

# Evidence-based practices in school settings for student wellbeing

May 2025



The Australian Education Research Organisation (AERO) is Australia's national education evidence body, working to achieve excellence and equity in educational outcomes for all children and young people.

#### Acknowledgement

AERO's work is made possible by the joint funding it receives from Commonwealth, state and territory governments.

The authors would like to acknowledge the support and guidance provided by the AERO First Nations Team and members of the AERO First Nations Expert Reference Group (ERG).

#### **Acknowledgement of Country**

AERO acknowledges the Traditional Owners and Custodians of the lands, waterways, skies, islands and sea Country across Australia. We pay our deepest respects to First Nations cultures and Elders past and present. We endeavour to continually value and learn from First Nations knowledges and educational practices.

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#### How to cite

Hoare, E., Thomas, K., & Ofei-Ferri, S. (2025). *Evidence-based practices in school settings for student wellbeing*. Australian Education Research Organisation. <a href="https://www.edresearch.edu.au/research/">https://www.edresearch.edu.au/research/</a> research-reports/evidence-based-practices-school-settings-student-wellbeing

#### **Publication details**

ISBN 978-1-923066-59-5 (online)

Images: AERO

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# **Background**

In 2023, Education Ministers asked that the Australian Education Research Organisation (AERO) include wellbeing on its 2024 Research Agenda. In 2024, AERO reviewed and expanded on 2 reports that collated evidence for various wellbeing strategies and interventions.

These 2 reports (henceforth, the 'initial reports') were:

- **High Impact Wellbeing Strategies Allen, Grove, et al. (2022)**. This report identified 7 strategies that teachers can deliver in classrooms to support student wellbeing.
- Student Health and Wellbeing Dix et al. (2020). This report examined the impact of school-based interventions (that is, discrete, standalone programs), classified into 5 categories that support student wellbeing and academic outcomes.

We have updated these reports to include any more recently published reviews and incorporate First Nations perspectives on wellbeing, which encompass interrelated factors such as connections to land, culture and kinship.

The intent of this report is to support Australian education systems and sectors to select and implement practices and interventions that improve aspects of wellbeing linked to learning. It can inform such decisions by clarifying the degree of evidence underpinning the school interventions and classroom strategies identified in the 2 initial reports.

#### **Methods**

To review and expand on the 2 initial reports, we followed a 4-step process, outlined in Figure 1 and described in detail in <u>Appendix A</u>.

Figure 1: Overview of methods



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Firstly, we examined the 2 initial reports to familiarise ourselves with the wellbeing strategies and interventions they identified. Then, for each strategy and intervention, we conducted a literature scan to supplement the findings of the initial reports with more recently published literature reviews. We assessed the quality of the Dix et al. (2020) initial report and each review identified in the literature scan using the quality assurance process outlined in <a href="Appendix A">Appendix A</a>. As a rapid review, the quality of the Allen, Grove, et al. (2022) initial report could not be assessed using the quality assurance process because it did not include the critical appraisal of studies typically required for systematic reviews. We then applied <a href="AERO's Standards of Evidence">AERO's Standards of Evidence</a> to assess the strength of evidence for each of the 7 strategies and 5 interventions, taking into account both the research identified in the 2 initial reports and the reviews we subsequently identified. We express the strength of evidence in 'confidence levels', as detailed in Table 1. We report, using these confidence levels, in Sections 1 and 2 of this report.

**Table 1:** AERO's confidence levels and how they were assigned

Confide	nce level	Evidence required to assign
	Level 4 – Very high  Allows causal inferences to be made, with at least some studies taking place in Australia.	High-quality reviews with a robust and transparent methodology that include studies that allow causal claims to be made, at least some of which were undertaken in Australia.
	<b>Level 3 – High</b> Allows causal inferences to be made.	High-quality reviews with a robust and transparent methodology that include studies that allow causal claims to be made.
	Level 2 – Medium  Associates a strategy or intervention with an effect (i.e., shows correlation, not causation).	High-quality reviews with a robust and transparent methodology that include studies that allow correlational claims to be made.
	Level 1 – Low  Indicates there may be an association between the strategy or intervention and an effect.	Studies that did not meet the Level 2 threshold were not used in this report.

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# **First Nations insights**

We incorporated First Nations perspectives on wellbeing by identifying relevant literature and by engaging with the AERO First Nations Expert Reference Group (ERG). The Indigenous Data Sovereignty principles that informed this approach:

- Recognised that definitions of high-quality research often differ when viewed from First Nations
  People's perspectives. This understanding provided insights that wellbeing and learning must
  privilege First Nations voices and prioritise how First Nations Peoples want research to be undertaken.
- Prioritised the development of authentic relationships of trust and reciprocity, ensuring responsiveness, reflexivity and commitment by non-Indigenous researchers to improve their knowledge and understanding.
- Ensured the research provided clear benefits to First Nations communities, families and children.

A statement on the specific activities that upheld these principles is presented in <u>Appendix B</u>. First Nations insights are included throughout all sections of this report, with a consolidated view of key considerations in Section 3.

### Limitations

The following caveats apply to the findings detailed in this report:

- Only reviews that met all eligibility criteria were included. While our approach was rigorous, we did
  not conduct an exhaustive search. Therefore, we acknowledge there may be additional reviews that
  are not included in our report.
- When we report evidence for an association between a strategy or intervention and an outcome,
  this should be read as noting that there is at least some evidence for this association existing in the
  direction (positive or negative) noted. There is often mixed evidence for these kinds of relationships, and
  this study has not tried to compare studies to determine what the 'true' average effect or association is.
- Given the time available to conduct this work, we did not evaluate the rigour of the studies included in the reviews only the quality of the reviews themselves. Although most of the reviews we included did assess or report on the quality of the studies they included, they did not do so in a consistent way that allowed us to make comparative judgements that could be incorporated into the assignment of confidence levels. Assessing the evidence of the underlying studies would allow a more granular rating of confidence levels that might further distinguish certain strategies or interventions as being better evidenced than others.
- The strategies and interventions in this report can be implemented in many different ways. Even where there is strong evidence supporting a strategy or intervention overall, the strength of evidence behind different approaches to implementing it can vary significantly. Some approaches may be strongly supported, while others may have no evidence behind them or have evidence that indicates they do not work. Further investigation into how a strategy or intervention might be implemented is needed before using this report to inform more granular decisions.

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More broadly, our report should be interpreted with the understanding that findings are dependent on culture and context and that wellbeing and learning may be defined differently in different settings.

# Reading Sections 1 and 2 of this report

Sections  $\underline{1}$  and  $\underline{2}$  contain our review of each strategy and intervention identified in Allen, Grove, et al. (2022) and Dix et al. (2020), respectively.

Table 2 explains how the findings are presented. Sections  $\underline{1}$  and  $\underline{2}$  incorporate insights from First Nations ERG members and literature in the 'What it could look like' sections of the evidence summary tables.

**Table 2:** Reading Sections 1 and 2

Evidence	Summary of findings
What the evidence says	This row contains a summary of evidence about the strategy or intervention from the 2 initial reports and the additional literature identified in our literature scan.
Confidence in the evidence	This row notes and explains the confidence level assigned to the strategy or intervention following AERO's Standards of Evidence.
What it could look like	This row describes what the strategy or intervention might look like in practice. Information in this section incorporates descriptions of the strategies and interventions from the 2 initial reports and literature scan; AERO's previously published resources on wellbeing, how students learn best and classroom management; and insights from the First Nations ERG.

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# **Section 1: High Impact Wellbeing Strategies**

Allen, Grove, et al. (2022), Monash University and Victorian Department of Education

Allen, Grove, et al. (2022) identified 7 strategies for implicit delivery by teachers (that is, in their usual teaching practice) that support student wellbeing. We report against each strategy in Tables  $\underline{3}$  to  $\underline{9}$  in this section. More details on the specific reviews included can be found in Appendix C and Appendix D.

The Allen, Grove, et al. (2022) report could not be evaluated using the appraisal tool applied to other systematic reviews in this report (refer to Appendix A for details on the appraisal tool). This limitation arose because the report was conducted as a rapid review, which did not involve the in-depth exploration of the literature characteristic of systematic reviews, such as that conducted by Dix et al. (2020). Nevertheless, the report demonstrated sound methodology, with clearly defined inclusion and exclusion criteria and a transparent data extraction process. However, certain steps, such as critically appraising the included studies, were not undertaken due to the constraints of the rapid review approach, likely influenced by the limited time available. Overall, the report's insights and recommendations on classroom strategies were well-supported by the other reviews identified in our literature scan.

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**Table 3:** Strategy 1 – Build relationships with students

Evidence	Summary of findings
What the evidence says	Positive teacher—student relationships are related to improved student wellbeing (Allen, Grove, et al., 2022). Students feeling supported by their teachers is correlated with improved learning (Tao et al., 2022). Programs designed to strengthen teacher—student relationships can foster supportive interactions, reduce conflict, support social-emotional learning and promote relationship-centred classroom management (Poling et al., 2022).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and causal research. Few studies were conducted in Australia.  Level 3 – High
What it could look like	Positive teacher–student relationships are characterised by authentic, caring interactions that help to build a sense of security, connection and trust. In practice, this might look like greeting students warmly and calmly, using positive verbal and non-verbal communication, making efforts to get to know each student, and understanding and supporting students' learning needs.  Fostering wellbeing may extend beyond building relationships with individual students to include connecting with students' families, kin, culture and broader communities.
	For teachers, cultural responsiveness and understanding and accommodating connections is crucial for successful relationship-building.

**Table 4:** Strategy 2 – Facilitate peer relationships

Evidence	Summary of findings
What the evidence says	Facilitating peer relationships among students is related to wellbeing (Allen, Grove, et al., 2022), and peer social acceptance has been linked to improved academic outcomes (Wentzel et al., 2021). Interventions that promote peer relationships in schools have shown positive effects on student wellbeing (Pollak et al., 2023).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and causal research. Few studies were conducted in Australia.  Level 3 – High

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Evidence	Summary of findings
What it could look like	In practice, fostering positive peer relationships among students involves teachers creating safe learning environments in which teachers can then facilitate intentional opportunities for students to interact. This requires teachers to understand and be responsive to the relationships within the classroom. This could involve teachers engaging in reflexive and responsive practice, structured activities such as peer mentoring, or games centred on bonding and value-sharing. It may also be informal, such as when teachers model kind and supportive conflict resolution behaviours. Ultimately, students are supported to develop an understanding of themselves and others and also navigate relationships. Facilitating positive peer relationships involves teachers promoting interactions that recognise, respect and celebrate diversity among the student population.

**Table 5:** Strategy 3 – Establish and maintain clear classroom expectations

Evidence	Summary of findings
What the evidence says	Establishing and maintaining clear classroom expectations, which include teachers holding high expectations for all students, is positively related to student wellbeing (Allen, Grove, et al., 2022; Kincade et al., 2020). This is closely linked to fostering a positive classroom climate, which includes using effective classroom organisation and management strategies, as well as setting clear and fair rules, which has been associated with improved academic outcomes (Erdem & Kaya, 2024; Wang et al., 2020). In addition, teachers play a role in improving academic outcomes through leading enhancements in curriculum, instruction and assessment (Shen et al., 2020). Moreover, school-wide positive behaviour interventions that establish behavioural expectations and routines, and use evidence-based classroom management strategies, contribute to improved academic achievement (Lee & Gage, 2020).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and causal research. Few studies were conducted in Australia.  Level 3 – High
What it could look like	Expectations for classrooms need to be grounded in creating a safe environment that supports wellbeing and learning. To put this into practice, teachers can establish and maintain routines, rules and high expectations for all students. Teachers might identify fair and appropriate behaviours and boundaries, as well as strategies to teach and reinforce these in their classrooms. Routines, rules and expectations should align with the values of the school and community. To ensure students feel a sense of ownership, teachers and school leaders should collaborate with students and families to recognise and value diverse perspectives. This also supports classroom environments that are inclusive and culturally safe. Teachers can check in on and support students' understanding of what the desired behaviours look and sound like through discussion, modelling and practice.

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**Table 6:** Strategy 4 – Support inclusion and belonging

Evidence	Summary of findings
What the evidence says	Facilitating inclusion and fostering a sense of belonging in the classroom is related to improved student wellbeing (Allen, Grove, et al., 2022). There is also a relationship between students' sense of belonging at school and their academic achievement (Korpershoek et al., 2020). Practices and programs designed to enhance school belonging have positive impacts on student outcomes (Allen, Jamshidi, et al., 2022).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and causal research. This included studies conducted in Australia.  Level 4 – Very high
What it could look like	In practice, positive relationships between teachers and students, and a wider inclusive classroom, support students to feel a sense of belonging at school. This might include students feeling that their teachers and peers value and accept them. Students should feel they are capable of succeeding at school, and their cultural identity is welcome and valued. Teachers should review their teaching and learning plans and draw on what they know of students and their needs to help them make meaning and connect with prior knowledge and what students find personally relevant. Teachers can support belonging and engagement by recognising their own role in building positive relationships and then understanding the practices that will work in their setting.  To achieve this, teachers can express high expectations for all their students and an understanding that success may look different to different students. They may provide additional teaching and support to students experiencing difficulties, adopting a strengths-based approach. Teachers can strive to deliver high-quality and culturally responsive and inclusive curricula to ensure students see themselves represented within the curriculum.  In an inclusive classroom and school, teachers actively address discrimination and create an environment where students feel a sense of safety. This can
	extend beyond the classroom, with the whole school community demonstrating a commitment to respecting, advocating and maintaining high expectations for all students.

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**Table 7:** Strategy 5 – Foster student self-efficacy

Evidence	Summary of findings
What the evidence says	Fostering student self-efficacy plays a role in enhancing student wellbeing (Allen, Grove, et al., 2022). Strong academic self-concept, that is, confidence in their abilities and competencies related to learning, is related to improved academic outcomes (Wu et al., 2021). Interventions that build student self-efficacy, including mastery-based interventions focused on peer modelling and collaboration, scaffolding practice and feedback, and supportive teacher practices, are related to improved academic outcomes (Clemente et al., 2024).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews mostly reflecting observational research. This included studies conducted in Australia.  Level 3 – High
What it could look like	In practice, teachers might facilitate opportunities for students to experience mastery and success in their learning. This may look different in different contexts and will depend on how students define success in learning. It is underpinned by creating effective learning environments.  Teachers will encourage students' confidence, self-belief and academic self-concept by ensuring they experience success in their learning. This may include strategies such as providing opportunities for revision and enrichment, breaking down learning into tasks with clearly specified objectives, and scaffolding learning so that mastery of one task leads students to feel confident and capable of attempting the next task. Employing culturally responsive practices can enhance self-concept and identity and support academic success.

**Table 8:** Strategy 6 – Engage students

Evidence	Summary of findings
What the evidence says	Engaging students in their learning encourages them to actively apply themselves and invest effort in the learning process (Allen, Grove, et al., 2022). Increased cognitive, behavioural and emotional engagement is linked to improved academic performance and student wellbeing (Allen, Grove, et al., 2022; Wong et al., 2024). Interventions aimed at enhancing student engagement have been shown to positively impact student wellbeing and academic outcomes (Charlton et al., 2021).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and intervention research.  Level 3 – High

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Evidence	Summary of findings
What it could look like	In practice, this might look like a focused teaching and learning experience, where students are actively engaged and supported to experience success. Teachers can foster this environment by supporting learning progress and attainment, building positive connections with students, responding to disengaged or disruptive behaviours calmly and consistently, setting high expectations for all, and recognising and praising student effort.
	Effective engagement often requires a tailored approach, which may include collaborating with families and the broader community to support students to engage effectively in their learning and to create a culturally safe learning environment.

**Table 9:** Strategy 7 – Promote coping strategies and facilitate referrals

Evidence	Summary of findings
What the evidence says	Students who receive support to develop coping strategies, and through appropriate referral pathways when needed, can experience improved wellbeing outcomes (Allen, Grove, et al., 2022), which are associated with improved academic outcomes (Kaya & Erdem, 2021). Teacher-facilitated social-emotional support, as part of a positive classroom climate, is also associated with enhanced academic outcomes (Wang et al., 2020). Resilience interventions, delivered in school settings, are associated with improved wellbeing outcomes (Liu et al., 2020). Resilience interventions can improve student wellbeing outcomes by fostering coping strategies (van Loon et al., 2020).
Confidence in the evidence	We found at least some evidence to support this strategy in high-quality reviews, including observational and intervention research. This included studies conducted in Australia.  Level 4 – Very high
What it could look like	Helping students develop coping strategies to manage mental health risks involves supporting them to seek help and referring them to culturally safe and responsive support when needed. This varies depending on the context and requires awareness of available services, which can be limited in regional and remote areas. In practice, this might look like teachers noticing when a student is experiencing challenges, providing appropriate support with adjustments to their classroom practice and providing emotional support. When teachers enact these strategies or refer students to mental health services, they may consider individual, familial and community factors for the student.

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# **Section 2: Student Health and Wellbeing**

### Dix et al. (2020), Australian Council for Educational Research

Dix et al. (2020) identified 75 individual studies that examined student wellbeing interventions delivered in school settings. These were then grouped into 5 broader categories, comprising school belonging and engagement, mentoring, social-emotional skills, cognitive skills and behavioural skills. We report against the same groupings in Tables 10 to 14 in this section. More details on the specific reviews used beyond the Dix et al. (2020) study can be found in Appendix C and Appendix D.

When judged with reference to a commonly used appraisal tool for systematic reviews (see <u>Appendix A</u>), we concluded that Dix et al. (2020) adhered to rigorous methodological standards. These standards include comprehensive literature searches, clear inclusion and exclusion criteria, thorough data extraction and critical appraisal of included studies. By adhering to best practice, Dix et al. (2020) ensured that their systematic review was capable of providing valuable insights and recommendations.

**Table 10:** Intervention 1 – Belonging and engagement

Evidence	Summary of findings			
What the evidence says	There is a relationship between students' learning outcomes and their sense of belonging at school (Korpershoek et al., 2020), and interventions designed to foster belonging and engagement have been shown to improve academic outcomes (Allen, Jamshidi, et al., 2022; Dix et al., 2020).			
Confidence in the evidence	We found at least some evidence to support these interventions in high-quality reviews, including observational and causal research. This included studies conducted in Australia.  Level 4 – Very high			
What it could look like	<ul> <li>Interventions that support belonging and engagement may focus on areas such as:</li> <li>establishing norms that support students to feel included, respected, safe and supported, including teaching rules and routines explicitly and practising these regularly</li> <li>creating culturally safe learning environments where students feel valued and accepted by their teachers and peers, and believe in their ability to succeed in their learning</li> <li>setting high expectations and providing encouragement for all students</li> <li>tailoring support and learning to individual needs.</li> <li>Effective belonging and engagement interventions may involve collaboration with families, kin and students' wider communities and support networks.</li> </ul>			

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**Table 11:** Intervention 2 – Mentoring

Evidence	Summary of findings		
What the evidence says	The evidence for mentoring interventions is varied. Some mentoring interventions designed to promote student wellbeing and connection to school show an effect on academic outcomes; however, substantial improvements in academic achievement and social and emotional wellbeing were not found (Christensen et al., 2020; Dix et al., 2020; King & Fazel, 2021).		
Confidence in the evidence	We found mixed observational and causal evidence to support these interventions in high-quality reviews.  Level 2 – Medium		
What it could look like	<ul> <li>Mentoring interventions (sometimes called 'buddy programs') might focus on pairing students with a peer or an adult for a range of purposes, including:</li> <li>sharing skills, knowledge and experiences to support mental health and wellbeing</li> <li>providing opportunities for students to share with a peer during learning tasks to practise before sharing with a group or the whole class</li> <li>encouraging students to learn about and celebrate their cultures.</li> <li>These interventions might encourage formal or informal mentoring relationships and, in some cases, recommend a group mentoring approach.</li> </ul>		

**Table 12:** Intervention 3 – Social-emotional skills

Evidence	Summary of findings
What the evidence says	Interventions focused on building social-emotional skills, such as developing respect for self, can improve academic outcomes (Dix et al., 2020). Social-emotional learning interventions that teach students how to identify, communicate and regulate emotions, as well as foster respect for self and others, are effective in enhancing students' perceptions of school (Charlton et al., 2021). Participation in universal, school-based social and emotional learning interventions has been linked to improved academic achievement and wellbeing outcomes (Berger et al., 2022; Cipriano et al., 2023).
Confidence in the evidence	We found at least some evidence to support these interventions in high-quality reviews, including observational and causal research. This included research conducted in Australia.  Level 4 – Very high

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Evidence	Summary of findings
What it could look like	Interventions to support social-emotional skill development might focus on:
	effective and appropriate communication and interaction with teachers and peers
	demonstrating awareness and respect for self and others
	managing emotions
	responsible decision-making.
	Social-emotional interventions may look different in different contexts as they are tailored to reflect students' cultural contexts and needs. They may also be undertaken in partnership with families and communities.

**Table 13:** Intervention 4 – Cognitive skills

Evidence	Summary of findings			
What the evidence says	Generally, cognitive interventions are underpinned by the idea that cognitive skills are learned rather than inherent and can be unlearned or replaced (Dix et al., 2020). Interventions focused on building cognitive skills can support academic outcomes (Berger et al., 2022; Dix et al., 2020). Self-regulation, a key cognitive skill, is related to improved academic performance (Robson et al., 2020).			
Confidence in the evidence	We found at least some observational and causal research, including research in Australia.  Level 3 – High			
What it could look like	<ul> <li>Interventions designed to improve cognitive skills might focus on:</li> <li>identifying unhelpful thoughts, feelings and behaviours and developing strategies to replace them with more helpful ones</li> <li>developing self-regulated learning strategies that students can apply to their learning</li> <li>setting learning goals that reflect students' own aspirations for success in their learning.</li> <li>Cognitive skills interventions require students to be developmentally ready and will therefore look different according to students' age and development.</li> </ul>			

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**Table 14:** Intervention 5 – Behavioural skills

Evidence	Summary of findings
What the evidence says	Interventions designed to build positive behavioural skills, such as prosocial behaviours, are related to improved academic outcomes (Dix et al., 2020). Teacher-delivered interventions focused on developing these skills are also supportive in enhancing student wellbeing (Aldabbagh et al., 2024). Additionally, school-wide positive behaviour interventions aimed at fostering prosocial behaviours and reducing problem behaviours can improve academic achievement (Lee & Gage, 2020).
Confidence in the evidence	We found at least some evidence that included both observational and causal research, including research in Australia, although the reviews comprised a smaller number of studies.  Level 3 – High
What it could look like	Behavioural skills interventions are generally designed to improve safety and learning by focusing on student behaviour. They are sometimes targeted towards students, such as interventions focused on developing prosocial behaviours. Often, they indirectly target students by building the capacity of teachers to establish a positive classroom culture. These interventions may focus on:  • designing and explicitly teaching positively framed classroom rules and prosocial behaviours, including emotional regulation and social skills  • developing skills in delivering authentic acknowledgement and praise when students demonstrate prosocial behaviours  • understanding effective responses to inappropriate behaviour that align with school, home and community expectations  • identifying underlying causes of persistent inappropriate behaviour, and providing support that considers each student's context and needs  • understanding how trauma can affect student behaviour  • promoting positive classroom environments and cultures.  Effective behavioural skills interventions may involve collaboration with families, kin and students' wider communities and support networks.

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# **Section 3: First Nations perspectives**

This section highlights the perspectives and experiences of First Nations Peoples in relation to wellbeing and learning. It was informed by consultations with members of AERO's First Nations Expert Reference Group (ERG) and literature that focuses on the perspectives of First Nations Peoples in relation to wellbeing and learning.

Wellbeing is strengthened through connection to culture and Country, which builds strong identity and a sense of self and feeling whole (Gee et al., 2014). The notion of wellbeing as a holistic concept was highlighted throughout the literature examined (Murrup Stewart et al., 2019; Russ-Smith & Green, 2023; Gupta et al., 2020; Lukey et al., 2022) and reinforced by the First Nations ERG members. Social and emotional wellbeing is a First Nations-informed, holistic approach to wellbeing (Dudgeon et al., 2017). It recognises connections to Country, land, language, community, family and kinship as inseparable from self. It also recognises social, historical, cultural and political determinants as having a concurrent and cumulative impact on wellbeing.

#### First Nations ERG members view holistic wellbeing and connection as fundamental to learning.

In their review focused on First Nations perceptions of programs aiming to strengthen social and emotional wellbeing, Murrup-Stewart et al. (2019) identified the importance of holistic interventions that addressed multiple aspects of social, emotional, physical, spiritual and cultural wellbeing. Specifically, establishing connection to Country, culture and community were prerequisites for achieving holistic wellbeing and, in turn, learning. These are, therefore, central to any strategy or program targeting wellbeing or learning for First Nations children and young people. Further, First Nations ERG members expressed the need for careful consideration of the definition of success, given that the construction of measures and data collection have historically not included the perspectives of First Nations Peoples and are limited in their consideration of Indigenous ways of knowing, doing and being (Martin & Mirraboopa, 2003). The need for a holistic view of success that more accurately reflects First Nations People's worldviews and perspectives on learning and development generally was expressed.

Across the literature and the First Nations ERG group member perspectives, trauma-informed, culturally responsive practices that nurture the development of culturally safe learning environments were important. First Nations scholars describe prioritising harmony and balance in individual, family, community and societal wellbeing, and healing the impacts of trauma, as foundational to wellbeing (Gupta et al., 2020). The impacts of trauma, intergenerational trauma and the loss of language and culture, as well as the importance of recovery and healing from trauma for wellbeing, were also highlighted by the First Nations ERG members.

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Ensuring strategies and programs are First Nations initiated, led and owned are core mechanisms through which wellbeing and learning can be supported. Russ-Smith and Green (2023) reviewed articles, reports and grey literature to propose best practice for mental health and wellbeing and engagement for First Nations children and young people. Their report highlighted the importance of community-controlled organisations leading policies and program development, design, implementation and evaluation to ensure localised and culturally responsive programs. The First Nations ERG members described the importance of local community connection in any initiative for wellbeing, also highlighting that a single approach is unlikely to be appropriate across communities. First Nations ERG members also recognised the importance of considering the range of settings in which learning occurs. They emphasised learning that occurs on Country and ensuring this is recognised as a key mechanism through which wellbeing is strengthened. Overall, cultural responsivity was emphasised, along with contextual responsivity. Russ-Smith and Green (2023) highlighted that policies and programs that understand the child or young person as part of a broader family and community network are more likely to support wellbeing and learning.

#### School as a place for strengthening cultural identity was identified as vital for wellbeing.

Lukey et al. (2022) synthesised evidence for practices and programs that enhance school engagement for First Nations students, finding that representation and inclusion of culture at school, and cultural recognition for First Nations students, is crucial. First Nations ERG members identified belonging at school, and the role of agency and empowerment for First Nations students, families and communities, as vital. Lukey et al. (2022) discussed the importance of relationship building, including through First Nations-led mentoring. The First Nations ERG members discussed intergenerational mentorship, connection, and ensuring teacher confidence in relationship building and strengthening connections with First Nations students as important considerations for wellbeing and learning.

# **Conclusion**

Systems and sectors can have medium to very high confidence in the wellbeing strategies and interventions identified in the Allen, Grove, et al. (2022) and Dix et al. (2020) reports. Our examination of the evidence showed that most of the strategies and interventions had at least some causal evidence for at least one category of student outcome, including academic, wellbeing and engagement outcomes.

This review of additional literature mostly supports the findings of Allen, Grove, et al. (2022) and Dix et al. (2020) about the evidence behind the strategies and interventions they discuss. It also shows how these strategies and interventions can be put into practice when considering First Nations perspectives.

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# **Appendix A: Methods**

To carry out this work, we followed a 4-step process consisting of:

- 1. examining the 2 initial reports
- 2. conducting a literature scan
- 3. undertaking a quality assurance process of the identified literature and applying the AERO Standards of Evidence
- 4. incorporating First Nations insights.

These steps are described in more detail in this appendix and Appendix B.

# **Examining the initial reports**

We assessed the quality of the Dix et al. (2020) report using the quality assurance process outlined in this appendix and examined the report to understand their methods. We were unable to assess the quality of the Allen, Grove, et al. (2022) report using the quality assurance process because, as a rapid review, it did not include the comprehensive analysis and critical appraisal of included studies typically required for systematic review.

### Literature scan

To ensure more recent evidence about the strategies and interventions was included in our report, we screened the reference lists in the Dix et al. (2020) and Allen, Grove, et al. (2022) reports and, for each strategy and intervention, conducted a targeted literature scan to identify additional systematic reviews and meta-analyses.

These are defined as follows:

- **Systematic reviews** are studies that gather all available evidence related to answer a specific research question.
- Meta-analyses statistically analyse all the available evidence from multiple studies.

Specifically, we targeted our search for evidence on high-quality systematic reviews that demonstrated a causal relationship for a particular strategy or intervention, with this relationship ideally occurring in the Australian setting. Once such evidence had been identified (if available), there was no further searching for that particular strategy or intervention, given the rigour (causal relationship) and relevance (Australian setting) demonstrated by such evidence.

Primary studies (that is, original data studies – not summaries of multiple studies) were not eligible in our literature scan. We searched databases related to education, wellbeing and health, all accessed through EBSCOhost.

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We then screened these reviews to include only those that were:

- related to previously identified wellbeing strategies or interventions linked to learning, as identified by Dix et al. (2020) or Allen, Grove, et al. (2022)
- published in peer-reviewed publications
- · systematic reviews or meta-analyses
- published during or after 2020
- not focused solely on a specific student population (i.e., were concerned with the general student population).

Key characteristics were extracted from each review. These were:

- · wellbeing strategy or intervention
- author name and date of publication
- · number of studies within the review
- findings
- implications identified by the authors for future research and practice.

# **Quality assurance**

# **Quality assurance of reviews**

We undertook a critical appraisal of the methodology of each included review using the Joanna Briggs Institute (JBI) Critical Appraisal Tool for use in Systematic Reviews. This checklist is regularly used in academic literature to appraise the quality of systematic reviews. The checklist relates to methodological quality, appropriateness of critical appraisal, whether publication bias was assessed, and whether the recommendations for policy, practice and directives for new research are appropriate. It contains 11 items that are applied to each review, with response options of Yes, No, Unclear or Not Applicable.

High scores provide confidence that the results from reviews are trustworthy, with minimised impact of biases, and are transparent in how the results were obtained. We assessed reviews as high-quality if they met more than 7 of the 11 criteria in the JBI checklist (George et al., 2014). Studies that did not meet this threshold were discarded at this stage. See <u>Appendix D</u> for a listing of which reviews were judged to be high-quality on this basis.

#### Quality assurance of the strategies and interventions

We assessed each strategy and intervention (using the categorisations provided in the 2 initial reports) against AERO's Standards of Evidence to determine a level of confidence based on the rigour and relevance of the additional reviews identified. While the JBI criteria in the previous step assessed the quality and rigour of each individual systematic review, the AERO standard of evidence was determined at the overall strategy or intervention level, based on the collective evidence identified.

Detail about the basis for judgements against AERO's Standards of Evidence and the symbols we use to denote the confidence levels throughout this report are provided in Table 1 (in the body of the report).

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<sup>1</sup> For further information, see: https://jbi.global/critical-appraisal-tools

<u>Appendix D</u> contains a summary of the reviews identified through our search and subsequently used in the report. Each review was appraised as high-quality based on the JBI criteria. Reviews that reported on causal evidence contributed to an AERO Standards of Evidence Level 3 for the strategy or intervention. If the causal evidence was found in the Australian setting, then the grading was elevated to Level 4.

# **Appendix B: First Nations insights**

Informed by Indigenous Data Sovereignty principles and AERO's First Nations team, we incorporated First Nations perspectives on wellbeing and learning. The principles that informed this approach and the associated practices are outlined in Table 15.

**Table 15:** Indigenous Data Sovereignty principles and the approach we adopted to adhere to them

Indigenous Data Sovereignty principle	Our approach
Recognition that definitions of high-quality research often differ when viewed from a First Nations perspective. This means that providing insights about wellbeing and learning must privilege First Nations voices and prioritise how First Nations Peoples want research to be undertaken.	<ul> <li>We consulted early and regularly with AERO's First Nations team.</li> <li>We invited members of the First Nations ERG to provide input into how this review would present information related to First Nations students.</li> <li>Through database searching using search terms related to wellbeing and learning, we sought literature written by First Nations authors and research conducted in First Nations contexts. We then presented this literature to the ERG to understand if and how it should be included in this report.</li> </ul>
Prioritising the development of relationships of trust and reciprocity, ensuring cultural responsivity, reflexive practices and commitment by non-Indigenous researchers to improve their knowledge and understanding.	<ul> <li>Following consultation and engagement, this report was reviewed by the First Nations team and the First Nations ERG.</li> <li>The authors of this report, which included non-Indigenous researchers, engaged in reflexive practice throughout all stages of the work, including regularly meeting formally and informally to discuss, clarify and seek a stronger understanding of how Indigenous Data Sovereignty was being met, and any ways adherence could be refined and strengthened.</li> </ul>
Ensuring the research provides clear benefit to First Nations communities, families and children.	We consulted with the First Nations team and ERG to gain insights into whether and how this report could benefit First Nations Peoples and, wherever possible, embedded what we heard.

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# **Appendix C: Summary of wellbeing strategies and interventions**

Wellbeing strategy or intervention	Description	Supporting evidence	AERO Standards of Evidence
Strategies		'	
Build relationships     with students	Teacher-student interactions that support positive classroom experiences.	Allen, Grove, et al., 2022; Poling et al., 2022; Tao et al., 2022	Level 3 – High confidence
2. Facilitate peer relationships	Interpersonal connections experienced among students.	Allen, Grove, et al., 2022; Pollak et al., 2023; Wentzel et al., 2021	Level 3 – High confidence
3. Establish and maintain clear classroom expectations	The expectations on student behaviour in the classroom and how teachers respond when such expectations are not met.	Allen, Grove, et al., 2022; Erdem & Kaya, 2024; Kincade et al., 2020; Lee & Gage, 2020; Shen et al., 2020; Wang et al., 2020	Level 3 – High confidence
4. Support inclusion and belonging	The ways in which students, their peers and teachers respect one another and feel welcome to 'be themselves' at school.	Allen, Grove, et al., 2022; Allen, Jamshidi, et al., 2022; Korpershoek et al., 2020	Level 4 – Very high confidence
5. Foster student self-efficacy	Students' confidence, expectations and self-belief in relation to their learning.	Allen, Grove, et al., 2022; Clemente et al., 2024; Wu et al., 2021	Level 3 – High confidence
6. Engage students	Students' ability to apply effort to and enjoy their learning. This may include cognitive, behavioural and emotional engagement.	Allen, Grove, et al., 2022; Charlton et al., 2021; Wong et al., 2024	Level 3 – High confidence
7. Promote coping strategies and facilitate referrals	Fostering coping strategies that offset mental health risks, and referring to appropriate services when concerns are identified.	Allen, Grove, et al., 2022; Kaya & Erdem, 2021; Liu et al., 2020; van Loon et al., 2020; Wang et al., 2020	Level 4 – Very high confidence

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Wellbeing strategy or intervention	Description	Supporting evidence	AERO Standards of Evidence
Interventions			
Belonging and engagement	Programs that focus on inclusion, respect and the extent to which students are encouraged in the school setting by their peers and teachers.	Allen, Jamshidi, et al., 2022; Dix et al., 2020; Korpershoek et al., 2020	Level 4 – Very high confidence
2. Mentoring	An approach whereby skills, knowledge and other assets that facilitate growth are formally provided through an experienced peer to an inexperienced peer.	Dix et al., 2020; Christensen et al., 2020; King & Fazel, 2021	Level 2 – Medium confidence
3. Social-emotional skills	Building positive interactions and communications between students and others in the school setting. This also includes interventions focused on building self-respect and respect for others, such as peers or teachers.	Berger et al., 2022; Charlton et al., 2021; Cipriano et al., 2023; Dix et al., 2020	Level 4 – Very high confidence
4. Cognitive skills	Interventions focused on learning and developing skills to manage and replace thoughts and behaviours that might be unhelpful, and to replace them with more helpful thinking and behaviours. Specifically, this includes cognitive skills focused on building thought awareness and developing self-regulation and resilience.	Berger et al., 2022; Dix et al., 2020; Robson et al., 2020	Level 3 — High confidence
5. Behavioural skills	Focuses on developing behaviours that support wellbeing, such as prosocial behaviours, and reducing behaviours that can negatively impact wellbeing, such as aggression.	Aldabbagh et al., 2024; Dix et al., 2020; Lee & Gage, 2020	Level 3 — High confidence

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# Appendix D: Summary of reviews used in evidence grading

Key:







Evidence partially present

Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence	
Allen, Jamshidi, et al., 2022	To identify and critically review the evidence on school-based	<b>Strategy 4</b> Support inclusion	Of the 22 studies (n = 3 in Australia), 14 reported effective school-based interventions for enhancing belonging.	High-quality systematic review	
	interventions that increase a sense of belonging in adolescents.	and belonging		Causal evidence	
		Intervention 1			
		Belonging and engagement		Australian setting	
Aldabbagh et al., 2024	To explore the effectiveness of teacher interventions supporting children with externalising behaviours.	Intervention 5 Behavioural skills	Nine studies measured intervention impacts on student prosocial behaviours in class, showing a positive relationship.	High-quality systematic review	
				Systematic review	
				Causal evidence	
				Australian setting	×
Berger et al.,	To synthesise the evidence for school-based mental health and wellbeing interventions that are available in Australia and have been	Intervention 3	There were 74 studies found, with results identified including cognitive behavioural interventions and social-emotional skills interventions.	High-quality	
2022		Social-emotional skills		systematic review	
		Intervention 4		Causal evidence	
	shown to have long-term benefits	Cognitive skills			
	for children and adolescents.			Australian setting	

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Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence	
Charlton et al., 2021	To evaluate the effects of school-wide interventions on teacher and student perceptions of school climate.	Strategy 6 Engage students Intervention 3 Social-emotional skills	There were 18 studies included. Improved student perceptions of the school were observed, with school-wide positive behavioural interventions and supports and social and emotional learning being observed most consistently. Australian evidence was included but was limited.	High-quality systematic review	
				Causal evidence	
				Australian setting	
Christensen et al., 2020	To meta-analyse using the comparative impact of targeted, skills-based mentoring versus non-specific relational approaches to-mentoring.	Intervention 2 Mentoring	Across 48 studies, there was some positive evidence for academic outcomes.	High-quality systematic review	
				Causal evidence	
				Australian setting	
Clemente et al., 2024	To synthesise intervention studies aimed at enhancing students' mathematics self-efficacy.	Strategy 5 Foster student self-efficacy	Of the 21 interventions reviewed, 16 reported increased self-efficacy.	High-quality systematic review	
				Causal evidence	
				Australian setting	X
Cipriano et al., 2023	To review the current evidence for universal school-based social and emotional learning interventions for students in K–12.	Intervention 3 Social-emotional skills	Across 424 studies, students who participated in universal school-based interventions experienced improved outcomes, including academic outcomes and school functioning, relative to controls.	High-quality systematic review	
				Causal evidence	
				Australian setting	

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Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence
Erdem & Kaya, 2024	To meta-analyse the relationship between classroom climate and academic achievement and school climate and academic achievement.	Strategy 3 Establish and maintain clear classroom expectations	Some evidence was found for classroom climate, which includes classroom management strategies.	High-quality systematic review
				Causal evidence
				Australian setting
Kaya & Erdem, 2021	To meta-analyse the association between students' general wellbeing and academic achievement based on observational studies.	Strategy 7 Promote coping strategies and facilitate referrals	There was a relationship between students' wellbeing and academic achievement.	High-quality systematic review
				Causal evidence
				Australian setting
Kincade et al., 2020	To review specific practices of universal approaches to improving student—teacher relationships.	Strategy 3 Establish and maintain clear classroom expectations	Across 16 reviewed studies, positive relationships were observed for student–teacher relationship-building interventions, particularly through proactive and direct practices.	High-quality systematic review
				Causal evidence
				Australian setting
King & Fazel, 2021	To review the evidence for mental health outcomes of school-based peer-led interventions on young people.	Intervention 2 Mentoring	There were 11 studies included, with findings that the evidence for the benefits of peer-led interventions is sparse.	High-quality systematic review
				Causal evidence
				Australian setting

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Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence	
Korpershoek et al., 2020	To examine the relationship between students' sense of belonging and students' motivational, socialemotional, behavioural and academic outcomes in secondary education with a meta-analytic review.	Strategy 4 Support inclusion	Across 82 observational studies, there was a small positive correlation with academic achievement and	High-quality systematic review	
		and belonging  Intervention 1  With academic achievement and moderate positive correlations with social-emotional outcomes.	Causal evidence	×	
		Belonging and engagement	with social-emotional outcomes.	Australian setting	
Lee & Gage, 2020	To review the evidence to identify the magnitude of the effect of school-wide positive behaviour support.	Strategy 3 Establish and maintain clear classroom	Reductions in school discipline and increased academic achievement were observed.	High-quality systematic review	<b>Ø</b>
		expectations		Causal evidence	
		Intervention 5 Behavioural skills		Australian setting	×
Liu et al., 2020	To review the evidence for the promotion of resilience through various interventions.	Strategy 7 Promote coping strategies and facilitate referrals	Interventions indicated positive effects on student wellbeing outcomes.	High-quality systematic review	
				Causal evidence	×
				Australian setting	
Poling et al., 2022	A review of the literature on school-based interventions that included an outcome of teacher—student relationship quality.	Strategy 1 Build relationships with students	Across 24 studies, positive findings were found for interventions focused on different approaches to building teacher-student relationships.	High-quality systematic review	
				Causal evidence	
				Australian setting	×

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Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence	
Pollak et al., 2023	To review interventions focused on promoting peer relationships.	Strategy 2 Facilitate peer relationships	Across the 49 studies that included a control comparison, there were positive relationships found in 29 studies, including in the Australian setting.	High-quality systematic review	<b>&gt;</b>
				Causal evidence	<b>&gt;</b>
				Australian setting	<b>&gt;</b>
Robson et al., 2020	To review evidence for self-regulation in childhood as a predictor of future outcomes.	Intervention 4 Cognitive skills	Self-regulation in childhood was related to academic achievement.	High-quality systematic review	<b>&gt;</b>
				Causal evidence	X
				Australian setting	X
Shen et al., 2020	To review the evidence of a relationship between teacher leadership and student achievement.	Strategy 3 Establish and maintain clear classroom expectations	Teacher leadership was positively related to student achievement.	High-quality systematic review	<b>&gt;</b>
				Causal evidence	X
				Australian setting	X
Tao et al., 2022	To identity the relationship between students' perceived teacher support and academic achievement.	Strategy 1 Build relationships with students	Based on 71 studies, there was a relationship between perceived teacher support and achievement.	High-quality systematic review	<b>&gt;</b>
				Causal evidence	X
				Australian setting	X
van Loon et al., 2020	To review the evidence of effectiveness for school-based interventions to reduce adolescent stress.	Strategy 7 Promote coping strategies and facilitate referrals	Across 54 studies, there was positive evidence for interventions on reducing psychological stress.	High-quality systematic review	<b>&gt;</b>
				Causal evidence	<b>&gt;</b>
				Australian setting	<b>&gt;</b>

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Review authors	Aim	Wellbeing strategy/ intervention	Findings	AERO Standards of Evidence	
Wang et al., 2020	To review the evidence for classroom climate and children's academic and psychological wellbeing.	Strategy 3 Establish and maintain clear classroom expectations	Across 61 studies, results showed that overall classroom climate had a positive impact on outcomes.	High-quality systematic review	
				Causal evidence	×
		Strategy 7 Promote coping strategies and facilitate referrals		Australian setting	
Wentzel et al., 2021	To review the evidence for peer social acceptance and academic achievement.	Strategy 2 Facilitate peer relationships	Peer social acceptance was related to academic achievement.	High-quality systematic review	
				Causal evidence	×
				Australian setting	×
Wong et al., 2024	To review the evidence for student engagement and its association with academic achievement and subjective wellbeing.	Strategy 6 Engage students	Across 137 studies, there were multiple relationships found between different forms of engagement and academic outcomes.	High-quality systematic review	
				Causal evidence	×
				Australian setting	×
Wu et al., 2021	To review evidence for the relationship between academic self-concept and academic achievement.	Strategy 5 Foster student self-efficacy	Across 68 studies, there was a relationship between academic self-concept and academic achievement.	High-quality systematic review	
				Causal evidence	×
				Australian setting	×

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