' understanding of how to maximise the effectiveness of the reform continues to improve over time. AERO recommends that a national program of research of this nature would benefit from coordination by a single agency which could provide quality assurance in terms of research and evaluation design, and assist in coordinating both the planning of research and the dissemination of findings.

A robust national program of research on implementation of the chosen reform(s) would have the following benefits:

- Collaboration: by proactively planning research and evaluation across school systems, a larger number of findings could be generated within a given period than if each system was to pursue the same lines of enquiry individually.

- Dissemination: lessons learned in one system would be made available to others, increasing the speed at which national initiatives improve.

- Embedding an improvement focus: a national research program would encourage all school systems to focus on optimising initiative delivery through the life of the next NSRA and beyond.

- Fast turnaround: A national program of research could coordinate rapid-cycle research projects that can inform design quickly, alongside longer-term multi-year research.

- Rigour: A national program of research on the reform could ensure that research and evaluation of programs is done in the most robust way possible (including use of randomised controlled trials where appropriate).

An example of the benefits of a national program of research can be seen when applied to small group tutoring. A national commitment to small group tutoring would require significant investment in support programs for these students. While the scale of this investment is justified by how secure the research on small-group tutoring is on the whole, some aspects of program design (such as the trade-offs between online versus face-to-face, or tutoring before or during school) would benefit from further research to inform future refinements to systems' programs. Even a small proportion of

total initiative funding (for example 0.02%[4]) would be sufficient to facilitate a national research commitment.

> ### Recommendation 3
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> That the next NSRA include a commitment for x% of the funding required to deliver new national initiatives to be set aside for a program of research. To ensure the resulting research is delivered in a coordinated way that maximises rigour and dissemination, a single agency should be tasked with working with school systems to facilitate a research program.

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[4] Grattan (2023) suggest 0.02% of the total tutoring program costs, or around $2M p.a. would be sufficient to enable the research required to provide additional insights to policymakers to optimize large-scale tuition programs.

Recommendation 4: A National Measurement Framework aligned with national education objectives and consolidated national education data responsibilities

Decisions about appropriate interventions and strategies at any level (classroom teachers, school leaders, system managers or governments), depend on good information about the existing environment, as well as active monitoring and evaluation of the success (or otherwise) of decisions and actions (Masters, 2013). An effective national data infrastructure and measurement framework is required to provide this information to Ministers and policymakers to support decision making.

As noted in the consultation paper schools, systems and jurisdictions collect a significant amount of data. However, this data is not being used effectively to track the performance of national policy initiatives and could better provide insights on future policy direction. Much of the key education data is held by disparate agencies across jurisdictions. Bringing this data together to facilitate effective performance reporting will ensure that education data is being used for its intended purpose – that is, improving student outcomes.

Ensuring that national education data is used effectively goes beyond performance reporting and tracking and requires robust data insights that are accompanied by guidance on what the evidence tells us will shift towards desired outcomes. Often data at the national level is used for performance reporting without being accompanied by clear direction on what could drive improvement. While AERO is increasingly providing this evidence-based advice for Ministers and policymakers, there is inconsistency in advice provided more broadly due to the segmented national data landscape.

Both the consultation paper and the previous Productivity Commission Review of the NSRA found that there are limitations and gaps in the data collected nationally, with key information on student characteristics (such as English as an additional language or dialect) and student performance (such as learning outcomes for students with disability) not collected or reported. These reports both highlight the potential need to collect new data in line with emerging education policy priorities such as student wellbeing (see box 2). However, there is also significant potential in leveraging data currently collected to understand what drives student performance without burdening students or teachers with additional surveys or measures.

For example, AERO has recently created a new 'Linked NAPLAN Dataset' which draws on longitudinal cross-sectoral data from all jurisdictions in Australia. This dataset links NAPLAN results, participation and student and school demographics of over 6 million students between 2008 and 2021 from their first engagement with NAPLAN to their latest or last engagement with NAPLAN. Within this dataset, over 80% of Year 3 students had a complete record linking their Year 3 test record to Year 9 test records. This new Linked NAPLAN Dataset is a significant and transformative national dataset that can be used to generate substantial benefits for Australian education research. It provides opportunities, for example, to understand the learning trajectories of Australian students across sectors and states/territories, and to evaluate policy impact

with higher accuracy. The high rate of successful linkage shows that significant new national datasets can be generated through innovative data linkage, even without complicating factors such as a national unique student identifier.

Assigning an independent body such as AERO the responsibility for national education data could facilitate an increase in data linkage projects if the agency is given a clear remit and responsibility for creating and managing linked data assets to improve national education policy. There are examples in health which could serve as a model, such as the Centre for Health Record Linkage (CHeReL) which was created to facilitate access for researchers, planners and policy makers to linked health data about people in the NSW and ACT. CheReL enables longitudinal research on long term health outcomes, population health surveillance and health system reporting (CheReL, n.d.). Establishing an equivalent national education function would significantly progress the capacity of the national education infrastructure to effectively use existing data to meet the needs of policymakers and improve student outcomes.

An independent body responsible for national education data should have:

- a secure technical environment that stores, manages, and facilitates the linking of large-scale data,

- expertise in developing and maintaining complex and high performing data linkage processes and systems,

- ability to offer researchers secure and cost-effective access to linked data in a way that complies with data agreements.

- knowledge of existing complex education data infrastructures, datasets and educational priorities and

- strong data governance processes in place to ensure data is handled responsibly, ethically and safely.

Recommendation 4

That the next NSRA include an initiative to centralise national education data responsibilities to a single agency with the aim of ensuring the data can be used to support policymaking and program design. This agency would be responsible for housing existing data and facilitating its use to inform national policy through research and analysis, data linkage and reporting.

Box 2: Measuring student wellbeing

While all jurisdictions are collecting information on student wellbeing, differences in the conceptualisation and implementation of wellbeing measures mean that jurisdiction-based measures cannot be used to provide national insights on student wellbeing. There has been increasing national collaboration to understand and share insights from individual state and territory measures, such as through the National Student Wellbeing Project or cross-jurisdictional data linkage projects (Australian Research Data Commons, 2021). If governments choose to include strategies relating to wellbeing in the next NSRA, it will be appropriate for a nationally consistent measure of wellbeing to be established.

A national measure of wellbeing could include consistent measures of aspects of student wellbeing such as sense of belonging, safety, inclusion and teaching practices linked to learning outcomes. Most jurisdictional wellbeing measures include these components of wellbeing, however, they are defined, measured and reported on in non-comparable ways. Ensuring consistent measurement of a common subset of wellbeing components that are linked to learning will enable more robust research and evaluation. It is important that any national measure of student wellbeing focus on the components of wellbeing that:

- have the greatest influence on learning,
- are within a school's ability to influence and
- complement existing jurisdictional measures.

AERO's (2023c) Benchmarking Report and ACARA's (2022) submission to the Productivity Commission's Review of the NSRA both suggest that a sample survey of students or teachers connected to NAPLAN could fill this national wellbeing data gap. This sample survey could provide insights on specific teaching practices, student wellbeing and sense of belonging, classroom management and other factors that have previously been found to impact student achievement (AERO, 2023c). This could be modelled on the Programme for International Student Assessment (PISA) non-cognitive survey which collects similar information.

The non-cognitive data collected by PISA can be linked to the student performance data which allows researchers and others to look at the relationships between teaching practice, student wellbeing and learning (see, for example, OECD (2019) and Deloitte Access Economics (2019)). This data is a valuable tool to understand how effective teaching practices are linked to both wellbeing and learning. Similarly, a national wellbeing measure that links national student wellbeing data and teaching practices to academic achievement will provide insights to the pathways through which student wellbeing impacts learning and what are the effective policies, programs and practices that improve student wellbeing.

AERO has included its full paper looking at student wellbeing data and measurement in Australia at **Appendix 2.**

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Appendix 1

The Australian Curriculum was a national reform implemented over a decade ago. Currently, ACARA is in the process of disseminating a recent update to that curriculum. For this reason, AERO does not consider it timely to propose curriculum reform for the next NSRA. Rather, AERO supports efforts to develop and promote quality-assured resources that support systematic and effective implementation of curriculum for all students, noting that the current curriculum does not provide sufficient guidance to teachers.

AERO notes that the current Australian Curriculum could be improved using evidence about best practice curriculum design. For example, it could contain more specific detail about the knowledge students are expected to attain, and the means by which this learning should be demonstrated. A high quality, content-rich curriculum is key to an equitable education system. A curriculum is a social contract – it should describe the knowledge that we, as a community, agree is core for all students to acquire. It should lay out a sequence for teaching and guide to assessment that ensures learning. Equitable access to quality curriculum should be an entitlement for all students, and the curriculum should represent a guarantee of learning.

The National Teacher Workforce Action Plan agreed by Ministers in 2022 asked ACARA to consult with AERO and others to develop advice about how to support implementation of the Australian Curriculum. It also asked ACARA and AERO to advise on the curriculum review cycle. In 2024 AERO will be undertaking research to inform reform to the content and design of the Australian Curriculum in its next review. The next Australian Curriculum should be content-rich, without being over-crowded or ambiguous about what is core and what is optional. It should offer clear implementation guidance for teachers and not require them to locate or invent their own curriculum support resources. It should be of such high quality that states and territories will no longer decide they need to adapt or rewrite it for themselves. The Australian Curriculum should ensure that all teachers have better guidance and confidence about their implementation of curriculum and all Australian students have a guarantee they will attain the knowledge they need to build on and thrive in life.

Student wellbeing data and measurement in Australia

August 2023

Contents

Executive Summary

Research suggests that wellbeing correlates with learning outcomes, but understanding the direction and nature of this relationship, and how to ensure positive outcomes, is still something we are seeking to understand. AERO investigated whether systems and schools are measuring wellbeing components that are strongly linked to learning, and how systems and schools use the data they collect to improve wellbeing and learning outcomes.

This paper presents findings from AERO's scoping work[5] to understand how student wellbeing is measured in Australia and highlights opportunities to improve effective data collection and use of wellbeing data in decision making.

Overall findings

- Research shows that some components of student wellbeing (such as, sense of belonging) are associated with improved learning outcomes (such as, better literacy and numeracy scores), but there is limited available data about the pathways through which wellbeing components impact learning (or learning impacts wellbeing).

- In Australia, all governments, education systems and sectors are guided by nationally agreed goals for improving educational outcomes of children and young people. How these aspirational statements translate to decisions around conceptualising and measuring wellbeing can differ, and depend on systems' and sectors' specific definitions, requirements, objectives and contexts.

- All jurisdictions in Australia are measuring, or on the way to measuring, some form of wellbeing in schools. Some of the common measures in use by different jurisdictions across Australia include sense of belonging, peer and teacher relationships and safety.

- Student wellbeing data is an important source of information for policymakers and researchers but may be underused by schools to inform school improvement and classroom practice.

- There is a need for evidence-based practical resources for use in classrooms and schools to improve specific wellbeing outcomes (such as sense of belonging).

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[5] This scoping work entailed a desktop review, landscape scan and consultations with jurisdictions.

Opportunities

There continue to be gaps in the evidence base about the pathways through which student wellbeing impacts learning (or learning impacts wellbeing) and the effective policies, programs and practices that improve wellbeing and learning.

The unclear evidence base is a challenge for education systems who have identified improving student wellbeing as a priority. Effective use of student wellbeing data can fill the gaps in the evidence by supporting policy makers to understand trends in student wellbeing, and to identify and evaluate potential strategies to improve wellbeing and learning outcomes.

While all jurisdictions are collecting information on student wellbeing, differences in the conceptualisation and implementation of wellbeing measures mean jurisdiction-based measures are not always directly comparable. There has been increasing national collaboration to understand and share insights from individual state and territory measures, such as through the National Student Wellbeing Project or cross-jurisdictional data linkage projects (Australian Research Data Commons, 2021). However, there continues to be a gap in relation to a nationally consistent measure of wellbeing.

A national measure of wellbeing could include consistent measures of student wellbeing such as sense of belonging, safety, inclusion and teaching practices linked to learning outcomes. This will enable more robust research on the factors that shift student wellbeing and learning. It is important that any national measure of student wellbeing focus on the components of wellbeing that:

- have the greatest influence on learning,

- are within a school's ability to influence and

- complement existing jurisdictional measures.

Introduction

There has been a growing emphasis on the importance of student wellbeing as a responsibility of schools. This paper summarises AERO's scoping work investigating the insights that can be gained from analysing the existing measurement and use of student wellbeing data across Australia.

Education systems collect a range of information on wellbeing and learning and draw on this data to inform decision-making and practice. The aim of this paper is to provide an outline of student wellbeing data and measurement in Australia. Specifically, this paper explores whether systems and schools are measuring what matters (that is, the wellbeing components that are strongly linked with learning) and what they do with the data they collect to improve wellbeing outcomes. It highlights opportunities to improve effective data collection and use of wellbeing data and concludes with potential implications for measuring student wellbeing nationally.

Are systems and schools measuring what matters?

Research indicates that student wellbeing is correlated with higher academic outcomes, however, the nature, direction and strength of the relationship remains unclear. We need high-quality wellbeing data to determine how wellbeing affects learning and vice versa so that schools, teachers and leaders can implement practices that improve wellbeing and learning outcomes.

What is the link between wellbeing and learning?

The link between wellbeing and learning may be reciprocal

Research exploring the relationship between wellbeing and learning can provide insight into the components of wellbeing that matter for improving learning outcomes. It has found that students with greater wellbeing (defined as lack of negative affect, presence of positive affect and satisfaction with life) are likely to have higher academic scores, even when accounting for previous test scores and other confounding factors (Cárdenas et al., 2022). However, evidence also suggests that this relationship is reciprocal and that there is an interrelated link between wellbeing and learning. Learning has been found to have a positive effect on subjective wellbeing, and better language and cognitive skills upon school entry are associated with lower levels of sadness and worries later in Year 6 (Gregory et al., 2021). Improving teaching and learning, in and of itself, is an important measure that can lead to better wellbeing outcomes.

A meta-analysis exploring the association between students' general wellbeing (defined as students' subjective, psychological, social, cognitive and physical wellbeing)

and academic achievement found a significant and positive small effect size between wellbeing and academic achievement (Kaya & Erdem, 2021). Specifically, the meta-analysis found that students with greater wellbeing are more likely to have better academic performance and vice versa, suggesting a reciprocally causal relationship between wellbeing and learning (Kaya & Erdem, 2021). Similarly, longitudinal studies have found that higher wellbeing boosts academic achievement (Kiuru et al., 2020) and interventions targeting non-academic wellbeing skills in students increases their wellbeing and their academic achievement (Adler, 2016).

Analysis of New South Wales (NSW) Tell Them from Me data found that student engagement affects performance (learning outcomes) and improved performance positively affects engagement (Centre for Education Statistics and Evaluation, 2017). Additional analysis also found a reciprocal relationship between student wellbeing and student engagement (Centre for Education Statistics and Evaluation 2020).

Similarly, a joint study by the South Australian Department of Education and Telethon Kids Institute using linked Australian Early Development Census (AEDC) and the South Australian Department of Education Wellbeing and Engagement Collection data, found that learning had a positive effect on subjective wellbeing (as measured by life satisfaction, optimism, sadness and worries) and that better language and cognitive skills upon school entry were associated with lower levels of sadness and worries in Year 6 (Gregory et al., 2021).

The link between wellbeing and learning is not always direct

The relationship between wellbeing components and learning is not always clear or linear. For example, a higher sense of belonging may lead to better engagement in class, which may then lead to better learning outcomes (or vice versa). The complexity of such relationships makes it difficult to determine which wellbeing components are useful to measure from a learning perspective.

Research by the NSW Centre for Education Statistics and Evaluation analysing NSW Tell Them From Me data (linked to NAPLAN outcomes) provides some insight into the different pathways through which wellbeing components and student engagement can matter for learning. Specifically:

- Student engagement is a key driver for learning. Students that are positively engaged are up to 6 months ahead in their learning (Centre for Education Statistics and Evaluation, 2017).

- Students who experience positive peer relationships in school are up to 2 months ahead in their NAPLAN scores 2 years later than those who don't experience positive peer relationships (Centre for Education Statistics and Evaluation, 2019).

- Students that display positive behaviour at school are up to 5 months ahead of students who do not (Centre for Education Statistics and Evaluation, 2019).

Other wellbeing components may also improve NAPLAN outcomes, although the pathways through which this is achieved are less clear. For example:

- High levels of advocacy at school are likely to coincide with higher levels of interest and motivation at school, an enhanced sense of belonging, and therefore an improved chance of completing school (Centre for Education Statistics and Evaluation, 2020a).

- Students who experience a positive sense of belonging at school tend to value learning, show high levels of effort, interest and motivation, and positive homework behaviour, leading to improved learning outcomes (Centre for Education Statistics and Evaluation, 2020a).

Improving specific wellbeing components such as sense of belonging may improve learning

Research shows that 'school belonging in educational settings is positively related to good academic performance, prosocial behaviours, psychological well-being and other positive variables' (Allen et al., 2018). This is supported by recent research by the Australian Council for Educational Research (ACER) which produced a wellbeing impact map in 2020 that estimated the effects of wellbeing interventions on student academic and wellbeing outcomes, moderated by contextual and program characteristics (Australian Council for Educational Research, 2020). This study found that student belonging and engagement programs had the greatest impact on academic achievement (Dix et al., 2020).

This is also backed up by PISA analysis which shows that there is a clear link between sense of belonging and reading achievement in OECD countries with students who report a greater sense of belonging scoring higher in the reading assessment after accounting for socio-economic status. This is thought to be a circular relationship (i.e. a sense of belonging at school leads to higher academic achievement and high academic achievement leads to greater sense of belonging). The OECD also reports that in all countries and economies, students with higher reading scores tended to report a more positive disciplinary climate, after accounting for socio-economic status.

The ACER study (2020) also produced a gap map showing which wellbeing interventions are not backed up by high-quality evidence. It found that over half (56%) of the wellbeing programs available in Australia had low quality evidence, with only 2 programs having sufficient quality of evidence to be included in the systematic review (Dix et al., 2020). Initiatives like Be You, Victoria's School Mental Health Menu and a recent research review of evidence-based mental health and wellbeing programs for

schools by NSW are providing better guidance about the evidence-based programs to support student wellbeing and mental health. However, not enough is known about effective practices that target student wellbeing.

What informs measurement decisions?

National goals for education guide systems and schools

Systems and schools turn to a variety of sources to determine what components of wellbeing and learning are useful to measure and why. In Australia, all governments, education systems and sectors are guided by nationally agreed goals for improving educational outcomes of children and young people. These are most recently set out in the National School Reform Agreement (2018), and the Alice Springs (Mparntwe) Education Declaration, which both declare that wellbeing is fundamental to achieving student success. Specifically, the Alice Springs (Mparntwe) Declaration states that education must support the wellbeing, mental health, and resilience of young people alongside the focus on literacy, numeracy and learning the curriculum (Education Ministers, 2019).

> 'Education plays a vital role in promoting the intellectual, physical, social, emotional, moral, spiritual and aesthetic development and wellbeing of young Australians, and in ensuring the nation's ongoing economic prosperity and social cohesion.'
>
> (Education Ministers, 2019, p. 2)

These documents do not explicitly define wellbeing, but reference to intellectual, physical, social, and emotional wellbeing suggests that they are elements schools should consider monitoring in the context of learning.

Similarly, the Australian Student Wellbeing Framework and accompanying Student Wellbeing Hub (the Hub)[6] are based on evidence that recognises the strong linkages between student safety, wellbeing and learning outcomes (Education Services Australia, 2018). The Framework and the Hub were designed to support all Australian schools to build and maintain safe, inclusive, and positive learning communities. The Hub provides teachers, parents, students, and leaders with resources to help students reach their aspirations in learning and in life through a focus on leadership, inclusion, student voice, partnerships, and support.

How these aspirational statements translate to decisions around conceptualising and measuring wellbeing can differ, both between and within systems, and depends on their specific requirements, objectives, and contexts. Systems also need to be mindful

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[6] The Australian Government, with endorsement from all state and territory governments launched the Student Wellbeing Framework in 2018 and the Hub in 2020.

that the data and tools they are using are fit for purpose. For example, ensuring that school or system-level wellbeing surveys are not inadvertently used as clinical diagnostic tools; and/or understanding the duty of care requirements if wellbeing surveys ask sensitive questions about mental health.

Strategic plans and curriculum inform approaches in schools

In schooling, student wellbeing outcomes are outlined in multiple declarations, strategic plans, and frameworks. In many cases, these documents differ between jurisdictions. Wellbeing is not an official outcome at the national level[7] in the same way that it is in, say, ECEC.

Australian schools are required to set curricula according to their state or territory curriculum authority. From 2010, all states and territories agreed to embrace the Australian Curriculum, which refers to wellbeing in its 'general capabilities' section. The general capability 'personal and social capability' has a focus on students learning to understand themselves and others, and manage their relationships, lives, work and learning more effectively.

In addition to curriculum frameworks, the Australian Professional Standards for Teachers and the Australian Professional Standard for Principals and the Leadership Profiles explicitly outline teacher and principal responsibilities to support student wellbeing. Teachers at the proficient career stage are expected to 'ensure students' wellbeing and safety within school by implementing school and/or system, curriculum and legislative requirements' (Australian Institute for Teaching and School Leadership (AITSL), 2011) Principals are expected to be 'well versed in the latest research and developments in … student wellbeing' and to 'create an ethos of respect taking account of the spiritual, moral, social and physical health and wellbeing of students' (Australian Institute for Teaching and School Leadership (AITSL), 2014).

At the state and territory level, most jurisdictions have their own wellbeing framework and/or strategies and policies for encompassing wellbeing into schooling (Appendix 1). Sometimes these sit with the Department of Education and are fairly focused on classroom practice and learning, other times they sit outside the Department and may be more focused on wellbeing in general. There are also a variety of non-government wellbeing frameworks and roadmaps available to schools that have been developed to improve student wellbeing. For example, some systems have adopted the Australian Research Alliance for Children and Youth (ARACY) The Nest, which is an evidence-based framework for national child and youth wellbeing focused on six domains: loved

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[7] Key schooling outcomes are set out in the Australian Curriculum and Measurement Framework for Schooling in Australia. The Australian curriculum has no equivalent of Outcome 3 of early childhood approved learning frameworks. The only official outcome of schooling as recognised at the national level is learning, as measured through NAPLAN and state and territory end-of-schooling assessments.

and safe, material basics, healthy, learning, participating and positive sense of identity and culture and one overarching theme ('connectedness').

How is wellbeing currently measured?

In 2019, the Education Council established the National Student Wellbeing Project to investigate student wellbeing, its links to learning (specifically between measures of subjective wellbeing and NAPLAN scores) and valid measures within the literature. The purpose of the project was to support the development of a national approach to understanding student wellbeing. The project sought to develop student wellbeing measurement tools that could support decision-making to improve school climate, at both the system and school levels. The project was completed at the end of 2021. It recommended to Ministers that all jurisdictions and non-government schools should move to prioritise the measurement of student wellbeing, defined by the project as 'lack of negative affect, presence of positive affect, and satisfaction with life'. The Productivity Commission's Review of the National School Reform Agreement reiterated the need for governments to collect comparable data for a composite wellbeing indicator to track student wellbeing and ensure that investment in wellbeing initiatives was based on evidence of their effectiveness (Productivity Commission, 2022).[8]

The wellbeing data that systems, sectors, schools, and services collect reflect the policies, standards and frameworks that influence how different education settings conceptualise and address wellbeing. This means that, while there is some overlap, the wellbeing measures, and approaches to collecting data tend to vary.

Systems and schools use student wellbeing surveys

Almost all states and territories in Australia collect student wellbeing data through annual student surveys of Years 4 to 12 (Appendix 2). Most of these surveys are underpinned by state or territory student wellbeing frameworks or policies. Some jurisdictions have made their surveys compulsory for government schools, though students are still able to opt-out at an individual level. Other jurisdictions have adopted an opt-in model, where school leadership chooses whether to participate in the survey.

Many independent schools and Catholic dioceses and school associations access the same wellbeing survey instruments and measures that are available to public schools. However, data and research stemming from these surveys is not usually publicly available. Schools also access a range of privately run instruments.

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[8] Recommendations to raise the importance of student wellbeing and prioritise the collection of wellbeing data have also been outlined in Schedule A, Part 1, 2b of the 2022 National Mental Health and Suicide Agreement, and a Productivity Commission mental health (2020) report.

Summary of student wellbeing measures

There is considerable overlap in what jurisdictions measure and how they administer their student wellbeing surveys (Appendix 3).

- Almost all jurisdictions collect data on 'relationships with peers and staff', 'sense of belonging' and 'school engagement'.

- Many also collect data on emotional wellbeing, physical and/or mental health, and bullying/behaviour.

- Most jurisdictions consider engagement with learning alongside student wellbeing. Engagement with learning measures may include measures such as academic self-concept, learning readiness and academic buoyancy.

Student wellbeing surveys are not the only source of information about wellbeing in schools. Systems and schools also use other system data, such as attendance and or suspension rates as proxy indicators of wellbeing. This information can provide a real-time signal about student engagement with learning or highlight other underlying issues that schools may need to address.

School and systems also use other measures and tools

Australian Early Childhood Development Census

The Australian Early Development Census (AEDC) is a measure of how children develop in the years before starting school. It is a nationwide data collection of early childhood development at the time children commence their first year of full-time school and has been endorsed by the Council of Australian Governments as the national progress measure of early childhood development in Australia. The AEDC measures five areas of early childhood development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), communication skills and general knowledge.

The AEDC is completed every three years by teachers of children in their first year of full-time schooling. On each of the 5 AEDC domains, children receive a score from 0 to 10 which is calculated based on teacher responses to the relevant domain questions for each child. AEDC results are reported as the number and proportion of children who are 'developmentally on track', 'developmentally at risk' and 'developmentally vulnerable'. The results are reported at the school and community level, rather than the individual, meaning they cannot be used as an individual measure of children in the classroom. The AEDC domains have been shown to predict later health, wellbeing and academic success. The AEDC National Committee ensures the AEDC evidence base is

made accessible through published research, community action, data linkage and/or direct access to the data.

Programme for International Student Assessment

The Programme for International Student Assessment (PISA) is an international assessment of 15-year-olds' ability to apply their knowledge and skills to real-life problems and situations, focusing on reading, mathematics and science. A nationally representative sample of more than 14,000 Australian students in over 700 schools complete the test. It has been administered every 3 years since 2000, with the 2021 test delayed until 2022 (Australian Education Research Organisation, 2023).

While PISA is primarily known for collecting data on cognitive aspects of schooling (such as, reading, maths and science), PISA also collects non-cognitive data related to student and school characteristics including information on student wellbeing. These measures include: belonging at school, student cooperation, student competition, parental involvement in school activities, exposure to bullying, disciplinary climate, student behaviour hindering learning, student self-efficacy, student fear of failure, growth mindset, teacher enthusiasm, teacher support, teacher feedback and teacher behaviour hindering learning.

This non-cognitive data can be linked to the cognitive data PISA collects which allows researchers and others to look at the relationships between teaching practice, student wellbeing and learning (see, for example, OECD (2019) and Deloitte Access Economics (2019)). This data is a valuable tool to understand how effective teaching practices are linked to both wellbeing and learning.

Non-jurisdictional wellbeing surveys and tools

Schools may also procure or develop wellbeing tools in addition to, or instead of, system tools. There are many of these wellbeing tools in existence, some of which are provided free of charge by not-for-profit or non-government agencies, while others are fee-for-service tools. These tools measure a broad range of wellbeing components from single indicators such as bullying, to broader subjective wellbeing measures such as mental health. They are also designed to be used at different intervals (such as weekly or annual) and across a range of contexts. The degree to which they are evidence-based varies.

It is outside the scope of this paper to detail every wellbeing measurement tool available to schools. However, well-known evidence-based tools include:

- The ACER Social Emotional Wellbeing survey which is a school-wide survey for ages 3 to 18 that provides insights into a wide variety of social, emotional and behavioural outcomes.

- ARACY's EI Pulse which is a weekly pulse style check-in that lets schools collect data on school wellbeing and engagement that is frequent, familiar or formative.

- The Pivot Wellbeing Tool which was developed in response to COVID-19 and measures wellbeing for learning through resilience, belonging and safety via weekly student check-ins.

What do systems and schools do with wellbeing data?

Wellbeing data can support education policymakers and educators, teachers and leaders to implement effective strategies to improve wellbeing and learning for children and students. However, research suggests that teachers don't always know how insights from data can be used to improve practice (Finefter-Rosenbluh et al., 2021). This section explores the ways systems and schools use wellbeing data in practice and the challenges that can be presented in using this data.

How do systems and schools use the data?

Systems and schools can, and do, use wellbeing data in a variety of ways, ranging from use at the system level to inform planning and policies, to use by school leaders to inform whole of school approaches to wellbeing, to use by classroom teachers to improve student outcomes.

Systems disseminate school-level student survey results to schools

Departments of Education in most jurisdictions provide school-level snapshots of student wellbeing survey responses to school leaders. The data received by school leaders may contain various levels of detail such as data broken down by year group or gender, comparisons to state averages and/or trend data for different measures. Sometimes this data is provided in the form of reports which are emailed through to school leaders and/or data may be made available on internal data platforms. The timeliness of the data dissemination varies between states and territories. For example, in NSW, data reports are received by schools within three days of the Tell Them From Me wellbeing survey window closing; in other jurisdictions, it may take longer for schools to receive this data. In some jurisdictions, independent and Catholic schools use the same surveys provided to Government schools.

Some jurisdictions link wellbeing survey results to other school data

States and territories may also use the data at the system level to inform planning and policy decisions. Data linkages connecting student wellbeing information, enrolment data and NAPLAN have created valuable data assets in several jurisdictions which facilitate a broad range of investigations into student wellbeing. Some states and territories are also linking student wellbeing data with data from agencies such as community services or health to build a broader picture of the wellbeing of children and young people or exploring cross-jurisdictional data linkages. For example, South Australia, Tasmania and the Australian Capital Territory have partnered with the University of South Australia to create a linked dataset that links comparable components of their state-based student wellbeing and engagement surveys with demographic, attendance and NAPLAN data. This linked dataset will support future research efforts to further map the reciprocal relationship between wellbeing and engagement outcomes and learning outcomes (Australian Research Data Commons, 2021).

Jurisdictions also use data from student wellbeing surveys to gain insights into specific programs or the impact of learning disruptions such as student experiences of COVID-19. Additionally, some jurisdictions use their student wellbeing data to evaluate the effectiveness of wellbeing programs and to better understand the relationship between wellbeing components and other student outcomes.

Expectations for how schools should use wellbeing data can vary

While wellbeing data appears to be used to varying degrees at the school and system level, it does not appear to be used systematically across systems or within schools. For example, there is significant variation in how schools are expected to use the data and the guidance provided to schools from the system about how the data should be used to inform teaching and learning. Anecdotal evidence suggests while some schools proactively use data to inform their school planning cycles, at other times, data is underutilised by schools as they are unsure how to use the data or what to do in response to insights from the data.

There are also different levels of system maturity in collecting and using student wellbeing data, with some systems only recently introducing system-wide measures and others having operated their surveys for many years. This influences the degree to which data is used and the sophistication of its use. Jurisdictions also highlight the need for more support for teachers and schools to unpack data and plan classroom and whole-school responses. Recent research also reflects this feedback. For example, a study by Finefter-Rosenbluh, Ryan and Barnes (2021) found that teachers can be unsure how to use insights or prioritise issues highlighted from student survey responses to change their classroom practice.

Conclusion

Research has demonstrated that components of student wellbeing (such as sense of belonging) are associated with improved learning outcomes (such as better literacy and numeracy scores). However, there continue to be gaps in the evidence base regarding the pathways through which student wellbeing impacts learning and what are the effective policies, programs and practices that improve student wellbeing.

The unclear evidence base is a challenge for education systems and sectors, who have identified improving student wellbeing as a priority. Effective use of student wellbeing data can fill the gaps in the evidence by supporting policy makers to understand trends in student wellbeing and to identify and evaluate potential strategies to improve wellbeing and learning outcomes.

While all jurisdictions are collecting information on student wellbeing, differences in the conceptualisation and implementation of wellbeing measures means jurisdiction-based measures are not always directly comparable. There has been increasing national collaboration to understand and share insights from individual state and territory measures, such as through the National Student Wellbeing Project or cross-jurisdictional data linkage projects. However, there continues to be a gap in relation to a nationally consistent measure of wellbeing.

A national measure of wellbeing could include consistent measures of student wellbeing such as sense of belonging, safety, inclusion and teaching practices linked to learning outcomes. This will enable more robust research on the in-school factors that shift student wellbeing and learning. It is important that any national measure of student wellbeing focus on the components of wellbeing that:

- have the greatest influence on learning,

- are within a school's ability to influence and

- complement existing jurisdictional measures.

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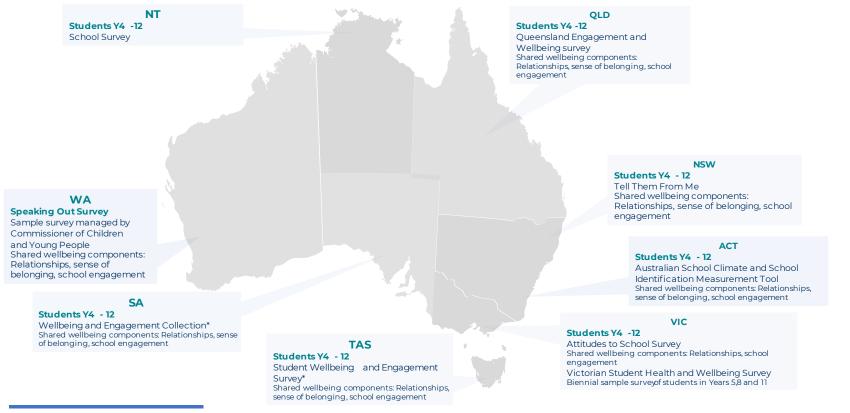Productivity Commission. (2020). *Mental Health* (No. 95; Mental Health).

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Appendices

Appendix 1: Links to state and territory wellbeing frameworks and policies

Jurisdiction	Strategy/Framework
All jurisdictions	The National Mental Health and Suicide Prevention Agreement
Australian Government	Australian Student Wellbeing Framework
	The National Children's Mental Health and Wellbeing Strategy
	The Australian Government's National Mental Health and Suicide Prevention Plan
ACT	Australian Capital Territory Wellbeing Framework
NSW	New South Wales Wellbeing Framework for Schools
NT	Northern Territory Child and Adolescent Health and Wellbeing Strategic Plan 2018–2028
QLD	Queensland Children's Wellbeing Framework
	Student Wellbeing and Learning Framework
SA	South Australia's Wellbeing for Learning and Life framework
TAS	Tasmanian Child and Youth Wellbeing Framework
VIC	Framework for Improving Student Outcomes (2.0)
	Wellbeing in the classroom
WA	Western Australia Commissioner of Children and Young People Indicators of Wellbeing

Appendix 2: Map of student wellbeing surveys used by Australian state and territory governments

NT
Students Y4 -12
School Survey

QLD
Students Y4 -12
Queensland Engagement and Wellbeing survey
Shared wellbeing components:
Relationships, sense of belonging, school engagement

NSW
Students Y4 - 12
Tell Them From Me
Shared wellbeing components:
Relationships, sense of belonging, school engagement

WA
Speaking Out Survey
Sample survey managed by Commissioner of Children and Young People
Shared wellbeing components:
Relationships, sense of belonging, school engagement

ACT
Students Y4 - 12
Australian School Climate and School Identification Measurement Tool
Shared wellbeing components: Relationships, sense of belonging, school engagement

SA
Students Y4 - 12
Wellbeing and Engagement Collection*
Shared wellbeing components: Relationships, sense of belonging, school engagement

VIC
Students Y4 -12
Attitudes to School Survey
Shared wellbeing components: Relationships, school engagement
Victorian Student Health and Wellbeing Survey
Biennial sample survey of students in Years 5,8 and 11

TAS
Students Y4 - 12
Student Wellbeing and Engagement Survey*
Shared wellbeing components: Relationships, sense of belonging, school engagement

*Tasmania procured their survey from South Australia, so these two surveys are directly comparable.

Note: Information adapted from the National Student Wellbeing Project report and State and Territory websites. The shared wellbeing components are not an exhaustive list of overlapping measures but key common components, refer to appendix 3 for more information.

Appendix 3: Table of student wellbeing surveys used by Australian state and territory governments

Note: All jurisdictions collect information on relationships with peers and staff, sense of belonging and school engagement. There are other components measured by multiple jurisdictions but they are not shared by all.

Jurisdiction	Measure	Year started	Coverage	Compulsory	Wellbeing components measured
ACT	Australian School Climate and School Identification Measurement Tool	2007	Years 4 – 12	N	Academic emphasis (cognitive engagement), shared values and approach, staff/student and student/student relations, school Identification (sense of belonging), emotional and behavioural engagement, support and safety, a range of student behaviours, a range of emotional wellbeing elements
NSW	Tell Them From Me	2013	Years 4 – 12	Y	Cognitive engagement, social engagement, institutional/behavioural engagement, value educational outcomes, growth orientation, perseverance, effective classroom management, teacher-student relations, sense of belonging, academic self-concept, academic buoyancy, relations with peers and teachers, support for learning at home and school bullying
NT	Student Survey	Not known~	Years 5 – 12	N	Emotional regulation, peer and teacher relationships, connection to school
QLD	Engagement and Wellbeing Survey	2020	Years 4 – 12	N	Resilience, school climate, sense of belonging, motivation and perseverance, academic self-concept, personal social capabilities, general life satisfaction, future outlook and aspirations, relationships with peers

Jurisdiction	Measure	Year started	Coverage	Compulsory	Wellbeing components measured
SA	Wellbeing and Engagement Collection	2013 (Year 6) 2019 (Years 4 – 12)	Years 4 – 12	N	Emotional wellbeing, engagement with school, learning readiness, health and wellbeing out of school
TAS	Student Wellbeing and Engagement Survey	2019	Years 4 – 12	Y	Tasmania procured their survey from SA but have organised the components according to ARACY's six Nest domains: loved and safe, healthy, material basics, learning, participating and positive sense of culture and identity.
VIC	Attitudes to School Survey	~	Years 4 – 12	N	Learning in the classroom, experiences at school, bullying, health, peers and family relationships
	Victorian student health and wellbeing survey	2014	Two year sample survey of students in Years 5, 8 and 11	N	Physical health, risky health behaviours, emotional wellbeing and social experiences and supports
WA	Commissioner for Children and Young People manages an Indicators of Wellbeing framework which includes a 3-yearly sample survey	2019	Sample survey Years 4 – 12	N	Physical and mental health, sense of belonging, school engagement, relationships with others, safety, material basics, connection to community and culture