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A Climate of Change

Pilot evaluation of wellbeing resources for students & educators



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Black Dog Institute acknowledges the Bidiagal Clan of the Dharawal Nation, who are the Traditional Custodians of the land on which Black Dog Institute is situated.

The work we do at Black Dog Institute stretches far across this land, and we Acknowledge and pay respect to all First Nations peoples, and Communities, and their continuing connection to land, waters, and Community. We recognise that their customs and culture have nurtured this land since the first witnessed sunrise, for the benefit of all who live, work and learn on Country today.

We pay respect to Elders past, present, from all Nations across this country. We recognise that through lived experiences and the ongoing commitment to caring for collective social and emotional wellbeing, First Nations peoples and Communities have helped guide the research and resources at Black Dog Institute.

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Executive Summary

Purpose and scope

This pilot evaluation examined the 'A Climate of Change' lesson resources, designed to help NSW high school students feel empowered and emotionally and socially supported as they grapple with climate change. The resources were developed by The Joyality Project and commissioned by the NSW Department of Climate Change, Energy, the Environment and Water (AdaptNSW) to foster student wellbeing in the context of climate adaptation.

Researchers from Black Dog Institute and Curtin University conducted a mixed-methods evaluation involving pre-post surveys with 76 students across three independent NSW high schools and qualitative interviews with participating students and educators. The evaluation aimed to determine whether the program supports the psychological wellbeing of young people, whether it poses any risk of distress, and if/how the resources empower teachers to deliver climate wellbeing education confidently.

Key findings

Through both the interviews and survey data, we found no indication that the A Climate of Change program caused distress in students. We did find some evidence that the program was supportive of student wellbeing, particularly through the qualitative interviews.

Overall, the program was experienced as safe, engaging, and emotionally supportive. Students described feeling calm, heard, and connected during the lessons, with many emphasising the value of sharing emotions and climate experiences in a trusted group. Several students learned and used new emotional regulation skills—such as breathing or finger-squeezing techniques—which they applied both during and beyond the lessons.

Educators and students consistently reported that difficult climate emotions were acknowledged and then balanced with hopeful, empowering perspectives through “flip sides” activities, fostering meaning-focused coping.

Quantitative data showed small improvements in internalising symptoms for the lesson group and modest increases in meaning-focused and problem-focused coping.

Teachers reported feeling empowered and more confident discussing climate emotions, and students largely stated they would recommend the program and planned to draw from its strategies in the future.

Recommendations

We offer recommendations across short-, medium- and long-term horizons. Immediate priorities include optimising the accessibility and usability of lesson materials, enhancing visual summaries of each lesson, and highlighting flexible delivery options. Medium-term opportunities involve curriculum mapping, teacher training, and the development of educator ambassadors across NSW. Long-term recommendations include embedding climate wellbeing within state and national educational frameworks and expanding the program to additional jurisdictions.

Background and context

Climate change affects the mental health and wellbeing of young people in Australia and across the world. Young people are learning about climate change at school, but also through conversations with friends and family, through traditional and social media, and through the direct experience of climate-related weather events and (un)natural disasters like droughts, floods, bushfires and storms.

As young people become aware of climate change – its current impacts and future threats – many will experience a range of distressing emotional responses, including anxiety, grief, and hopelessness. These responses are a valid reaction to a significant existential threat. Nevertheless, young peoples' experiences of climate change can exacerbate or contribute to common mental health conditions and affect socio-ecological wellbeing. On the other hand, as they become aware of climate change young people can be supported by a range of coping strategies, including involvement in individual or collective action, sharing their experiences with others, and learning ways of acknowledging and regulating emotions (see Figure 1).

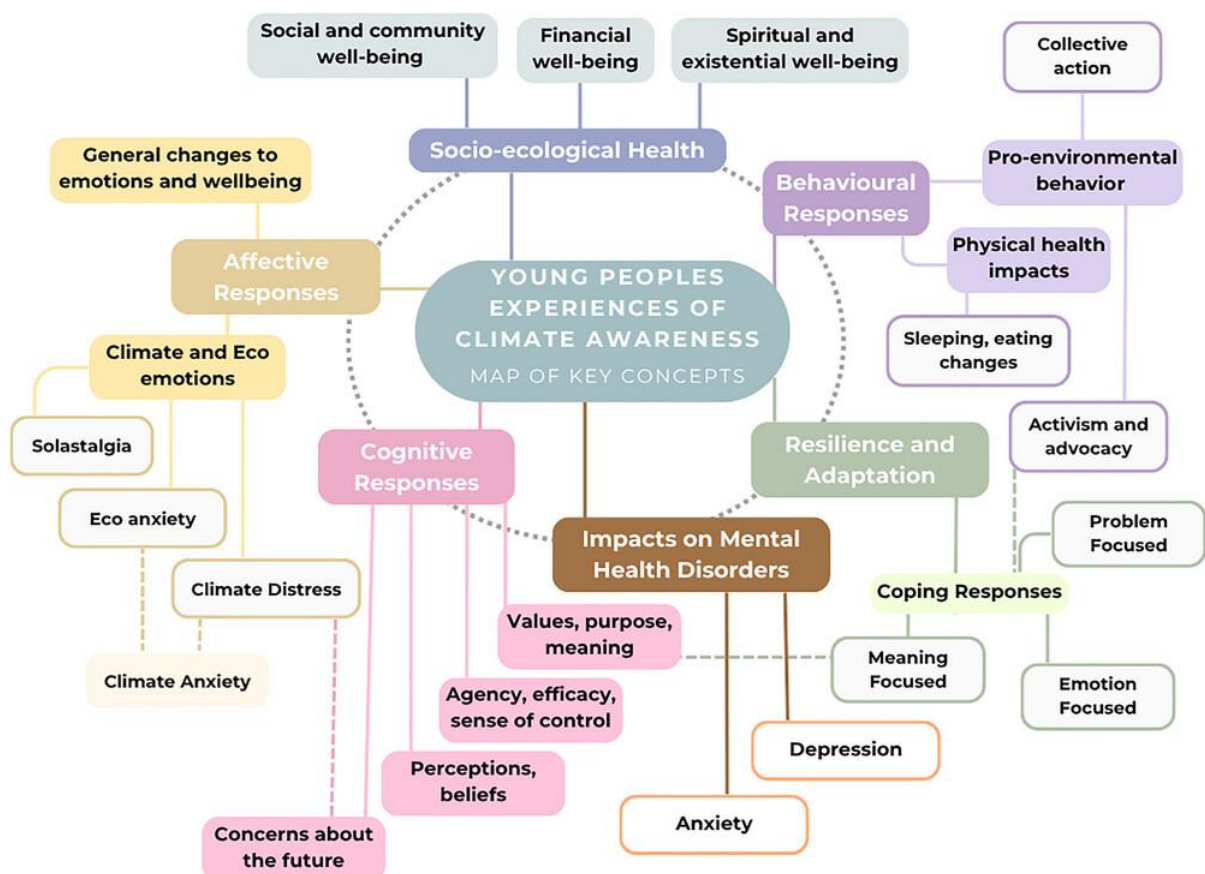


Figure 1. From Watson, D..., Vercammen, A., Watfern, C. et al. (2025) Conceptualizing Young People's Experiences of Climate Change Awareness: A Narrative Review. *Annals of the New York Academy of Sciences*.

“As the climate crisis worsens, supporting the mental health and wellbeing of young people is more important than ever... Schools are one important context where mental health prevention and promotion programs are delivered.”¹

Policy Context

The global policy landscape is rapidly recognising the psychological dimensions of climate change, with mental health emerging as a critical adaptation priority. For the first time in the history of the United Nations Framework Convention on Climate Change (UNFCCC), the Belém Health Action Plan (COP30) explicitly positions mental health at the centre of climate adaptation, dedicating an entire section (2.3) to integrating psychosocial wellbeing into climate-resilient health systems (World Health Organization, 2025). This marks a major shift alongside the Global Goal on Adaptation (UNFCCC, 2024), which calls for strengthened societal and community resilience, and aligns closely with education-focused initiatives such as BRACE (Building the Climate Resilience of Children and Communities Through the Education Sector), which emphasises climate-ready schools, youth preparedness, and the role of education in safeguarding mental wellbeing (Save the Children, 2025). Together, these frameworks underscore a growing global consensus: supporting young people’s emotional and psychological adaptation is essential to building resilient communities in a rapidly changing climate.

In Australia, national policy is evolving but gaps remain. The National Health and Climate Strategy and National Adaptation Plan both recognise the need to protect community wellbeing and strengthen health system preparedness; however, Australia still lacks a cohesive national climate-change education policy. Climate change appears only minimally in the national curriculum, leaving schools to rely on fragmented state policies or individual initiatives—an issue highlighted by recent campaigns such as the EcoMind Open Letter, which calls for climate education that integrates both science and mental health perspectives (EcoMind, 2025).

At the state level, the NSW Government has articulated a strong climate-resilience agenda through the NSW Climate Change Adaptation Strategy and the work of the NSW Department of Climate Change, Energy, the Environment and Water, within which the AdaptNSW ‘A Climate of Change’ wellbeing resources sit as a practical tool for schools. These resources complement the NSW Department of Education’s growing focus on student wellbeing and disaster resilience.

¹ Dixon-Grovenor, R., Murray, C., Dey, C. Watfern, C. Hogg, T. & Kelly, D. (2025) Literature review on school-based interventions for the mental health impacts of climate change. UNSW Psychiatry: Sydney, Australia. Commissioned by AdaptNSW.

Program overview

The 'A Climate of Change' resources have been created to support high school students' wellbeing as they grapple with climate change. The resources were commissioned by the NSW Government (AdaptNSW) and co-designed by a team led by experienced ecopsychologists and educators at The Joyality Project. The resources include 6 lesson plans, an educator guide, a student journal and accompanying videos.



Figure 2. A Climate of Change resource illustration by Jess Harwood

In the words of The Joyality Project, the resources are intended *"to enable educators to support the social and emotional wellbeing and empowerment of young people adapting with climate change through:*

- *the design and delivery of accessible Climate Wellbeing Resources that encourage youth leadership and peer-to-peer learning*
- *meaningful activities that relate directly to climate adaptation and mitigation*
- *and effective tools and strategies to support coping with climate anxiety."*

The resources integrate First Nations perspectives and contemplations throughout, including from Yaegl elder Aunty Glenda MacPhail, who has been a long-term collaborator with The Joyality Project. The resources also emphasise the importance of connecting with nature as a way of caring for self, others and the planet. Nature connection and reciprocity is the specific focus of the final lesson, where students are also invited to consider the principles of reciprocity with Country that are integral to First Nations cultures.

Partnerships and Governance

This pilot evaluation has been led by researchers at Black Dog Institute and Curtin University, but has involved ongoing collaboration with AdaptNSW, The Joyality Project, and members of the Sydney Children's Hospital Network Climate Change and Mental Health Committee.

The research design was constructed in consultation with all partners, and refined during a project inception meeting in December 2024, which included representatives from each partner organisation. Weekly meetings throughout the duration of the project enabled ongoing collaboration and shared decision-making.

The research was also informed by a literature review on school-based interventions for the mental health impacts of climate change, a collaboration between Dr Cybele Dey (Sydney Children's Hospital Network; UNSW, Sydney), Dr Chloe Watfern (Black Dog Institute), Dr Teaghan Hogg (University of Canberra), and senior Aboriginal knowledge holders Auntie Rhonda Dixon-Grovenor, Auntie Calita Murray, and Uncle Dean Kelly.

Evaluation Purpose and Questions

The aim of this pilot research was to evaluate the "A Climate of Change" lesson resources, guided by the following questions:

- 1. To what extent do the "A Climate of Change" resources support NSW high school students psychologically as our societies transition through climate change?*
- 2. How, and to what extent, do the resources empower teachers to support students?*

By evaluating the impact of the school program on student's psychological responses to climate change, this research will help ensure the program is acceptable for wider dissemination in NSW schools, including establishing whether the program poses a risk of psychological harm to students i.e. establishing whether it has any adverse effects. Through the research process, we also aimed to identify what elements of the program support students, which elements could be improved, and assess implementation feasibility in school settings.

Methodology

We used an empowerment evaluation methodology (Fetterman, 1993), where key stakeholders, including from AdaptNSW, The Joyality Project and Sydney Children's Hospital Climate Change and Mental Health Committee were involved in the design and implementation of the evaluation.

The research aims and questions were addressed using mixed methods – qualitative interviews and quantitative surveys – administered to students in three NSW high schools who took part in the "A Climate of Change" lessons, and their educators.

A mixed methods research design was chosen to gain a deeper understanding of the complex issues and experiences at play in the program, allowing for the integration of multiple

perspectives to gain a rich, detailed, and more complete picture of the phenomena under investigation (Green, 2007).

For the quantitative pilot component, a single-arm pre-post evaluation design measured changes in general distress and coping with climate change for students who took part in the program. A similar sample of students from each of the same schools, matched on demographic characteristics (year level) who did not take part were also surveyed as a comparison group.

Ethical considerations

The research design was reviewed and approved by the Black Dog Institute Research Governance Advisory Committee (REGAC) and by the University of New South Wales Human Research Ethics Approval Panel (HREAP; reference number iRECS8074). The proposal met all requirements of the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research.

Recruitment

The Joyality Project and AdaptNSW led the engagement process with high schools who took part in the A Climate of Change program, obtaining permission from school decision makers to deliver the lessons, briefing educators, and supporting the research administration. Students, their parents/caregivers, and educators were provided with participant information statements and consent forms along with an invitation to take part in the research component of the pilot. Students who did not want to take part in the research were still able to participate in the lessons. Data was only collected from students if informed consent was received from their parent/guardian and from the student themselves.

Data sources

Surveys

Data was collected from students using an online survey administered through the Qualtrics Survey Platform or in person at the school classroom via a printed version of the survey.

The students completed a survey at baseline (T1), prior to experiencing the A Climate of Change program. The students completed a final survey (T2) within one week after finishing all the lessons. These surveys were completed at the same time points for the comparison group from a different class, not taking part in the program.

The survey at T1 included demographic questions and questions about students' experiences of climate change. The surveys at T1 and T2 included the following psychometrically validated scales:

- *Strengths and Difficulties Questionnaire (SDQ)* (Goodman, Meltzer, Bailey, 1998) – selected as a well-established and clinically relevant measure of mental health outcomes in adolescents, this brief behavioural screening questionnaire contains 25-items on psychological attributes, including emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problems. We also used the impact supplement. At T2, we included the two additional follow-up questions for use after an intervention.

- *Coping with Climate Change Scale* (Ojala, 2013) – This 15-item scale measures three types of psychological coping strategies applied to climate change, which have been linked to varying degrees of psychological wellbeing and pro-environmental behaviour. This scale has been used in research with high school students.

A shorter post-lesson survey was completed after each lesson by the students who took part in the program. The full surveys are included in the Appendices.

Interviews

Students and educators who experienced the program were invited to participate in an online interview (via Microsoft Teams) at completion. The interviews were audio-recorded and automatically transcribed. The interview questions were designed to explore how students and teachers felt, and what they learnt, while taking part in the program.

Did students feel: able to acknowledge, understand and process their own climate emotions; validated and supported by teachers and peers; empowered to build wellbeing in the context of climate change (e.g. through self-care, care for others, care for place)?

Did educators feel: encouraged to engage youth with climate wellbeing; calm and confident that they had the capacity to deliver the resources effectively; comfortable to integrate emotions and positive action/agency into educational contexts; supported by a professional, evidence-based approach to climate wellbeing?

The qualitative data from the interviews was examined using deductive thematic analysis (Braun & Clarke, 2022) to identify patterns aligned with the research questions. This involved a top-down strategy in which investigators drew upon pre-existing theories, concepts, and research questions to guide the identification of themes.

Limitations

It is important to acknowledge the limitations of this study, including:

1. The pilot was not delivered in NSW Department of Education schools, even though over half of NSW high school students attend public schools. This decision was made due to the time constraints of the project and the barrier of obtaining ethics approval for this type of research.
2. The pilot was initially intended to be delivered to years 9 to 11 students, however we decided to include Year 7 students at one school in response to their scheduling requirements. As the program was designed for older students, the inclusion of this younger cohort may have affected the outcomes of the study.
3. The design did not include any randomisation of assignment of students to the comparison group.
4. The relatively small sample size made it difficult to conduct any meaningful inferential statistical analyses on the pre-post data.

Despite these limitations, rich data was collected that is critical to inform understanding of the program's feasibility and acceptability, as well as recommendations regarding next steps.

Findings

Participants

Three independent NSW high schools participated in the program, with 76 students completing at least one survey as part of the evaluation research. The following table shows the number of students and educators who participated in the pilot research at each school:

SCHOOL	Anglican school, based in a regional centre in northern NSW		Steiner school, based in a regional centre in coastal NSW		Independent school, based in a regional city in coastal NSW	
	Lessons	Control	Lessons	Control	Lessons	Control
Survey	12	10	11	16	12	15
	Student	Educator	Student	Educator	Student	Educator
Interview	2	1	8	1	6	1

Student demographics

Students were between 12 and 16 years old (mean age = 13.9). 50% of students identified as female, 42.5% as male, 2.5% of students as non-binary, 2.5% responded "I use a different term" and 2.5% "prefer not to say". When asked "how sure are you that climate change is happening?", 71.3% of students responded that they are very sure it is happening, 17.5% were moderately sure it is happening, 7.5% don't know, 2.5% are moderately sure it is not happening, and 1.3% are very sure it is not happening.

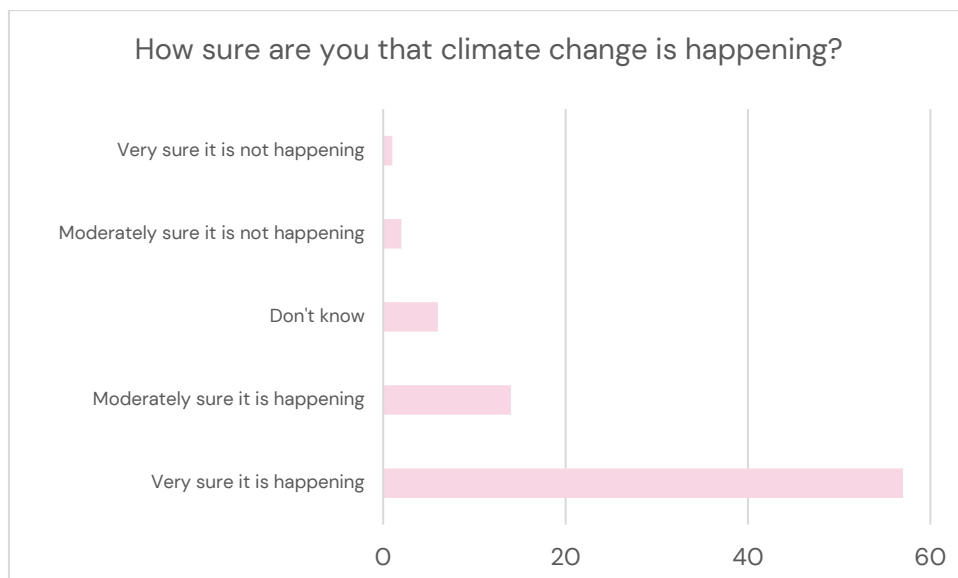


Figure 3. "How sure are you that climate change is happening?"

In terms of specific climate-related experience, floods were most frequently reported (52.7% said yes), followed by heatwaves (49.5%). Bushfire was also common (47.3%), but drought less likely (35.5%). 7.5% reported “other changes”, which included: cyclone, storms, and general weather changes.

Implementation and delivery

Each school chose to integrate the program into their teaching in different ways. At the Steiner school, a group of students from the Student Representative Council (SRC) took part in the program over a two-day incursion. At the Anglican school, the program was delivered as part of a pastoral care subject for Year 9 students and lessons spanned two terms. Some lessons were split into half, so they fitted into standard single periods; most were spread over two periods, with later lessons delivered over multiple double periods in a row. At the Independent school, the program was delivered in weekly lessons by a STEM teacher who was also teaching the same Year 7 students a program on the science of climate change.

Teachers’ levels of engagement and confidence were significant factors affecting the success of the pilot. Educators had the option of seeking support from The Joyality Project, although none seemed to require extensive guidance beyond navigating administrative hurdles to access the resources. Overall, educators reported feeling empowered and positive going into the lessons:

I felt empowered. I felt really positive about how the issues were dealt with and how climate change was presented, because as we know, it can be a really distressing topic, especially with modern media being so present all the time in students’ lives and... the negative messaging that we get around our planet, it's very difficult to escape from. So, I found that I felt empowered delivering these lessons. I felt more confident.

Teachers shared how they adapted or tweaked the lessons to suit their students. They emphasised the need for flexibility in delivery modes, and this pilot demonstrated that an incursion model might be a good alternative to integrating the lessons into regular term subjects, particularly when scheduling can be very tight, with many competing priorities. Offering the program in tandem with other climate change subject(s) also made a lot of sense, as the emotional and relational dimensions of ‘A Climate of Change’ complemented and supported students’ learning about the facts and figures of climate science.

Student psychological outcomes

A core question of this pilot evaluation was regarding to what extent the resources support students psychologically, and also to establish whether the resources pose a risk of harm or cause distress in students. ***Through both the interviews and survey data, we found no indication that the A Climate of Change program caused distress in students. We did find some evidence that the program was supportive of student wellbeing, particularly through the qualitative interviews.***

Strengths and difficulties questionnaire

At T1, of the students who responded to the Strengths and Difficulties Questionnaire (SDQ), among the control group (N=40), 30% noted no difficulties; 35% minor, 25% definite and 10% severe difficulties. These difficulties had generally been present for over a year (70%), with a quarter noting the problems as having occurred in the last 6 months to a year, and a small minority noting recent problems (1–5 months; 3.7%). Similar percentages were noted among the lessons group (N=37), with 27% noting no difficulties, 49% minor, and 24% definite, but none mentioning severe difficulties. Likewise, these difficulties had generally been present for over a year (77%), with 11% having noticed problems in the last 6 months to a year, and a small minority noting recent (1–5 months; 3.7%) or very recent (<1 month; 7.4%) emergence. In the control group, most students who reported on this (N=28) noted their problems were not or only a little distressing (54%), whereas 29% found it quite distressing and 18% a great deal. In the lessons group (N=27), the vast majority (81%) found their problems not at all to just a little distressing, and 15% found them quite distressing, with only 4% finding their problems a great deal distressing.

At T2, due to attrition we had lower response numbers. In the control group (N=31), a quarter noted no difficulties and almost half (45%) reported minor problems, whereas 19% reported definite problems, and 10% reported severe problems. Of the students reporting on their problems (N=25), most (64%) found them not at all to a little distressing, but over a quarter (28%) experienced quite a lot of distress and a small proportion (8%) experienced a great deal of distress. In the lessons group (N=27), most reported no problems (67%) and the remainder noted only minor difficulties (33%). Most found their problems not at all to a little distressing (92%), and 8% experienced quite a lot of distress (none noted “a great deal of distress”).

The overall SDQ score was reduced in both groups at T2 (means and SD's):

	Control	Lessons
Pre	15.79 (7.03)	14.15 (6.55)
Post	13.23 (7.42)	12.38 (5.85)

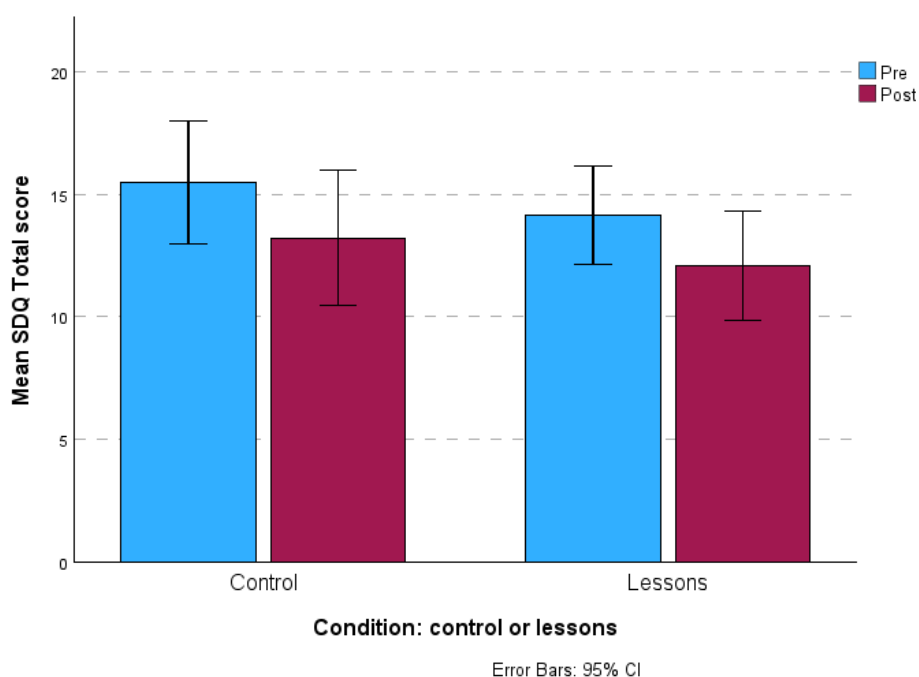


Figure 4. Comparison of SDQ total score at T1 vs T2

Split up into an internalising and externalising score, it is the internalising score that seems to be most reduced in the lessons group. The control group shows a reduction in externalising which is not observed (as much) in the lessons group. The externalising score is the sum of the conduct problems and hyperactivity-inattention scales (range 0–20). The internalising score is the sum of the emotional symptoms and peer problems scales (range 0–20). *Overall, there is no indication that the intervention is associated with more self-reported problems, but rather with less.*

	Control		Lessons	
	Internalising	Externalising	Internalising	Externalising
Pre	7.96 (3.62)	7.83 (4.71)	7.00 (3.33)	7.15 (3.66)
Post	6.63 (3.99)	6.60 (4.24)	5.29 (2.96)	7.08 (3.48)

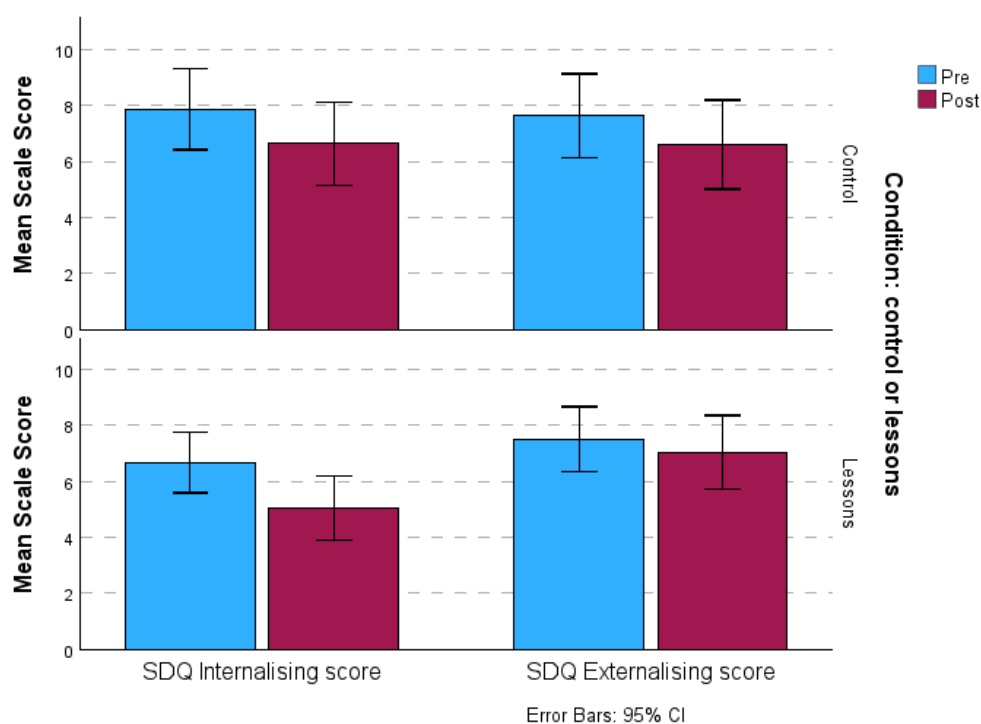
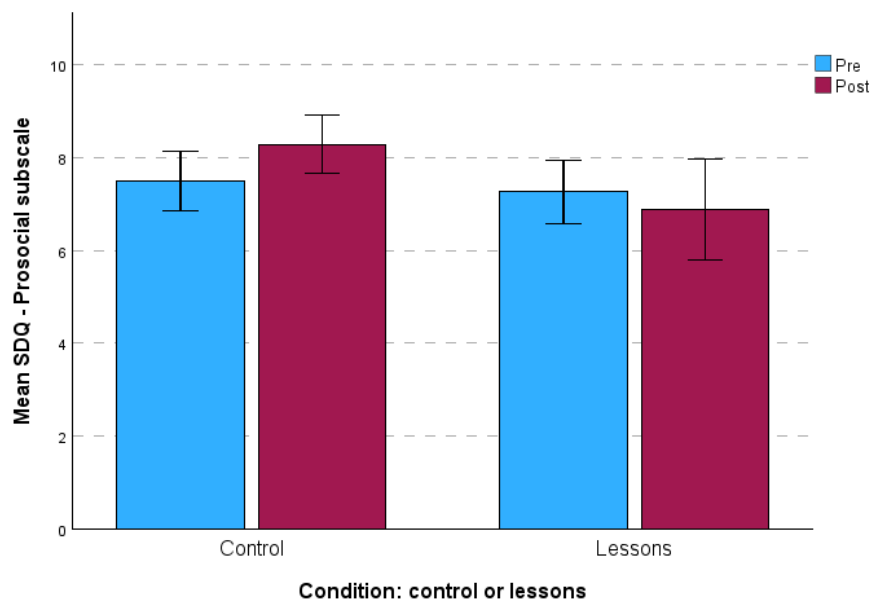


Figure 5. Comparison of SDQ internalising/externalising score at T1 vs T2

The prosocial scale score remained unchanged from T1 to T2 for the lessons group, while a small change was seen in the control group. The prosocial scale captures strengths rather than difficulties. Items typically ask whether the child: is considerate of other people's feelings; shares readily with others; is helpful if someone is hurt, upset, or ill; is kind to younger children; volunteers to help parents, teachers, or peers.

	Control	Lessons
Pre	7.75 (1.70)	7.31 (2.05)
Post	8.3 (1.74)	7.00 (2.73)



Error Bars: 95% CI

Figure 6. Comparison of SDQ prosocial score at T1 vs T2.

Program impact

The lesson group appears to report a more positive change in terms of the difficulties they have been experiencing. More than half say there has been some improvement. In the control group that is just over a quarter with another quarter noting no changes.

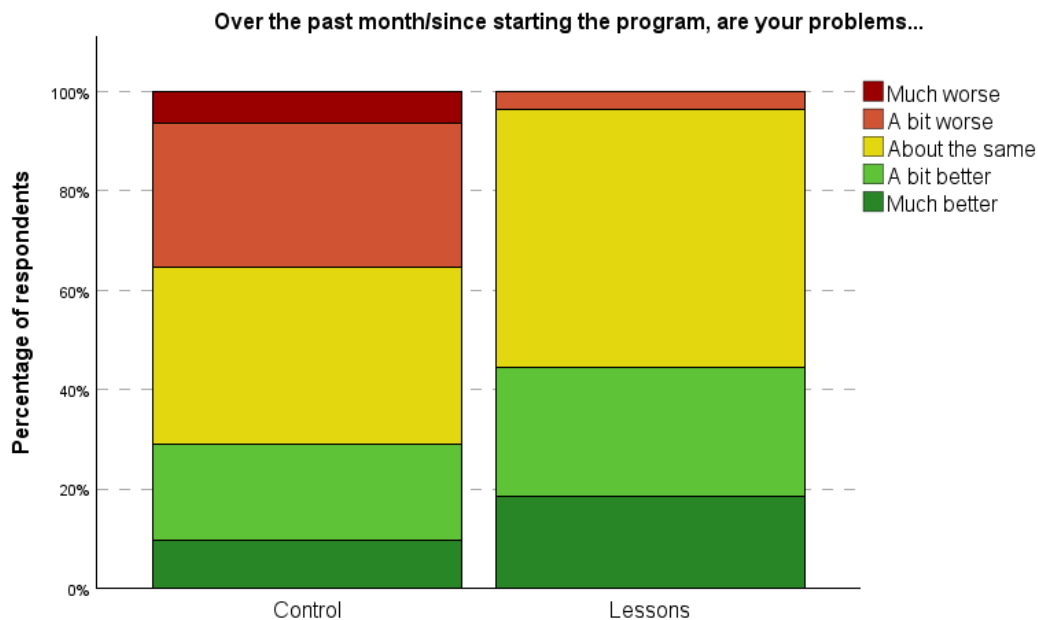


Figure 7. Comparisons of SDQ responses to question regarding problems at T2.

The students in the lessons group also report that the program has been helpful in other ways, with the vast majority finding some benefit in the program and over half finding it “quite a lot” to “a great deal” helpful.

Has experiencing the program been helpful in other ways, e.g. providing information or making problems more bearable?

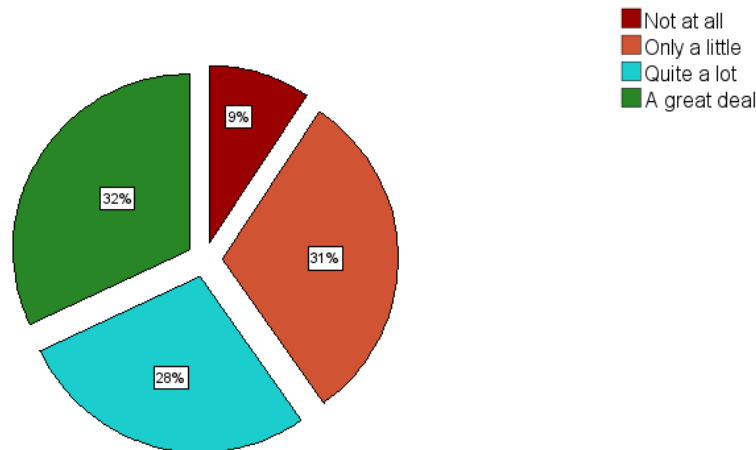


Figure 8. SDQ responses from lessons group at T2.

The impact score measures the self-reported impact of the student’s problems on various aspects of their life, including how distressing they experience the problems to be, and the extent of the reported impact on their home life, in the classroom, with friends and on leisure activities. These results for the SDQ should be considered cautiously due to the typo in the question at T1 (querying the students on impact on “homeless” instead of “home life”). The impact score was reduced at T2 for both the control and lessons group, but more so for the lessons group. Since the typo was present in both conditions, it’s unlikely that this can account for the observed condition difference, nevertheless – the results require further validation.

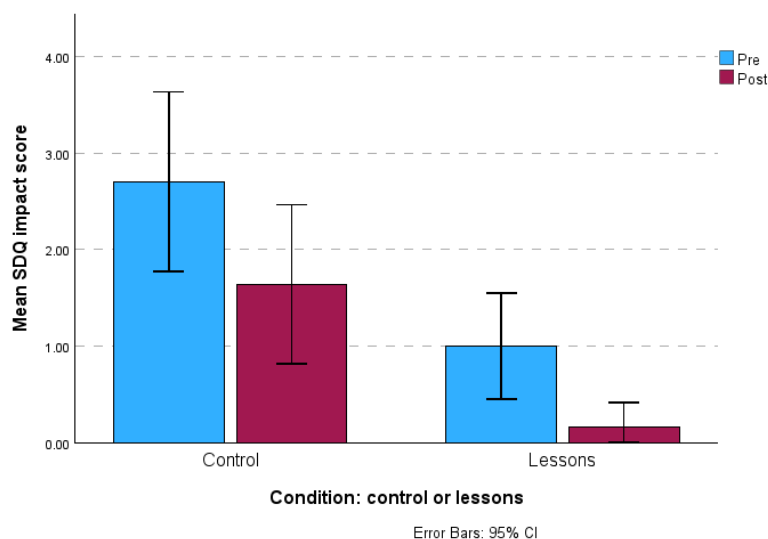
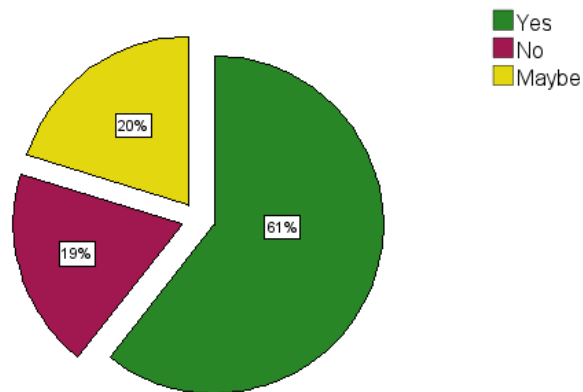


Figure 9. Comparison of mean SDQ impact score at T1 vs. T2.

Program impact

The program as a whole was evaluated quite positively, with most students recommending it, and most considering using the things they have learned in the future.

I would recommend the "A Climate of Change" program to other students or people like me



I am likely to use activities or techniques I've learnt through the program again in the future

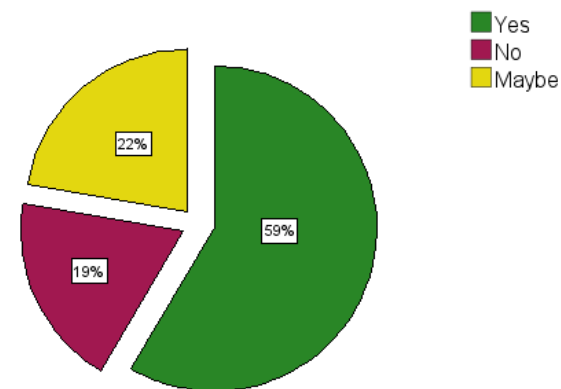


Figure 10. SDQ program evaluation responses

Qualitative theme: Emotional Safety, Regulation & Peer Support

During the interviews, many of the students described experiencing safe and supportive environments, where they learnt skills in emotional acknowledgement, expression, and regulation. The interactive group aspects of the lessons seemed to be particularly engaging, and supportive of a sense of community and peer-support:

"I felt very relaxed and calm because I felt that we were in a safe space and we could really share our opinions... I also felt like I was almost, like, heard with all my ideas... I felt like I could have an actual conversation about it [climate change]... It was really nice to hear what other people had to say and how they felt."

Students reported learning and applying specific calming techniques, including breathing exercises. When asked if they ever felt distressed during the lessons, one student explained that they used the finger squeezing exercise to help calm themselves down. They have since used this exercise in other contexts outside the classroom:

"Every time I felt a little bit anxious, I did the finger squeezing... it actually really helped me."

Another student explained that he chose the feeling "overwhelmed" when they did an exercise about different climate emotions: *"because everyone always tells me, 'This is happening! This is happening!' But there hasn't really been anything about how... you probably do feel distressed about this and overwhelmed and there are ways to deal with it. Whereas these lessons really helped you know how to deal with it."* No one had really acknowledged how he might be feeling about climate change before, and that acknowledgement was important to him.

Other students described experiences of disasters like floods and bushfires. For example, one student shared, *"I've been in flooding but it wasn't too bad... it wasn't like we had to evacuate or anything but it still was, like, scary... then I see the news (of people in a worse situation)... and I wonder... what would I do if I was there?"* As a class, they had an opportunity to discuss and share their memories and fears in a safe way with their peers.

Moving beyond acknowledging difficult or distressing emotional responses, students noted how the lessons always brought students back to "the flip side":

"Every time there was a slightly distressing subject, it was led straight into something calm... it made you feel a lot more... not distressed."

"The flip sides activity helped them see... that these strong emotions represent our deep love and care for the planet... and why advocacy is so important." (educator)

Both teachers and students noted that many of the principles and strategies in the program could also be applied to other topics or sources of distress, not only climate change.

"[the program] has given me some more language around how to navigate emotions... I think it applies to a lot more than climate change as well, like

there are strategies that can be used for lots of different emotional upheaval and struggle that students might be going through.” (educator)

Overall, the qualitative findings add nuance to the results of the SDQ, helping explain some of the ways that the program might support students who are experiencing difficulties. Students and educators emphasised the importance of emotional regulation and peer support within the program, which maps onto the finding from the SDQ that internalising scores were most reduced in the lessons group reflecting improvements in emotional and social difficulties.

Coping with climate change

Ojala’s (2013) coping with climate change scale was based on her research with adolescents, where she identified three distinct psychological modes of coping with climate change – emotion-focused, problem-focused and meaning-focused. Of the three coping styles, meaning-focused coping was more strongly associated with higher levels of wellbeing in young people. With this coping style, people reframe climate change in ways that acknowledge the seriousness of the issue, while holding onto hope, meaning and constructive engagement. Problem-focused coping involves trying to address climate change through actions and behaviour change. It can be a way of building a sense of agency although it can also lead to frustration and burnout. Emotion-focused coping focuses on managing the feelings that arise from climate change, including through avoidance, denial or distraction. All three coping strategies can interact and are not mutually exclusive.

The findings from the coping with climate change scale in the pre- and post-program surveys help us understand to what extent the A Climate of Change program fostered adaptive coping strategies, while the interviews help us understand what this looked and felt like for students and educators.

Coping with climate change scale

Overall, meaning-focused coping and problem-focused coping are more commonly reported by students as strategies to manage climate-related thoughts and feelings. Emotion-focused coping is less common. The scale scores range from one to five, with higher values indicating a stronger affinity with a particular coping strategy. The lessons group, starting from a slightly higher baseline, still saw a small increase in reported problem and meaning-focused coping after the intervention, and less emotion-focused coping (although the differences are very small).

	Control			Lessons		
	Meaning	Emotion	Problem	Meaning	Emotion	Problem
Pre	2.74 (.71)	1.58 (.65)	2.58 (1.24)	2.98 (.61)	1.75 (.72)	2.79 (1.04)
Post	2.81 (.57)	1.51 (.59)	2.66 (1.21)	3.10 (.77)	1.59 (.89)	2.99 (1.36)

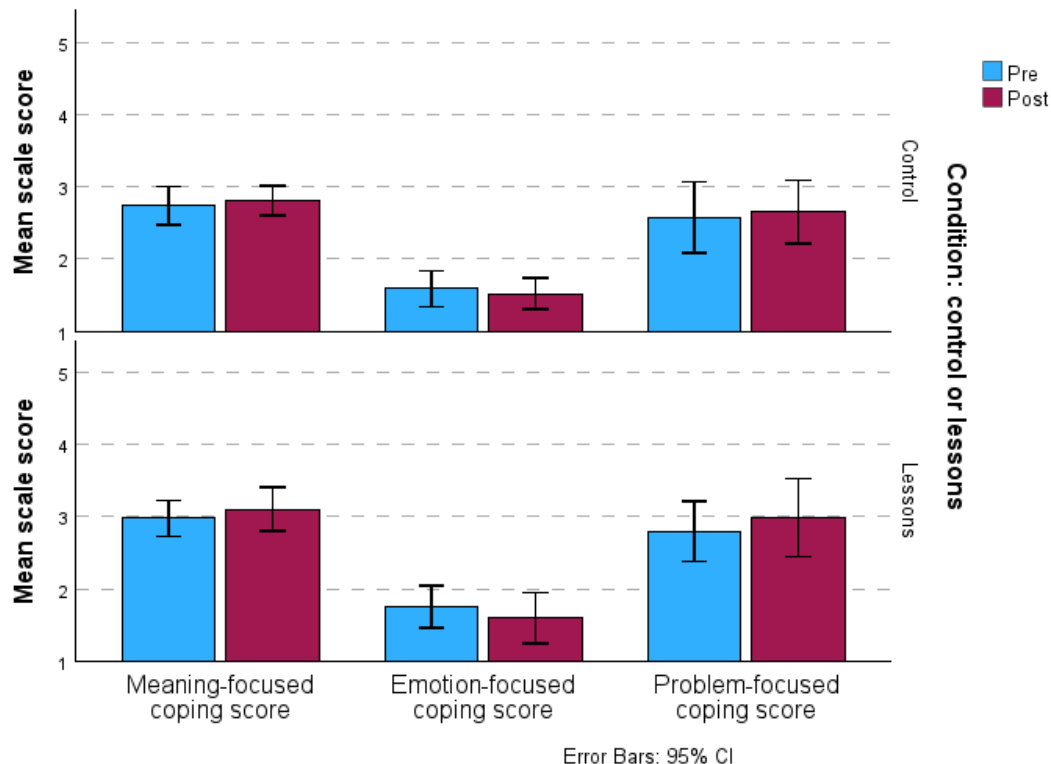


Figure 11. Comparison of mean scores on the Coping with Climate Change scale between T1 and T2.

Qualitative theme: Connectedness as a source of agency and empowerment

The shift toward meaning-focused coping in surveys is mirrored in qualitative accounts of new perspectives, shared understanding, and peer narratives that helped students “think of different ways to deal with” climate issues. For example, they described shifting from feelings of anger or despair towards a sense of hope; realising that there are many people working to address climate change; learning all kinds of ways that individuals and collectives can make a difference.

“I felt really informed about how I could help... it made me realise I actually do think about it a lot and that it affects me.”

"I feel inspired and empowered — like I can actually do something to help, because before it just felt like only people with more money could do stuff, but I think there are small actions I can do as well."

Again, a sense of connection with their peers in the lessons and with their wider community helped foster a sense of collective resilience – this grounded and contextualised problems that had felt overwhelming, or that had previously created a sense of helplessness.

The fact that you have a community and there's like people that went through it with you and people that are willing to listen to you and you're not alone in that... that's what I'll probably remember.

Students seemed to enjoy The First Nations contemplations and invitations to connect with nature, especially when they could get outside for parts of the lessons. The sense of community that they shared in the interviews resonates with these opportunities within the lessons for students to reflect on the human and natural ecosystems that we are all a part of.



Figure 12. Drawing by student in their 'A Climate of Change' journal

The idea that climate change is "bigger than just me" was voiced by a number of students. While this idea can be a source of anxiety, students seemed to reframe the statement as a result of the lessons, acknowledging the part that they can play in addressing climate change while noticing that the problem is so big that all kinds of people and communities are involved in responding to it – that is, climate change needs to be faced together. One educator summed this up eloquently:

"A lot of the things presented in the program resonated with me, and will probably change the way I talk about it [climate change], just in general to people, and to kids as feelings and that sort of thing come up... for example, that climate change is a community thing and we are actually all going through it.. you're not in isolation with it. And in terms of solutions, it's not on you, it's really a community problem... it's something we all face together... having that camaraderie and connectedness around it is a really powerful way to think about it." (educator)

Qualitative theme: Disengagement and minimisation

Some students did report that either themselves or their peers were disengaged during parts of the lessons. In part, this may have been related to their attitudes or perspectives on climate change when coming into the program:

"I don't think it quite like interested some of the people in our class. I think they didn't really like care about it... I think they found it too far removed from them cause they're like 'that's not really happening around me right now.'"

Differences between school cultures and local communities might have played a part in the differing levels of engagement. For example, the Anglican school in a regional centre offered the lessons to a class that included a small sub-group of students who doubted the science of climate change. At this school, climate change hadn't been taught to the students as part of their regular lessons, and the engagement with the resources did seem to be higher with students who had also been learning about climate change at their school.

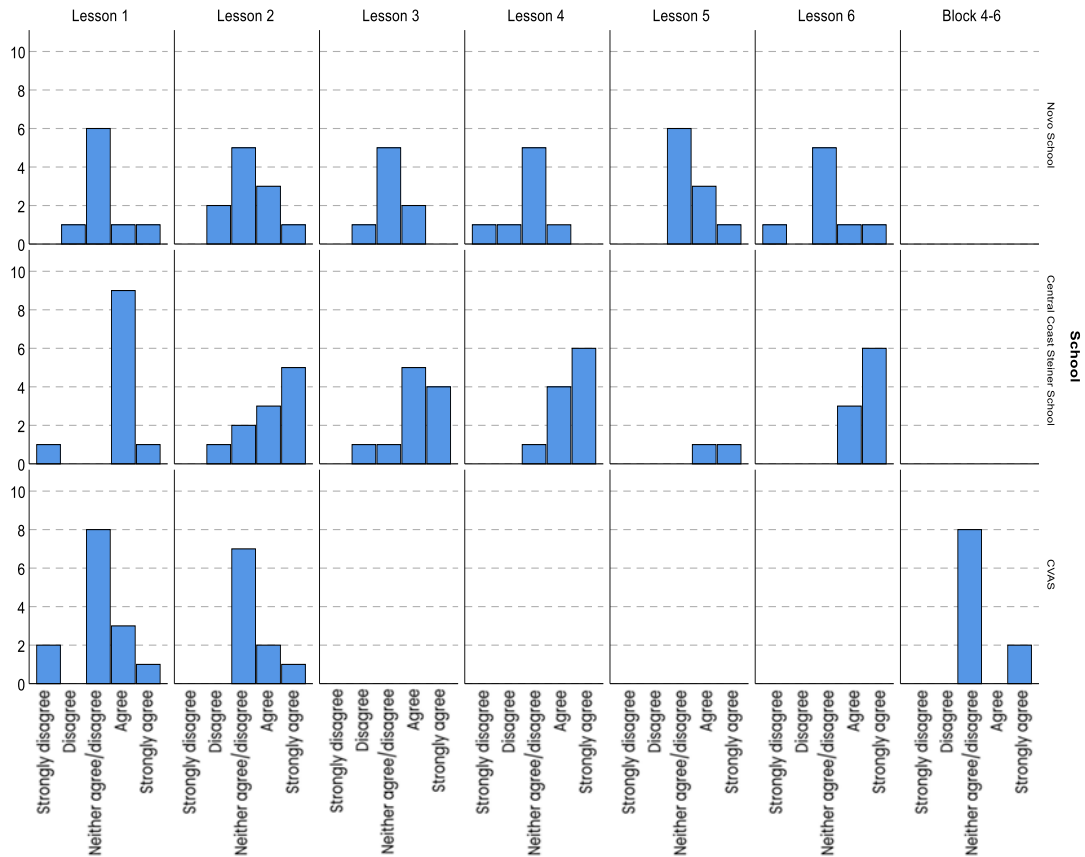
"Here, we don't really have students that are so much worried about climate change. It's more so the fact that they're a bit more climate deniers and aren't really too concerned about climate change." (educator)

This disengagement and dismissal of climate change as an issue can be linked to the emotion-focused coping strategies within Ojala's conceptualisation – where climate change is minimised or dismissed, in part as a way of coping emotionally (also see Veijonaho et al, 2024).

Post-lesson surveys

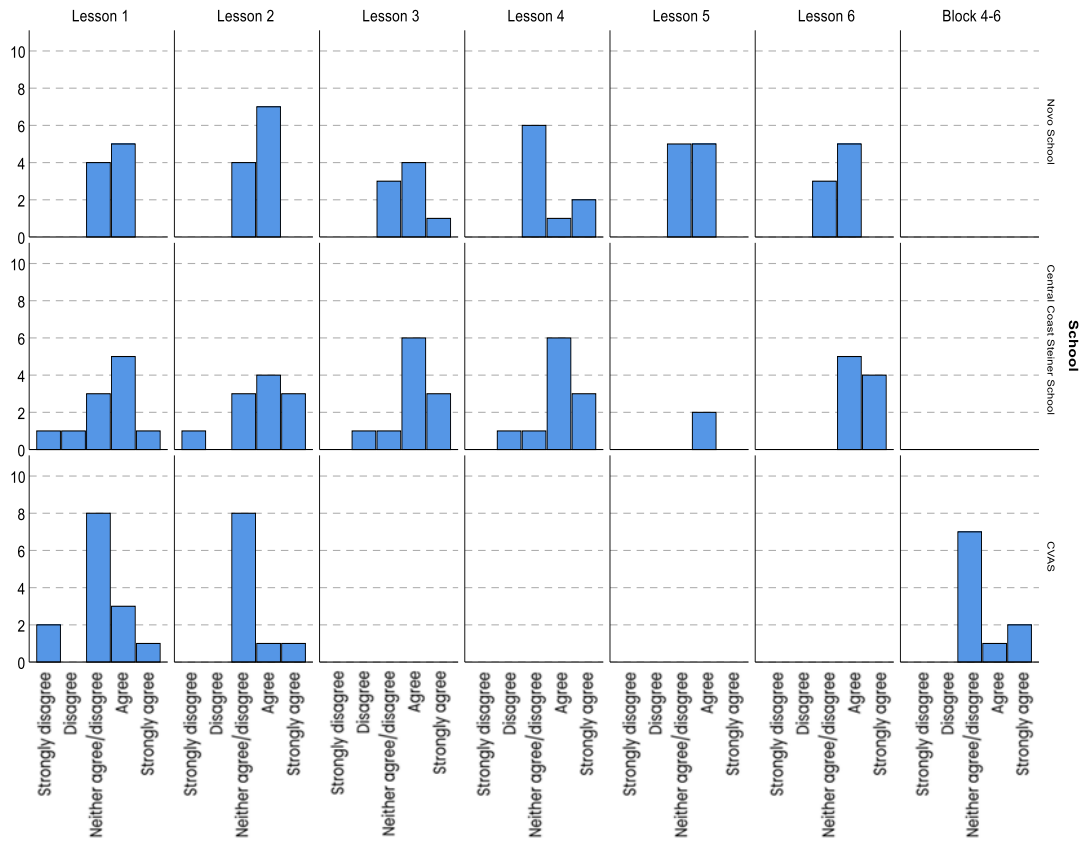
The post-lesson surveys provide further insight into student perspectives on coping with climate change as a result of taking part in the program.

After completing the lesson, I feel supported to cope with my feelings about climate change...



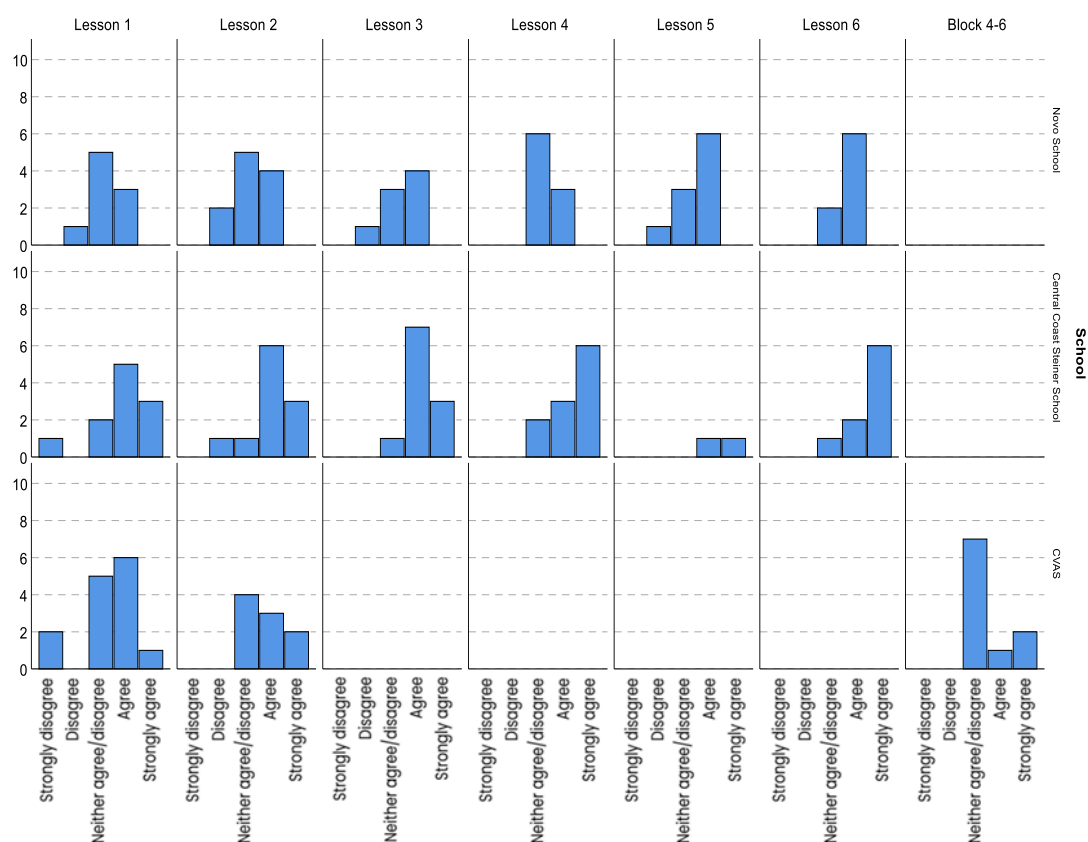
There are some between-school differences in terms of how well students believe they can cope with their feelings about climate change. The Steiner school students appear to have stronger positive evaluations across all lessons. In the other two schools, a significant proportion of students are “on the fence”.

After completing the lesson, I feel more confident I can help others cope with their feelings about climate change...



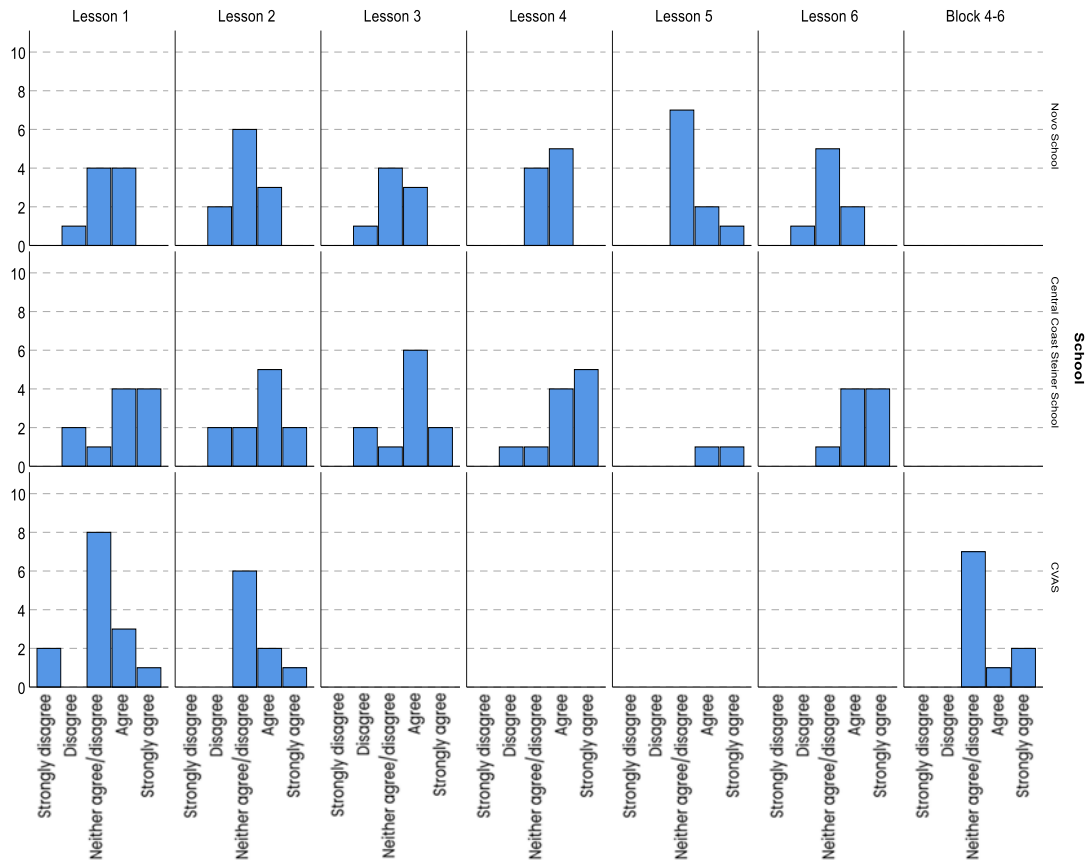
There are also between-school differences in terms of how well students believe they can help others cope with their feelings about climate change, although it was generally quite positive, with very few students disagreeing across all three schools.

After completing the lesson, I have a greater understanding of ways to take positive action in response to climate change...



Most students were neutral to positive with regard to understanding the actions they could take in response to climate change after the different lessons; again, the most positive responses were received from students in the Steiner school.

After completing the lesson, I feel motivated and inspired to take action in response to climate change...



Students reported some motivational change after the lessons, but this was generally moderate. This finding seems to indicate that the resources didn't promote climate action or activism amongst students who took part in the program.

Similar to the findings about motivation to act, the students reported sense of community was not strongly affected by the lessons, although there was a proportion of students, particularly in the Steiner school who agreed or strongly agreed with the statement. Nevertheless, the qualitative findings do seem to suggest that students' sense of community connection was enhanced by the program, so perhaps the wording of this statement drew out different responses.

Educator insights into student perspectives

The three teachers we interviewed for this research each offered insights into what it was like to deliver the program in their schools. Along with practical recommendations, they all emphasised the importance of the group discussions and interactive activities, where students could talk openly about their thoughts, feelings and concerns in response to climate change.

“It was really good to be able to have discussions with my students and see where some of their heads were at in terms of [climate change], and feel like there were some ways to support them through that.”

“The sharing opportunities... the opportunities for connection... were really good to help me know more about my kids and their experiences and what they’ve been through... students were able to take the discussion where they wanted to go.”

Hearing directly from students throughout the lessons seemed to help the educators tailor their teaching approaches to meet the needs of the students. For example, when climate change was minimised as an issue in one classroom, the teacher was able to shift the focus towards how weather events and disasters had affected her class.

Policy and Practice Implications

In emphasising community and nature connectedness, collective action, and self-care, the A Climate of Change program enabled both educators and students to explore new perspectives on climate impacts and feel less isolated – more supported – in their emotional responses. In this sense, the program demonstrates AdaptNSW’s objective of fostering climate resilience, while aligning with other government departments and initiatives including mental health (health) and education.

As the product of a multi-sector, multi-disciplinary collaboration between government, research and not-for-profit organizations spanning climate, mental health and education, the pilot offers a model for bridging policy silos – essential when tackling wicked problems like climate change, which affect all aspects of civic life. As the impacts of climate change in NSW become more pronounced, the need to support the wellbeing of young people will only grow in urgency.

The following recommendations are grouped according to time frame and are made with the acknowledgement that many of the short-term recommendations have already been communicated to the AdaptNSW team to inform immediate revisions of the resources and ensure timely dissemination.

Short term

- Optimise the design of the resources to ensure they are accessible and easy to use for educators, regardless of their level of experience: visual cues, slide shows, and brief, high-level overviews of each lesson would support teachers to deliver the program with confidence and minimal preparation time.
- Emphasise the flexibility of the lessons, including the option of delivering in an incursion format. If teachers are picking and choosing from the program, encourage them to focus on interactive activities and student discussion.

- Explicitly invite educators to integrate the lessons with outdoor education or other initiatives that also seem to improve wellbeing (see Dixon-Grovenor et al, 2025 literature review).
- Promote the resources on websites with downloaded lesson plans, like “Teachers Pay Teachers”.
- Consider engaging external facilitators to deliver the program in schools as a one- or two-day course, to minimise teacher burden and promote the resources.

Medium term

- Identify and support key educator ambassadors from diverse regions within NSW who could help promote the program in their school and professional communities.
- Integrate the program into teacher training for climate wellbeing. This could have a train the trainer component, linked to the ambassador recommendation in the point above. Ensure that the training will offer PD credits.
- Minimise the administrative burden for educators by mapping the program to high school curriculum and subject areas including but not limited to Geography, PDHPE, and Society & Culture. This could involve integrating the program into a “plug and play” unit of work with explicit syllabus links.
- Establish ongoing quality assurance and evaluation for the program. This could include a brief educator survey to minimise the administrative burden on staff to collect data from students.
- Consider the value of a Randomised Control Trial (RCT) or other research with a larger cohort of schools and students to understand the efficacy of the program.

Long term

- Reform high school curriculum at national and state levels to embed climate wellbeing *and* climate science into a broader range of subject areas.
- Embed climate (wellbeing) education in state and federal mental health and disaster response frameworks.
- Work with other Australian states and/or international partners to expand climate wellbeing support to new populations.

Conclusions

The “A Climate of Change” pilot demonstrates that climate wellbeing education can be delivered in ways that are experienced as safe, supportive, and meaningful to young people. Across diverse schools, students reported learning emotional skills that helped them both recognise and regulate climate-related distress, while also gaining a stronger sense of agency, hope, and collective responsibility. Teachers described feeling empowered and more capable of helping students navigate climate emotions—an important finding given the growing pressures on educators to respond to climate-driven anxiety within their classrooms.

Quantitative findings align with these qualitative insights, indicating small improvements in students' internalising symptoms and adaptive climate coping, with no evidence of increased distress or adverse effects. The program's strongest impacts appear to come from its emphasis on connection – peer connection, community, connection to place – and its blending of emotional reflection with hopeful, values-aligned action.

Together, these findings suggest that the resources are psychologically safe and acceptable for wider dissemination, and that they meet emerging global and national policy goals to support youth mental health in a changing climate.

As climate impacts intensify in NSW, young people will increasingly need opportunities to process their emotions, share experiences, and build the psychological capacity to face an uncertain future. This pilot evaluation provides encouraging evidence that the A Climate of Change program can contribute meaningfully to this effort. The findings are also potentially analytically generalisable to other populations and types of programs that embed similar ecopsychology practices, although this should be tested with further empirical research. A larger state-wide study would also provide further evidence for the potential efficacy and/or effectiveness of this program. Refinement, broader implementation, and ongoing evaluation will strengthen its impact and help ensure that schools are equipped to support student wellbeing as part of a whole-of-community climate resilience strategy.

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Appendices

Student survey at T1

How old are you? _____

How do you describe your gender ?

Male/boy

Female/girl

Non-binary

I use a different term:

Prefer not to say

What is your home postcode? _____

Do you speak a language other than English at home?

No, English only

Yes, one or more other languages

How sure are you that climate change is happening?

Very sure is it happening

Moderately sure it is happening

Don't know

Moderately sure it is not happening

Very sure is it not happening

Have you personally experienced a climate-related extreme weather event?

If yes, please check the box for the type(s) of events:

☐

Flood

☐

Bushfire

☐

Heatwave

☐

Drought

☐

Other, please describe:

Are there other ways that you notice climate change is happening in your life?

Yes

No

Unsure

If yes, can you explain what other effects climate change is having on you/your life?

How worried/stressed/anxious are you about climate change?

Not at all

Only a little

Quite a lot

A great deal

Strengths and Difficulties Questionnaire:

For each item below, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings			
I am restless, I cannot stay still for long			
I get a lot of headaches, stomach-aches or sickness			
I usually share with others, for example CD's, games, food			
I get very angry and often lose my temper			
I would rather be alone than with people of my age			
I usually do as I am told			
I worry a lot			
I am helpful if someone is hurt, upset or feeling ill			
I am constantly fidgeting or squirming			
I have one good friend or more			
I fight a lot. I can make other people do what I want			
I am often unhappy, depressed or tearful			
Other people my age generally like me			
I am easily distracted, I find it difficult to concentrate			
I am nervous in new situations. I easily lose confidence			

I am kind to younger
children

I am often accused of lying
or cheating

Other children or young
people pick on me or bully
me

I often volunteer to help
others (parents, teachers,
children)

I think before I do things

I take things that are not
mine from home, school or
elsewhere

I get along better with adults
than with people on my own
age

I have many fears, I am easily
scared

I finish the work I'm doing.
My attention is good

Overall do you think that you have difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

No

Yes – minor difficulties

Yes – definite difficulties

Yes – severe difficulties

If you have answered "Yes", please answer the following questions about these difficulties:

How long have these difficulties been present?

- Less than a month
- 1-5 months
- 6-12 months
- Over a year

Do the difficulties upset or distress you?

- Not at all
- Only a little
- Quite a lot
- A great deal

Do the difficulties interfere with your everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE				
FRIENDSHIPS				
CLASSROOM LEARNING				
LEISURE ACTIVITIES				

Do the difficulties make it harder for those around you (family, friends, teachers, etc.)?

Not at all

Only a little

Quite a lot

A great deal

Coping with Climate Change Scale:

For each question below, please mark the box for Not True at all, Not very true, Fairly true, Very true or Completely true.

	Not true at all	Not very true	Fairly true	Very true	Completely true
1. More and more people have started to take climate change seriously.					
2. I have faith in humanity; we can fix all problems.					
3. I trust scientists to come up with a solution in the future.					
4. I have faith in people engaged in environmental organizations.					
5. I trust the politicians.					
6. Even though it is a big problem, one has to have hope.					
7. I think that the problem is exaggerated.					
8. I don't care since I don't know much about climate change.					

9. Climate change is something positive because the summers will get warmer.

10. Nothing serious will happen during my lifetime.

11. Climate change does not concern those of us living in Australia.

12. I think about what I myself can do.

13. I search for information about what I can do.

14. I talk with my family and friends about what one can do to help.

Post-lesson student survey

Student name:

School:

Lesson topic

- ☐ Lesson 1: Stay awake. Connect. Act.
- ☐ Lesson 2: Thriving in Times of Uncertainty
- ☐ Lesson 3: Empowering Feelings
- ☐ Lesson 4: Visioning & Inspiration
- ☐ Lesson 5: Climate Action
- ☐ Lesson 6: Nature Connection & Reciprocity

After completing the lesson, I feel supported to cope with my feelings about climate change

- ☐ 1 – Strongly disagree
- ☐ 2 – Disagree
- ☐ 3 – Neither agree or disagree
- ☐ 4 – Agree
- ☐ 5 – Strongly agree

After completing the lesson, I feel more confident I can help others cope with their feelings about climate change

- ☐ 1 – Strongly disagree
- ☐ 2 – Disagree
- ☐ 3 – Neither agree or disagree
- ☐ 4 – Agree
- ☐ 5 – Strongly agree

After completing the lesson, I have a greater understanding of ways to take positive action in response to climate change

- ☐ 1 – Strongly disagree
- ☐ 2 – Disagree
- ☐ 3 – Neither agree or disagree
- ☐ 4 – Agree
- ☐ 5 – Strongly agree

After completing the lesson, I feel motivated and inspired to take action in response to climate change

- ☐ 1 – Strongly disagree
- ☐ 2 – Disagree
- ☐ 3 – Neither agree or disagree
- ☐ 4 – Agree
- ☐ 5 – Strongly agree

After completing the lesson, I feel part of a community of people who are taking positive action in response to climate change

- ☐ 1 – Strongly disagree
- ☐ 2 – Disagree
- ☐ 3 – Neither agree or disagree
- ☐ 4 – Agree
- ☐ 5 – Strongly agree

Student survey at T2

Strengths and Difficulties Questionnaire (see student survey at T1)

Since experiencing the “A Climate of Change” program, are your problems:

Much worse / A bit worse / About the same / A bit better / Much better

Has experiencing the program been helpful in other ways, e.g. providing information or making problems more bearable?

Not at all / Only a little / Quite a lot / A great deal

Coping with Climate Change Scale (see student survey at T1)

I would recommend the “A Climate of Change” program to other students or people like me
Yes/No/Maybe

I am likely to use activities or techniques I’ve learnt through the program again in the future
Yes/No/Maybe

What aspects of the program were most helpful to you?

Student interview schedule

Purpose: Explore students' experiences of the program, including how they understand their own climate emotions and wellbeing after completing the lessons

Please describe your experience of the "A Climate of Change" lessons

- How did it make you feel?
 - o Prompt, how did you feel during the lessons? How did you feel after each lesson?
- What did you learn about yourself?
- What did you learn about others?
- Were there any moments during the program where you felt distressed? Or noticed others feeling distressed? If so, could you describe what happened?
- Can you describe similarities/differences to other classes you've taken related to climate change?

What did you like/dislike (most) about the lessons?

Prompts: format, delivery of instruction, additional resources

How could the lessons be improved?

What have been the most significant impacts from participating in the program for you?

Prompts: What do you think you will remember from the program in 6 months' time? What might you share with or pass on to other people who haven't taken part in the program?

Has the program changed your understanding about climate change?

Prompts: Do you feel more informed/confident about your understanding of climate change and how it affects people? Do you feel like you might have a better handle on your feelings/thoughts etc about climate change?

Has the program changed your understanding of ways to take positive action to help yourself, other people, or the environment?

Prompts: Do you feel more informed/confident in your understanding of different types of climate action? Are there any positive actions that you are now aware of, especially ones locally, that you weren't aware of before? Are there any positive actions you think you might now start, or take part in, as a result of the lessons?

Would you recommend this program to other students or people like you?

Prompt: If you were to describe it to them, what would you say?

Is there anything else you'd like to share that we haven't spoken about yet?

Teacher interview schedule

Purpose: Understand how the "A Climate of Change" resources are used and experienced by teachers

Please describe your experience of delivering the “A Climate of Change” lessons

- How did it make you feel?
 - o Prompt: how did you feel during the lessons? How did you feel after each lesson?
- What did you learn about yourself?
- What did you learn about your students?
- Were there any moments during the program where you felt distressed? Or noticed others feeling distressed? If so, could you describe what happened?
- Can you describe similarities/differences to other classes you’ve taught related to climate change?

Has the program changed your understanding about climate change?

Prompts: Do you feel more informed/confident about your understanding of and ability to teach about climate change and how it affects people? Do you feel like you might have a better handle on your own feelings/thoughts etc about climate change? Do you feel like you might have a better handle on the diversity of feelings/thoughts others (students) can have in relation to climate change?

Has the program changed your understanding of ways to take positive action to help yourself, other people (including your students) or the environment?

Prompts: Do you feel more informed/confident in your understanding of different types of climate action? Are there any positive actions that you are now aware of, especially ones locally, that you weren’t aware of before? Are there any positive actions you think you might now start, or take part in, as a result of the lessons?

What did you like/dislike about the lesson plans and their accompanying resources?

Prompts: Did you find the resources easy to use? Lesson plans – educators’ scripts/delivery of instruction, activities, First Nations perspectives, additional resources/links; barriers and enablers of integrating the lessons into teaching

Accompanying resources – Educators’ Guide, Educators’ Video, Student Videos, Illustrations (visual teaching aids), Student Journal

Access – format/graphic design, AdaptNSW landing page, web portal with all resources and props

How could the lessons be improved?

What have been the most significant impacts from participating in the program for you?

Have you observed any significant impacts on your students?

Prompts: What do you think you will remember from the program in 6 months’ time? What might you share with or pass on to other people who haven’t taken part in the program?

Would you be interested in teaching this program again? If so, why?

If yes, how would you describe it to them?

Would you recommend it to other teachers? If not, why?

Prompts: How might educators be best supported to deliver program? Opportunities for integration into their teaching program / curriculum? Compare formats: 2 day incursion vs. series of 6 lessons.