

Submission to Inquiry into the Response of Western Australian Schools to Climate Change

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Introduction

We are education researchers concerned about climate change and what this means for education and young people. This submission draws on the work of scholars who have asked how education should respond to climate change¹.

We recognise that climate change is having and will continue to generate differential effects across Western Australia (WA) and its populations. The effects of climate change on the lives, community, health, and education of children in remote northern Western Australia will be different from children in the south-west. Becoming aware of the diverse experiences and effects of climate change across the state is crucial to developing satisfactory climate change responses. Effective mitigation and adaptation require attention to the complex global, national, regional, and local interactions of weather, geography, economies, health, infrastructure, air, food, wildlife, human communities, and their cultures.

As climate change will not be experienced evenly across the state, each region, community and school must leverage its strengths to meet their specific needs, enabled and framed by the support of government and its departments.

Climate change mitigation and adaptation actions currently being undertaken in schools, and the benefits they are achieving

Schools have been supported to reduce their energy consumption and operational footprint. The 2-year Low Carbon Schools Pilot Program (LCSPP) of 13 schools in Perth reduced those schools' carbon emissions on average by 20% on a per student basis, saving an average of 15% in costs². Most of the actions were low or zero cost. However, the LCSPP only scratches the surface of the kind of transformation needed to prepare our education system and young people for their climate futures. Climate change responses cannot focus solely on technical responses at the expense of the ethical and affective dimensions of our response to climate change.

Recent research which followed students who studied a climate change education course suggests that even if only 16% of high school students in middle- and high-income countries undertake climate change education, it could potentially lead to a 19 gigaton reduction of carbon dioxide by 2050³. It follows that if all students received such an education, carbon reduction would be substantially more. There are also inter-disciplinary networks across a variety of educational contexts. For example, the Commonworlds Collective (<http://commonworlds.net/>) is an international collaboration of childhood

¹ Facer, K. (2019) 'Climate change: How should public education respond?'. *FORUM*, 61(2), 207–16.

² Odell, P., Rauland, V & Murcia, K. (2020). Schools: An Untapped Opportunity for a Carbon Neutral Future. *Sustainability*, 13(1), 46. <https://doi.org/10.3390/su13010046>

³ Cordero, E. C., Centeno, D., & Todd, A. M. (2020). The role of climate change education on individual lifetime carbon emissions. *PLoS ONE* 15(2), e0206266. <https://doi.org/https://doi.org/10.1371/journal.pone.0206266>

scholars and practitioners. It has been exploring new approaches to education by focussing on pedagogies which situate children within 'common worlds' that include children and more-than-human others⁴. Creating professional and social networks for knowledge sharing, these can develop the mindsets, dispositions and capabilities for adaptation.

Another example is the *Climate Change + Me* project in NSW (<https://climatechangeandme.com.au/>). This project brought together a range of partners and stakeholders around the issue of climate change. The project engaged young people and their communities in activities to learn about and act on climate change. This project involved arts-based, science and philosophy-based activities. The project leaders argue that climate change responses cannot be purely science responses⁵. The arts and humanities have important parts to play in changing attitudes, ideas, and actions. These can promote the creative and critical thinking needed to respond to climate breakdown.

What more can be done to support schools to respond to climate change?

School-level

Given the intensifying and unprecedented nature of climate change, we argue that many aspects of schooling must be geared towards mitigating and adapting to its effects. As climate change is “a complex cultural, physical, economic and social reality that does not have simple answers”⁶, schools need to be supported to understand the intersection of climate change and environmental precarity and their effects on communities, local economies, infrastructure, and ways of living. Schools also need knowledge about the many possible responses to climate change, environmental endangerment, and sustainability.

Schools must be supported at a system level to be proactive in responding to climate change through school programs, curriculum, and strategic plans. These may include making plans for ends diverse as reducing a school's carbon footprint, teaching for climate change, responding to disaster events, and welcoming and supporting climate refugees. However, if school initiatives are to be sustainable and effective, these cannot be driven only by those individuals passionate about sustainability and the environment. School responses to climate change must be a responsibility shared among staff, students, and communities, and at the system level.

Schools require systemic support to develop, in collaboration with their local communities, whole-school cultures that prioritise climate change action. Accordingly, support for strategic and resourced approach to climate responses in schools is needed using the school board and business plan.

Climate change mitigation and adaptation depends on attitudinal and behaviour change. While changing attitudes and behaviour around energy consumption is one response, so are changes to how people think and feel about and relate to the non-human environment, or their ecological communities. This means developing people's knowledge, appreciation of and care for the environment, recognising that the fate of humans is tied to the fate of the ecosystems that support their survival. Schools are in an advantageous position to foster such attitudinal and behaviour change that enables mitigation and adaptation at the individual and community levels. This can occur through

⁴ Blaise, M. & Hamm, C. & Iorio, J. 2017. Modest witness(ing) and lively stories: Paying attention to matters of concern in early childhood. *Pedagogy, Culture, and Society* 25(1), 31-42. DOI: 10.1080/14681366.2016.1208265 | Pacini-Ketchabaw, V., Taylor, A. & Blaise, M., 2016. De-centring the human in multispecies ethnographies. In C. Taylor & C. Hughes (Eds.), *Posthuman Research Practices in Education* (pp. 149-167). Palgrave Macmillan. | Taylor, A. 2019. Countering the conceits of the Anthropocene: Scaling down and researching with minor players, *Discourse: Cultural Politics of Education* 41, 340-358. | Taylor, A. and Pacini-Ketchabaw, V. (2018). *The Common Worlds of Children and Animals: Relational Ethics for Entangled Lives*. Routledge.

⁵ Cutter-MacKenzie, A. & Rousell, D. (2019). Education for what? Shaping the field of climate change education with children and young people as co-researchers. *Children's Geographies* 17(1), 90-104.

<https://doi.org/10.1080/14733285.2018.1467556>

⁶ Facer, K. (2019) Climate change: How should public education respond?. *FORUM*, 61(2), 207–16.

values-based leadership that resources and promotes climate responses through school management, curriculum, and extra-curricular programs. Climate change responses should develop young people's agency, so they are empowered to act.

However, what constitutes 'climate change education' and 'climate action' needs to be carefully considered⁷. If education, climate-focussed or not, continues as it has always done, that is, to promote ways of thinking which prioritise humans over other earthly beings and entities, education will only serve to perpetuate conditions that led to climate change in the first place. For instance, researchers have made compelling cases around how the pursuit of scientific innovations is partly responsible for our environmental crisis⁸. We therefore do not recommend the separation of science education from other disciplines. Indeed, we argue that the relationship between environmental and science education must be restored as these two areas of study have been allowed to dissociate over the last 50 years and this has not been helpful for either discipline⁹. Moreover, if climate action in schools is grounded in understandings which prioritise empathy, learning and being *with* the world, climate action in schools will enable the co-construction of more liveable worlds for all, and not just for those in schools.

Communities

Responses to climate change should not be a responsibility devolved to schools or local communities. There are crucial policy and funding opportunities that must be provided to support meaningful change. Schools and communities need a strong policy and resourcing environment which supports them to work together at local levels as well as within global contexts.

These responses must consider the diversity of challenges facing communities. Some communities will be more vulnerable to the physical effects of climate heating than others, and some communities are more leveraged to carbon intensive industries which will make them vulnerable to social and financial disruption, and the potential dislocation of identities. Local communities will need to draw upon the resources available to them in their responses. This means drawing upon local financial, social, intellectual, and cultural resources. Schools can be pivotal to bringing diverse communities together around the choices surrounding climate change.

System-level

At the state level, the Department of Education must demonstrate leadership when it comes to climate change and other issues related to global environmental crisis. The Department could develop a strategic plan around climate change and responses to it, with progress towards key performance indicators reported annually. The Department must also be prepared to resource climate change effects and responses, as the costs of climate change are well-known.

The Department could mandate climate change responses as part of each school's business plan and strategic planning. With increased autonomy under the Independent Public Schools initiative, school leaders could be incentivised (e.g. through finances) to develop and implement climate change mitigation and adaptation responses, and be held accountable to the reach, effectiveness, and sophistication of their strategies.

⁷ Stevenson, R., Nicholls, J. & Whitehouse, H. (2017). What Is Climate Change Education? *Curriculum Perspectives* 37, 67–71 DOI 10.1007/s41297-017-0015-9 | Cutter-MacKenzie, A. & Rousell, D. (2019). Education for what? Shaping the field of climate change education with children and young people as co-researchers. *Children's Geographies* 17(1), 90-104. <https://doi.org/10.1080/14733285.2018.1467556>

⁸ Common Worlds Research Collective. (2020). *Learning to become with the world: Education for future survival*. Paper commissioned for the UNESCO Futures of Education report (forthcoming 2021).

⁹ Gough, A. (2021). All STEM-Ed up: Gaps and silences around ecological education in Australia. *Sustainability*, 13(7), 3801. Retrieved from <https://www.mdpi.com/2071-1050/13/7/3801>

There is arguably a need for expertise and resources in many schools to develop meaningful and sophisticated responses to the climate crisis and its local effects. This requires research to better understand what school leaders and teachers know about climate change, mitigation and adaptation, including in response to their local contexts, and what is currently happening in schools. It is also a matter of priority that the Department allocate resources, professional learning and other supports for school leaders, school boards, school clusters/networks and teachers to develop meaningful strategies and projects.

To better know the costs involved in mitigation and adaptation, research could be commissioned by the Department of Education or Department of Treasury into the anticipated impact of climate change on the school education sector, including its infrastructure around the state, the lives of students and their communities, and its resourcing implications.

Barriers that schools encounter in undertaking climate action and how these can be addressed

The creation and adoption of responses in schools can be limited by several factors. Issues include:

- Successive federal governments have imposed and reinforced curriculum-centred teaching that has eroded principal and teachers' professional autonomy, intensified their work, and limited their capacity to respond to emerging issues¹⁰. This may impact on their interest, ability, and inclination to engage in climate change responses, especially if it is an additional responsibility and one that is not resourced.
- Many schools currently respond to issues of environmental sustainability through the sustainability cross-curriculum priority of the Australian Curriculum. However, with a crowded curriculum, data-driven school cultures and lack of environmental expertise, there is little evidence that this cross-curriculum priority is taught well or widely¹¹.
- Sustainability is often narrowly-framed around economic development, scientific responses, and the human management of the environment¹². While we do not discount these as part of suite of responses, we must recognise their limitations in how they frame the issues and responses. The complex issues of climate heating (a wicked problem) will require complex, lateral, and creative responses that go beyond siloed disciplinary approaches. For example, Indigenous ways of knowing Country are increasingly used to understand our environment, our relationship to it and how we can live with it in sustainable ways.
- Research is needed to better grasp the threshold knowledge of leaders and teachers to climate change, climate change responses in education, and the experiences and projected experiences of school communities in various locations.

¹⁰ Kuzich, S., Taylor, E., & Taylor, P. C. (2015). When policy and infrastructure provisions are exemplary but still insufficient. *Journal of Education for Sustainable Development*, 9(2), 179–195.

¹¹ Barnes, M., Moore, D., & Almedia, S. (2018). Sustainability in Australian schools: A cross-curriculum priority? *Prospects*, 47, 377-392.

¹² Gough, A. (2021). All STEM-Ed up: Gaps and silences around ecological education in Australia. *Sustainability*, 13, 3801. <https://doi.org/10.3390/su13073801>