

#### RESEARCH-PRACTICE ARTICLE

# School strikers enacting politics for climate justice: Daring to think differently about education

Peta J. White<sup>1,\*</sup>, Joseph P. Ferguson<sup>1</sup>, Niamh O'Connor Smith<sup>2</sup> and Harriet O'Shea Carre<sup>2</sup>

<sup>1</sup>School of Education, Deakin University, Burwood, VIC, Australia and <sup>2</sup>Castlemaine Youth Strike, Castlemaine, VIC, Australia

\*Corresponding author. E-mail: peta.white@deakin.edu.au

(Received 13 February 2021; revised 05 October 2021; accepted 12 October 2021; first published online 15 November 2021)

#### Abstract

Two school strikers — Niamh and Harriet — come together with two environmental education academics — Peta and Joseph — to explore what it means to be young people enacting politics for the environment in Australia, and what this might mean for re-imagining education. Niamh and Harriet are leaders of, and were integral to initiating, the highly effective *School Strike 4 Climate — Australia* (SS4C) movement, enacting 'principled disobedience'. Peta and Joseph work in teacher education, preparing future teachers who will teach students who are increasingly climate savvy and politically active. In coming together and through the lens of pragmatism, we highlight the political nature of what Niamh and Harriet have been undertaking as they negotiate social, cultural, educational and environmental issues implicated in the climate crisis. Collaborative autoethnography framed our exploration of motivations for action, politics and education within our communities. Through Niamh's and Harriet's experiences, we explore how young people express agency while developing identity. Our autoethnographic conversations highlighted the experience and political agency that many of our young people demonstrate and led to us reflecting on the resulting opportunity for educators to 'dare to think' differently about education.

Keywords: climate crisis; climate justice; politics; School Strike 4 Climate (SS4C); re-imagining education

#### Civil Disobedience and the Future of Education

The September 2019 School Strike 4 Climate – Australia (SS4C) event was the largest gathering of protesters in Australia since 2003 (The Age, 2019). The size of this civil disobedience and others located around the world is evidence that the movement led by young people relates to and is having an impact on many. In this paper, we address questions concerning how young people: voice their rights and responsibilities about climate change policy; enact their agency to demand social justice; and frame their identities as those who act in times of global crisis. We explore the implications of youth activism, leadership and political participation for educators and the future of education. We call ourselves 'a collective of leaders of the SS4C movement and education academics' who unpack motivations, practices and thoughts with the intent to provoke active re-imagining of education (as system and practice). We are each invested in how education (as system and practice) is supporting (or not) young people to appreciate their responsibilities, live into their rights, feel heard and, ultimately, to be hopeful and active about the future.

**Niamh:** A lot of adults come up to us and say, 'you've made other adults act'. Adults who know about the issue but have had no reason or motivation to do anything until now.

© The Author(s), 2021. Published by Cambridge University Press.

Our climate crisis is the greatest social justice issue humanity faces (Tutu, 2010). Communities globally are mobilising to demonstrate their concern (UNESCO-GAP, 2019). Young people enact civil disobedience (Mattheis, 2020) in the form of school strikes to ensure their voices are heard, that they enact politics, and that they are not ignored. They are supported by community members of all ages, sharing concerns and taking action. This is civil disobedience understood as 'principled disobedience by legal minors' (Mattheis, 2020, p. 1), reflecting the reality that 'children are wrongfully excluded from political participation and that principled lawbreaking can be an important remedy to this exclusion' (p. 1). In response to Greta Thunberg's now famous 'How dare you!' (Nikkei Asia News, 2019) indictment of humanity's inaction on anthropogenic climate change and education, we agree with Ross (2020) when he says that it is 'firstly and above all a matter of the future of education' (p. 474). In fact, the only appropriate response to Greta's statement is to 'dare to think' (Ross, 2020, p. 466), which we frame as *dare to think differently about education*.

# Who We are and What We are Doing (for the Climate and Education)

Niamh and Harriet are leaders of SS4C, which they began in their hometown of Castlemaine, Victoria, Australia. In this paper, they collaborate with Peta and Joseph who are education academics exploring the climate crisis through the intersecting lenses of politics, education and community. The collective met several times to enact a process of reflection and elaboration resulting in our shared position presented in this paper. We have taken seriously Bowman's (2019) recommendation that 'exploring young people's climate action requires a more open, more participatory approach to research' (p. 302). Such an approach redefines research as 'imagining future worlds alongside young climate activists' (p. 295), in particular future worlds regarding education.

We begin by sharing our stories of how we became involved in the school strikes as part of our climate activism. We go on to explore issues of agency, identity and emotional involvement in political activism. We then share thoughts from Niamh and Harriet about their activism before bringing the focus back to education. We think about how our systems, practices and educators themselves can benefit from reflecting on the SS4C movement as an opportunity to re-think our education system and practices and how they impact and are impacted by young people. Framed by pragmatism 'which understands knowing the world as inseparable from agency within it' (Legg & Hookway, 2019), we posit that NOW is the time to reimagine how education might proceed, drawing on evidence that many young people we are now educating are increasingly confident, agentic and driven by the global and urgent nature of these challenges.

## Storying Climate Change Activism - Our Collaborative Endeavour

By utilising pragmatism (Legg & Hookway, 2019; Light & Katz, 1996) as a conceptual framework, we consider that 'if a philosophical theory does not contribute directly to social progress then it is not worth much...[and] that experience consists in transacting with rather than representing nature' (Legg & Hookway, 2019, n.p.). In other words, what matters is what has practical bearings for our conduct as individuals and as part of communities, both as we enact climate activism and research these practices as experiences (as we do in this paper). As Biesta and Burbules (2003) argue, pragmatism as a philosophy empowers us to enact 'research for education' not just 'research about education' (p. 1).

Although Peta and Joseph do not consider themselves to be the only adults in the conversation, as academics with knowledge of the cultures of academic research and writing, we initiated and led the design of this collaboration. Basu, Calabrese Barton, Clairmont & Locke (2009) call for the involvement of young people in researching and writing, such that they are also bestowed with the title (and hence privileges) of 'researcher'. We are enacting an approach to research that is grounded in the idea and reality of 'students as partners' (Ahmad et al., 2017; Matthews,

2017) which informs our narrative practice. Involvement of young people functions to 'provide both an "emic" perspective and student-focused voices that complement and challenge the researchers' voices' (Matthews, 2017, p. 345). Increasingly, researching youth climate activism involves collaborating with young(er) people who are disobeying and dissenting to realise activism in personally meaningful ways (Rousell, Cutter-Mackenzie, & Foster, 2017; Verlie & CCR 15, 2015). It is important to acknowledge not just the potential benefits of such collaborative endeavours but also the challenges of undertaking such 'nontraditional' research; we experienced some serious institutional challenges as we attempted to manage our ethical protocols that honoured our co-researcher status (White & Ferguson, 2021).

We applied collaborative autoethnographic methodology (Chang, Ngunjiri, & Hernandez, 2013; Palmer, White, & Wooltorton, 2018) to explore motivation for action, politics, community and education. Our online discussions (via Zoom) explored the intersecting influences impacting Niamh's and Harriet's involvement in the SS4C movement, how this informed their identities and set trajectories for their future, and how we could engage with their experiences to reimagine education. These discussions were similar to semi-structured interviews in that Peta and Joseph designed questions that were used to frame our discussions; however, the conversations were nonlinear and additional questions, ideas and stories emerged throughout this process. We recorded and then transcribed the conversations and have used these as textual starting points for our narrative synthesis. The introductory stories presented in this paper were collaboratively generated from the conversations by us all working on the manuscript over 2 months. In the spirit of a postqualitative approach to data analysis (Lather & St Pierre, 2013), we used the conversations to prompt our story design and then collaboratively generated the clarity and linearity needed to communicate the ideas through the paper. The introductory stories in the next section offer insights into the ways each of us (authors) came to activism.

# Harriet's Start-Up in Climate Activism

My involvement in the SS4C movement was spontaneous, beginning in September—October 2018, when I was in Year 8. I had no idea what I was getting into, nor did I expect that it would be so successful! We were feeling extremely frustrated about the lack of climate action to the point where starting the school strike movement felt like a last resort to get our voices heard. We did not know if this movement would achieve anything but felt morally obligated to try.

SS4C was the first big movement I had been involved in. My friends Milou and Callum (who coinitiated SS4C in Australia) grew up in activist families, but I did not. Milou's and Callum's families often attended and organised protests and I came along occasionally, but I was not very involved. However, I had been interested in other human rights issues for a long time and had been active in advocating to end family violence, among other things. I did not know much of the specifics about climate change, but always accepted that it existed. My dad works in the renewable energies industry and so I have some understanding of the basics of anthropogenic climate change but did not really understand its association with other human rights issues and social justice. For a long time, I did not understand how much impact anthropogenic climate change had on various aspects of life and the planet because the impacts of climate change are so broad and often indirect, which I realise now is an experience common to many people.

I was on the school bus when Milou told me about Greta Thunberg, whom she had read about in a Guardian article. We both thought that Greta's activism in Sweden was really interesting and potentially impactful. Inspired by Greta and with Milou and Callum we decided to bring the movement to Australia. At this stage Greta was not yet famous and wasn't getting a lot of media coverage on the fact she was striking from school each Friday and sitting outside the Swedish parliament with a placard appealing for climate action. We did not know how impactful the strikes would be, but we thought it was worth trying.

Initially we did not have many expectations; striking was merely an idea that was worth exploring and giving a go because, ultimately, we could not live with ourselves if we did not try. We started out with a focus on providing a platform for young people to have their voices heard, as it is young people who will ultimately inherit this planet, as will future generations. Since then, the movement has expanded to focus also on the empowerment of all other individuals and communities who are facing the impacts of climate change first and worst.

Shortly before the SS4C movement started, I began to realise the interconnectedness between different human rights issues with climate change. Once I began to understand how climate change disproportionately impacts already marginalised and disadvantaged communities and individuals, I felt morally obligated to strike and sacrifice some of my education and other privileges. I feel that as a very fortunate person who has all the resources and support needed to take this kind of action, it is my ethical duty to strike for people less fortunate than myself. It is my duty to fight for a future inclusive of everyone. Those in positions of power who are making the decisions regarding our planet are often the same people that are least impacted by climate change, while those most impacted are left voiceless. It is my responsibility to use whatever influence I may have to amplify the voices of the people most impacted by the climate emergency.

Maturing and growing older has helped me gain a deeper understanding of anthropogenic climate change. Through being involved in the SS4C movement I have learnt so much. It is interesting, and sometimes confronting, that so much of my involvement with the movement has been recorded by the media, which has acted as a reminder for me of the whole process over time and my involvement. I have been able to look back on what I said and did which makes it even more evident to me that I have learned a lot by being involved in the school strikes. My understanding of climate change has deepened, which stems from being surrounded by very educated people — scientists, activists, mentors and others - who are prepared to share their knowledge with me. It is nice to think that I now have the opportunity to share what I have learnt from these people, and my involvement in the SS4C movement, with others through this paper.

## Niamh's Start-Up in Climate Activism

My involvement in the SS4C movement began in April—May 2019 when I was in Year 11. I was away at the beach with Callum and his family (my family and Callum's family are good friends) and as we were sitting around a campfire that night they began talking about the next strike and how there was no one to organise it because people were going to be away. I said I would help organise it as it sounded like fun! I started organising a strike for the first time. I had attended some of the big strikes before but had not yet been involved behind the scenes. long with my friend Emilia, I began the process to organise the election strike on May 3rd, 2019, supported by other activists in Castlemaine, including experienced activists like Dean (Callum's dad).

When I started becoming actively involved in the movement, I did not know a great deal about climate change. I am a political person interested in the political side of things but that did not necessarily include interest in the activist, social justice side. The underlying reason as to why I started with climate change activism was to help people. I saw it as a way of creating a shift in society to establish a new system. At the start, I knew climate change existed, I knew it was bad for the planet and I knew we needed to act. But what that actually meant and where to go from there ... my knowledge was limited. The more invested in the movement, the greater my knowledge became. I furthered my knowledge on the impacts of climate change and how it disproportionality affects certain groups, such as First Nations people. The idea of climate justice became important and why it must be at the forefront of the climate movement was clear. The cycle was continuous the more I learnt the more I wanted to be involved, to learn, continue to act and realise the only option is to fight. The more you learn, the more you realise we need to fight.

SS4C has been key in spreading awareness and information about climate change to a broad range of people. Because a lot of the people who attend climate strikes — whether it's just to participate in one strike or get involved behind the scenes – they come with, like us, very little knowledge on the issue. They know it's a problem, and as they experience – through protests and through organising – they learn more. And I think that's really important in terms of moving forward with action, as public pressure is essential to creating change.

The way I build my knowledge about the issues is mainly from other activists, both young and old, as they've all researched and have a reliable grasp on the information. Other sources come from people contacting you with articles or events that provide more information on the topic and through this process of sharing knowledge with others you gain a deeper understanding of the issue. Also, as part of the movement, I had to write speeches and to do this properly you have to look up the facts and figures about human-induced climate change, and through this you learn.

# Peta's Start-Up in Climate Activism

I took up environmental activism as a teacher in a small country town. I started a recycling depot, planted endemic gardens, and coordinated the Alcoa Landcare Scholarship (where city kids came to live with us in the country for a term, studying local landcare issues). I then took a job that focussed on environmental education in the Esperance region (south-east Western Australia) where I worked with schools, teachers, students, community groups, and organisations all interested in taking action. Eventually, I found my way to Canada and started my PhD where I spent time learning how to live more sustainably and then I used that experience as a platform from which I could teach preservice teachers about sustainability. I decided that teachers were powerful drivers of change and I committed to work with them in ways that enabled them to apply their teaching practices to empower young people to be informed, enacted and to create the society we need.

I was captivated by the SS4C movement and attended the strikes in Melbourne. I attended with a sense of responsibility but did not feel 'involved'. Being present was challenging. I felt emotional, captivated and disappointed all at once. I wondered why action that was clearly important to so many required leadership by young people. I was there to show support, I wanted to honour the leadership and commitment, and to be counted as one of many dissatisfied with our government's leadership. I was also struck by the inconsistencies of other strikers as they drank from disposable coffee cups and plastic water bottles and wore leather boots while holding a banner that calls for the banning of animal agriculture. What we do and what we think can be divergent or inconsistent. Where does our personal sustainability practice fit when demanding more of our government? During the march I wondered what the active and agentic young people and school strikes meant for teachers, as many of our students demonstrate that they are now ... politically savvy, motivated for global change, globally connected and wanting more from their schooling experience. How must I change my practice as a teacher educator to remain relevant and enact my responsibilities, and how must the education system re-imagine itself to work with/for these motivated and informed young people as they prepare for an unknown future?

### Joseph's Start-Up in Climate Activism

I grew up in Warrnambool, on the rugged south-west coast of Victoria, and then in the hotter and more humid weather of Brisbane, before moving to Melbourne where I now reside in the Dandenong Ranges. Due to my formative years in Warrnambool, I feel a strong connection to the water (in particular the ocean) and wind (strong and salty as it blasts off the ocean) — it's in my bones. I regularly return to my hometown to visit family and to reconnect with these elements. I love living (with my partner and our cat) where I do now in the Dandenong Ranges as I have the privilege of sharing each day with the flora and fauna of the local area: ferns, eucalypts, mosses, fungi,

kookaburras, echidnas, spiders and whoever chooses to grace me with their presence, including a colony of bees who now reside in a Kenyan top-bar hive in our backyard; my favourite pastime is to sit and watch the bees as they collect pollen and nectar and return to their home ready to share with their family (including us when they have enough honey). These are family too; I've always felt a strong affinity with non-human animals and now I can really embrace this. In the almost-3 years I've been calling this place home, I've become acutely attuned to the possibility of bushfires and what they mean for my community (people, flora and fauna). I know that human-induced climate change, along with all its ugly friends (many of them closely related, e.g. pollution, deforestation) are clear and present dangers for my community, and in my everyday doing and being (including my teaching and research), I try to oppose and pushback the forces that are destroying the planet.

While my family and I have always reduced, reused, recycled, composted and grown our own vegetables as much as possible - indeed a very important form of activism - it is only more recently, since teaching and researching environmental education with Peta, that I've started to form connections with more direct activism and those who undertake such actions, including SS4C. While I have not attended any of the strikes as part of this movement, I have been involved from a distance as I have supported preservice teachers to take notice of this movement and what it means for them as they start their teaching journeys. This included organising in 2019 an online discussion between members of the SS4C movement from Castlemaine and preservice teachers. This was a critical point in my journey as an environmental educator and a potential turning point in my activism, in particular the activist nature of my role as an educator. Participating in this discussion, I was genuinely in awe of the passion and thoughtfulness of the climate strikers who joined us (Harriet included) - they were far more informed and articulate about human-induced climate change and its impacts than me or any adult I know. And they were doing something about it! At the same time, I was surprised and disappointed (perhaps not fairly so) at the way in which the preservice teachers took a passive role in the discussion. I'd hoped they would seize this chance to engage with the very type of students they would likely (at least hopefully) encounter in schools. In this way, the strikers in this moment were educating me about what education and educators ought to be in these challenging times of the Anthropocene, in particular in relation to working with both school students and preservice teachers. It is becoming increasingly evident to me that education needs to be re-imagined in order to reflect the activism of young people, including the need for teacher educators such as myself to support preservice teachers to firstly recognise the agency of the young people they will work with, and secondly how they can support these students to take responsible and informed action on those issues that matter to them and their communities (including the school community) so they can realise their desired futures.

## Political Agency as Critical Science Agency

O'Brien, Selboe, & Hayward (2018) argue that youth climate activism is characterised by dissent towards 'economic, social and environmental policies and practices that contribute to climate change in diverse ways' (p. 1). In doing climate activism, young people are first and foremost asserting 'political agency both within and outside of traditional political processes' (Mattheis, 2020, p. 1) and in so doing are 'challenging the interests and power relationships that are perpetuating an unsustainable future' (p. 9) as they strive to realise 'climate-resilient futures' (p. 1). Agency in this sense is 'the ability of individuals to imagine a different future and a sense of purposeful expression of opinions or actions that are at variance with dominant or commonly held beliefs' (Mattheis, 2020, p. 8).

**Harriet:** We started the school strike movement because we felt that the voices of young people were being ignored. Being under 18, we felt voiceless in our political system because we did not have a vote. Participating in an occasional protest that got barely any publicity did not feel like enough. I felt extremely anxious about the future but being involved in the school strikes has given me hope.

We suggest that the political agency of youth climate activists is part of their 'critical science agency' (CSA; Basu, Calabrese Barton, Clairmont, & Locke, 2009, p. 345) and thus to their identities as politically savvy and scientifically literate activists. This is a form of agency involving students 'leveraging science knowledge and practice to take action' (Schenkel & Calabrese Barton, 2019, p. 502) on issues that matter to them and their communities, and as such it is a particular form of science agency 'that takes a more explicitly political stance, linking agency to broader notions of justice' (p. 502). We use the notion of CSA to characterise youth climate activists' knowing and doing, in the sense outlined by Schenkel and Calabrese Barton (2019); 'using science knowledge and practices with other forms of expertise to address issues of injustice' (p. 502). CSA consists of at least three components:

... that youth develop expertise in both science and of their community contexts; that youth use these forms of expertise to identify and take actions collectively on problems within the community; and that such actions are justice-oriented. (Schenkel & Calabrese Barton, 2019, p. 312)

Niamh and Harriet enact CSA through their climate activism and despite approaching the climate crisis through political and social justice lenses have become increasingly aware of the scientific evidence and of its importance in political action. Schenkel, Calabrese Barton, Tan, Nazar and Flores (2019) show that such CSA can drive students' interest in and advocacy of social justice responses to sustainability issues. In addition, this agency is directly linked to students' developing identities with regard to science. These identities, as Basu et al. (2009) point out, are not fixed in the present but also concern who young people want to be in the future. CSA and formation of associated identities are iterative and generative processes.

Harriet: I got involved in climate activism through a humanitarian lens, but that is absolutely not to say that it was not based on scientific research. Personally, I feel that it is irrelevant whether I can understand all the intricacies of climate science myself. What is important is that I can comprehend what the climate scientists are communicating and, although it seems our government is incapable of this, I think it is pretty straight forward. I may be shit at science, but my comprehension is pretty solid. The climate scientists and experts have been very clear in saying that we need immediate climate action, these are very intelligent and knowledgeable people who have dedicated their lives to this research, so who cares if I understand it all, they do. A big criticism of the school strikers is that we are too young to understand the science, but to me it seems the real problem is that our leaders are ignoring the science, whether or not they understand it does not matter. You do not have to be the expert, to listen to the experts.

Harriet does not hold an identity that relies on a strong scientific way of engaging with the world, but she acknowledges the importance of science in understanding that urgent and political action is required and she ensures that she can discuss these issues with colleagues.

Our discussions turned towards how we learn about climate science, as climate change education is not strongly mandated in the Victorian Science Curriculum (Victorian Curriculum, 2017). Although there is some reference to climate change in the outcomes (more so in Geography) the elaborations (examples) sometimes include climate change references. Given the lack of specificity in the curriculum, the way that students engage with learning experiences will vary depending on teacher and school practices and cultures. Niamh and Harriet had reason to be interested in climate change because of their extra curricula and out of school activities and their home/family environment (consistent with Field, Schwartzberg, & Berger, 2019). Their school experiences of learning about climate change were different and limited.

Harriet: I was at a Steiner school, and I do not think we ever explicitly learned about anthropogenic climate change. However, a relationship with nature and conscious consumerism were strongly fostered. At school we were taught about ways to live more sustainably, we learned a lot about organic and biodynamic agriculture. We learned about climate change more so from a humanitarian perspective than a scientific one, but we were always encouraged to listen to the climate scientists.

Now I am at a different school, and in our science classes we did a unit on climate change and ecology, as well as learning about the politics of climate change in other classes, that did not used to be part of the science curriculum at the school. I thought it was exciting to see that the curriculum is beginning to adapt to communicate the important issues of our time, particularly as it is a very mainstream school.

Niamh: I went through mainstream education, public school in Castlemaine and I learnt about climate change, but not at a deep level, other than it existed. Even doing Year 12 chemistry in 2020, you learn about fuels, both renewable and non-renewable, and that carbon dioxide is causing the enhanced greenhouse effect. But the course did not address the need to phase out the fossil fuels that cause the detrimental effects of human-induced climate change. Although education has come a long way and in junior levels the curriculum is more flexible for teachers to address climate change on a deeper level, the sense of urgency surrounding the issue means while the science behind it must be taught so students understand the reasons to act and to create further public pressure, what needs to be taught is the socio-economic impact of climate change on the groups that already face systemic disadvantage. Although I am a maths and science person, it wasn't until I got involved in the movement that I took a deeper dive into the science. I initiated learning the science myself and I was exposed to the science as part of the movement.

The four of us found ourselves asking 'what are teachers doing to generate an imperative for students to learn about the climate crisis'? We wondered what motivations for teachers teaching and students learning about the climate crisis might be. Are these motivations expressions of personal or social agency? How can schools and teachers be involved in scaffolding learning experiences that enable meaningfully engagement with student voice resulting in inclusion in political processes and matters and climate action?

## SS4C Voices are Calling for Climate Justice

Niamh's and Harriet's involvement in climate change activism stems from their need to act for human rights (as opposed to directly acting for the climate/environment). For them, it is about *climate justice*. As a socially crafted and well-used concept, we turned to Wikipedia (Wired, 2016) to clarify its application: 'Climate justice is a term used to frame global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature' (Wikipedia – Climate Justice, 2021). Climate justice is a political and ethical way of thinking and doing, and is linked to knowing about the science of the climate crisis and the need to act. For many, this creates a moral/ethical imperative that is politically framed (Climate Justice, 2019; Martiskainen et al., 2020) and politically enacted by SS4C activists.

**Niamh:** As we've learned more, the movement has also changed to reflect climate justice. We try to centre First Nations people because they are currently on the front lines of climate change. It's really important to highlight that because when people think of climate change that's generally not what comes to mind.

SS4C is a part of what Foran, Gray, and Grosse (2017) call the 'global youth climate justice movement' (p. 360). This is a movement which is:

... working to ensure that social justice is at the centre of how society addresses climate change, in contrast to the larger climate movement, the climate justice movement represents one of the leading edges of a wave of movements for radical social change that have been challenging the terms of neoliberalism's victory. (Foran et al., 2017, p. 354)

The aim of this movement is not just to reaffirm that climate change is 'the most urgent environmental problem we face' but to make people, in particular the ruling elite and middle class in industrialised nations, understand and act on the fact that climate change is 'the most urgent social justice problem we face' (Stapleton, 2019, p. 732). Young people involved in movements such as SS4C are taking action in order to address socio-economic inequities and political power imbalances with a focus on the intergenerational nature of these problems (Stapleton, 2019). And they do so through solidarity, social agency, as well as critical science agency, often with those privileged enough to have the resources (time, money etc.) to take action (and likely least impacted by climate change). Such action, Stapleton (2019) argues, is part of a broader climate change education movement that enables young people (and their friends, family and communities) to personally connect with the realities of those most impacted by climate change and to do so most powerfully through what Crate (2017) calls 'storying climate change' (p. 64). 'It turns out', Crate (2017) argues, 'that no matter where people live, they are moved by stories that resonate with their sense of place and mode of being on the planet' (p. 66). This is a collaborative process of creating and sharing stories about the impacts of climate change, a cathartic process that can lift the haze of anxiety through stimulating action. We (in particular Niamh and Harriet) are storying climate change activism by taking time to explore our experiences, relate them to the field and to connect or elicit meaning that we can then relate to in order to call for significant change through/ as a re-imagining of education – driven by young people.

Importantly, as Mayes (2020) points out, this push for climate justice is also about justice for the young activists leading this charge. They demand a voice in discussions and debates about what is to be done about anthropogenic climate change. This entails being able to exercise the power to make decisions that make a difference in people's lives, in particular for those disproportionately impacted by the climate crisis. In this way, student voice is 'based on recognition of oppression and an insistence that students be recognised as subjects and actors' (Cook-Sather, 2007, p. 391). We suggest that students, teachers and education systems share the responsibility of re-imagining the purpose of schooling in light of the climate crisis and the actions of politically motivated and ethically driven leaders. Schools become places encouraging agency and climate justice as key drivers of education.

## The Relevance of Schooling

During the SS4C protest in November 2019, our then Prime Minister, Scott Morrison, claimed that students should not strike but rather they should 'stay in school', saying 'what we want is more learning in schools and less activism in schools' (Nationwide News, 2021). Our political leaders' assertion that learning can only occur in schools and activism is something that has no place in schools was disappointing (but not surprising). Yet, through discussion we clarified that, in fact, much learning has been achieved through the SS4C in beyond-school spaces.

**Harriet:** I feel like being involved in the movement helped me in a lot of ways. I mean before the movement started, I was a terrible public speaker and very uncomfortable being in the spotlight even if it was just in front of my class or something, I hated that role. I guess I was very

self-conscious about expressing my ideas because it made me vulnerable to judgement and criticism.

Through my involvement with the school strike movement, I have learned a lot about advertising, using social media effectively, public speaking, non-violent communication and deescalation tactics, how to liaise with police, how to communicate with media, how to be more assertive and many more things. We received this training and support from organisations such as the Australian Youth Climate Coalition (AYCC) (https://www.aycc.org.au/) and Tipping Point (https://www.tippingpoint.org.au/) as well as from experienced activists.

One of the most important skills I developed was how to effectively communicate with all different kinds of people, holding many different views. Thanks to all the support and training we received, I am now strong enough in some of these skills that I can teach others. Although some of the skills I have learnt are only applicable to very specific situations, such as how to climb massive trees to prevent logging, some of the skills I have developed are really important for everyday life, such as articulation and self-expression.

**Niamh:** A lot of these skills we learned are applicable in everyday life situations, if not directly related to activism. I feel the most valuable skills that I've learned are not necessarily directly activist-related, but personal growth skills.

Life skills, such as collaborating, leading, motivating and mobilising others, are invaluable skills and we wonder how many opportunities students have to generate these skills in our school systems. SS4C participants are developing these high-level life skills, as well as learning scientific literacies and climate science, the implications of our collective and individual actions, the governmental processes of democracy, while exercising individual and collective liberty and developing personal and social agency. Schools are at risk of becoming irrelevant (Evans, Morrison, & Auer, 2019) with much research pointing to our future as a skill-based economy (Tytler et al., 2018). School systems (such as curricula — school-based, state, and national; teaching practices; and student agency) are reform ready, we suggest. There are many working to provide examples and pathways towards necessary transformation of elements of the system (Riley & White, 2020; Siegner & Stapert, 2019; Wooltorton, White, Palmer, & Collard, 2020). We believe it will take strong, informed, resilient and resourced governmental and political leadership to ensure system change initiatives are supported and enacted.

We are disappointed that our country's leader holds such antiquated views on schooling, although negative 'press' is often useful to generate interest and engagement in the debate.

Harriet: Sometimes negative comments and commentary can be quite helpful. Public figures can be quite helpful in terms of publicity for our cause. When Scott Morrison spoke about the strikes that just made it 'blow up', that was very helpful. It was the best thing he could have done for the movement. Although of course it's frustrating and predictable to hear him say what he said but it fired a lot of people up to get involved. It was quite exciting because if the Prime Minister is angry at us then it means we're getting in the way of important things, which is the objective. So it can be really positive for us when people are negative towards us.

Regarding climate activism, Marris (2019) points out that 'adults are listening' (p. 472), indeed many are participating. This intergenerational interaction could be interpreted as a significant measure of success (Lawson et al., 2018). Many consider climate change as an urgent issue of structural violence and intergenerational justice (Sanson & Burke, 2020). We hope that one day the political leadership in Australia will demonstrate respect for all citizen voices, eliminating the need for students to strike from school on this matter.

# Young People Leading Action in a Global Crisis

We considered why the SS4C movement was effective and if youth leadership of civil disobedience was fundamental to its success. The SS4C reflects the importance young people place on being politically engaged and heard, in this case as dissatisfied with governmental leadership regarding social and environmental policy. Schools, educators and the broader education system could read this as a statement regarding their ineffective engagement with young people in the greatest crisis of our time. Young people are listened to because they have 'greater moral integrity' (Marris, 2019, p. 472) than adults – they 'don't represent someone else's agenda, their message is strikingly direct and unvarnished' (p. 472). Marris (2019) suggests that youth strikers bring 'moral authority as children' (p. 471), and they are uniquely positioned to lead climate activism as their future is in peril. Yet, they have no formal protocols in place through which they can voice their concerns at current governmental practices and policies.

**Niamh:** I turned 18 in September, and I got to vote for the first time in the council elections and participating in that form of civic duty was exciting. Moving forward I will continue with activism, but not necessarily with SS4C because it's definitely a student-led movement and needs to stay a student-led movement, as that's the real power of the movement. The transition into other campaigns and other strategies to continue to fight is still somewhat unknown to me, but I know that I will never leave activism entirely. Further in the future I probably want to go into politics or law, something in those fields to create change from the inside. I want to try to dismantle current systems to create better systems that represent people in a more equitable way, in a better way.

SS4C is a movement that empowers and engages people of all ages. SS4C also recognises that young activists are likely to develop into adults who can apply activist strategies and skills throughout life, as needed (Youth Climate Strike US, 2020). It is in this way that the activism of SS4C is intergenerational, sustainable and generative (of change and further activism).

**Harriet:** The movement has forced me to educate myself on a lot of issues and has changed my life dramatically. I'm interested in becoming involved in law or politics as a way to create change from within the system.

### Re-Imagining Education for Uncertain Futures

We began this paper by invoking Ross' (2020) call for us (those most responsible for anthropogenic climate change) to 'dare to think' (p. 466) in response to Greta's 'how dare you' statement. We reframed this to focus us to *dare to think differently about education* and we now call for a re-imagining of education, learning from the SS4C movements 'invaluable insights into re-imagining the futures of education that are informed by the demands and concerns of these students' (Saeed, 2020, p. 10). As Saeed (2020) argues, 'any discussion on the Futures of Education is incomplete without locating student voices and experiences as central to that discussion especially when students have been politically active — organising, agitating, speaking, writing, re-imagining their own future' (p. 7). The 'future of education' (Ross, 2020, p. 474) is still emerging as the SS4C continues to take action and we clarify these insights to encourage reimagined and reformed education systems.

- Acknowledge that young people are participating in the SS4C and are forced into civil disobedience to take political action to generate change about social/climate justice.
- Welcome that young people may come to climate change activism through humanitarian and social justice perspectives as well as through engaged critical science agency.
- Understand that young people appreciate a need to comprehend climate science but only as far as it enables them to take necessary action to generate change.

- Appreciate that young people require engagement with their political voices. Through SS4C they experience political attention, but demand continued and sustained action.
- Appreciate that we are experiencing a global phenomenon that involves young people engaging with government and demanding government action.
- Reimagine and re-form education systems to become spaces where young people learn and
  refine skills for political engagement. If schools offered ways to meaningfully engage student
  voice about the inevitable impact the climate crisis will have on their future, then it would
  become highly relevant.
- Recognise that schools are not providing the climate science and social impact analysis required by young people, forcing them to find alternative spaces to learn and engage with climate change issues.
- Focus the education systems on empowering young people through education to develop the skills and knowledge necessary for them to take action on matters of importance as we negotiate uncertain futures.

Through collaborative autoethnography, we have explored how the SS4C generates leadership and provides time and space for student engagement in the climate crisis in ways that enable political action for our collective futures. Niamh's and Harriet's stories reflect the stories of many of our students and demonstrate the imperative for their engagement with and action regarding our collective futures and, simultaneously, the growing irrelevance of our education systems. We call for re-imagining education systems to change so that they might become places of important and meaningful learning, preparing future leaders and citizens for engaging with global issues, impacts and crises. Many of our students are no longer passively waiting for their civil rights to begin at 18 years of age, and they are refusing to accept the limited engagement and learning opportunities offered through our antiquated education systems. It is in this way that we call for all of us to *dare to think differently about education*.

Niamh and Harriet continue to lead and engage others through their activism. Peta and Joseph are about to start working with new cohorts of future teachers, engaging them in re-imagining their roles as active climate justice educators. This research collective continues the call for re-imagining education systems. We end with some thought-provoking, empowering and hopeful words from Harriet.

**Harriet:** I reckon being involved in this movement has preserved my passion for activism because I find a lot of energy from being surrounded by other people who not only care but are willing to implement big changes in their lives and make sacrifices to achieve the action needed.

A lot of what we see in the media and a lot of the ideas our politicians express to the public can make you feel like you are in the minority for wanting climate action. Being involved in the school strike movement has made me realise that most people do want climate action, and contrary to what our leaders want us to believe, I know now that I am not alone.

The movement has helped me to grow a lot as a person. It is incredible to see how much of an impact the school strike movement has had, being a part of something so much bigger than yourself is extraordinary and I am very grateful for my experience because I think now, I will be an activist forever.

Acknowledgements. None.

Conflicts of Interest. None.

**Financial Support.** This research received no specific grant from any funding agency, commercial or not-for-profit sectors. This manuscript is original work and has not been submitted anywhere else.

#### References

- Ahmad, A., Ali, A., Van Maaren, J., Barrington, J., Merritt, O., & Ansilio, K. (2017). Partnership in practice: Implementing Healey's Conceptual Model. *International Journal for Students as Partners*, 1(2). DOI 10.15173/ijsap.v1i2.3197.
- Basu, S.J., Calabrese Barton, A., Clairmont, N., & Locke, D. (2009). Developing a framework for critical science agency through case study in a conceptual physics context. *Cultural Studies of Science Education*, 4(2), 345–371. DOI 10.1007/ s11422-008-9135-8.
- Biesta, G.J.J., & Burbules, N.C. (2003). Pragmatism and educational research. New York: Rowman and Littlefield Publishers, Inc.
- Bowman, B. (2019). Imagining future worlds alongside young climate activists: A new framework for research. Fennia, 197(2), 295–305.
- Chang, H., Ngunjiri, F.W., & Hernandez, K.A.C. (2013). Collaborative autoethnography. London, England: Routledge Taylor and Francis Group.
- Climate Justice (2019). Sustainable development goals. Retrieved from https://www.un.org/sustainabledevelopment/blog/ 2019/05/climate-justice/.
- Cook-Sather, A. (2007). Resisting the impositional potential of student voice work: Lessons from liberatory educational research from poststructuralist feminist critiques of critical pedagogy. Discourse: Studies in the Cultural Politics of Education, 28(3), 389–403. DOI 10.1080/01596300701458962.
- Crate, S. (2017). Storying climate change. Anthropology News, 58(2), 64-69.
- Evans, A.M., Morrison, J.K., & Auer, M.R. (2019). The crisis of policy education in turbulent times: Are schools of public affairs in danger of becoming irrelevant? *Journal of Public Affairs Education*, 25(3), 285–295. DOI 10.1080/15236803.2019. 1568099
- Field, E., Schwartzberg, P., & Berger, P. (2019). Canada, climate change and education: Opportunities for public and formal education (Formal report for learning for a sustainable future). Retrieved from http://www.LSF-LST.ca/cc-survey.
- Foran, J., Gray, S., & Grosse, C. (2017). Not yet the end of the world": Political cultures of opposition and creation in the global youth climate justice movement. *Interface*, 9(2), 353–379.
- Lather, P., & St Pierre, E. (2013). Post-qualitative research. *International Journal of Qualitative Studies in Education*, 26(6), 629–633. DOI 10.1080/09518398.2013.788752.
- Lawson, D.F., Stevenson, K.T., Peterson, M.N., Carrier, S.J., Strnad, R., & Seekamp, E. (2018). Intergenerational learning: Are children key in spurring climate action? Global Environmental Change, 53(2), 204–208.
- Legg, C., & Hookway, C. (2019). Pragmatism. In E.N. Zalta (Eds.), The Stanford Encyclopedia of Philosophy. (Spring Edition), Retrieved from, https://plato.stanford.edu/archives/spr2019/entries/pragmatism/
- Light, A., & Katz, E. (1996). Environmental pragmatism. London; New York: Routledge.
- Marris, E. (2019). Why the world is watching young climate activists. *Nature*, *573*(7775), 471–472. DOI 10.1038/d41586-019-02696-0.
- Martiskainen, M., Axon, S., Sovacool, B.K., Sareen, S., Furszyfer Del Rio, D., & Axon, K. (2020). Contextualizing climate justice activism: Knowledge, emotions, motivations, and actions among climate strikers in six cities. *Global Environmental Change*, 65. DOI 10.1016/j.gloenycha.2020.102180.
- Mattheis, N. (2020). Unruly kids? Conceptualizing and defending youth disobedience. European Journal of Political Theory. DOI 10.1177/1474885120918371.
- Matthews, K.E. (2017). Five propositions for genuine students as partners practice. *International Journal for Students as Partners*, 1(2), 1–9. DOI 10.15173/ijsap.v1i2.3315.
- Mayes, E. (2020). Politics of solidarity in educational partnerships. In M.A. Peters (Eds.), *Encyclopedia of teacher education* (pp. 1–5). Singapore: Springer.
- Nikkei Asia News. (2019). 'How dare you': Transcript of Greta Thunberg's UN climate speech, Retrieved from https://asia.nikkei.com/Spotlight/Environment/How-dare-you-Transcript-of-Greta-Thunberg-s-UN-climate-speech
- Nationwide News. (2021). PM Scott Morrison slams student protest, Greens say he is 'out of touch', Retrieved from https://www.news.com.au/technology/environment/climate-change/why-scott-morrison-is-worse-than-tony-abbott/news-story/ac9c3a43a0097e668b5e4ab4406bcb4a
- O'Brien, K., Selboe, E., & Hayward, B. (2018). Exploring youth activism on climate change: Dutiful, disruptive, and dangerous dissent. *Ecology and Society*, 23(3), 42. DOI 10.5751/ES-10287-230342.
- Palmer, M., White, P.J., & Wooltorton, S. (2018). Embodying our future through collaboration. The change is in the doing. The Journal of Environmental Education, 49(4), 309–317. DOI 10.1080/00958964.2017.1364214.
- Riley, K., & White, P.J. (2020). Attuning-with', affect, and assemblages of relations in a transdisciplinary environmental education. *Australian Journal of Environmental Education*, 35(3), 262–272. DOI 10.1017/aee.2019.30.
- Ross, D. (2020). From 'dare to think!' to 'how dare you!' and back again. Educational Philosophy and Theory, 52(4), 466–474.
  Rousell, D., Cutter-Mackenzie, A., & Foster, J. (2017). Children of an Earth to come: Speculative fiction, geophilosophy and climate change education research. Educational Studies, 53(6), 654–669. DOI 10.1080/00131946.2017.1369086.
- Saeed, T. (2020). Re-imagining education: Student movements and the possibility of a critical pedagogy and feminist praxis. Retreived from https://unesdoc.unesco.org/ark:/48223/pf0000374157

- Sanson, A.V., & Burke, S.E.L. (2020). Climate change and children: An issue of intergenerational justice. In N. Balvin & D.J. Christie (Eds.), *Children and peace From research to action* (pp. 343–362). Cham: Springer.
- Schenkel, K., & Calabrese Barton, A. (2019). Critical science agency and power hierarchies: Restructuring power within groups to address injustice beyond them. Science Education, 104(3), 500–529. DOI 10.1002/sce.21564.
- Schenkel, K., Calabrese Barton, A., Tan, E., Nazar, C.R., & Flores, G.D. (2019). Framing equity through a closer examination of critical science agency. Cultural Studies of Science Education, 14(2), 309–325. DOI 10.1007/s11422-019-09914-1.
- Siegner, A., & Stapert, N. (2020). Climate change education in the humanities classroom: A case study of the Lowell school curriculum pilot. *Environmental Education Research*, 26(4), 511–531. DOI 10.1080/13504622.2019.1607258.
- Stapleton, S.R. (2019). A case for climate justice education: American youth connecting to intragenerational climate injustice in Bangladesh. Environmental Education Research, 25(5), 732–750. DOI 10.1080/13504622.2018.1472220.
- The Age (2019). School strike for climate to bring Melbourne's CBD to a standstill. Retrieved from https://www.theage.com. au/national/victoria/school-strike-for-climate-to-bring-melbourne-s-cbd-to-a-standstill-20190919-p52t1i.html.
- **Tutu, D.** (2010). Foreword. In F. Kagawa & D. Selby (Eds.), *Education and climate change: Living and learning in interesting times* (pp. xv-xvi). New York: Routledge.
- Tytler, R., Bridgstock, R., White, P., Mather, D., McCandless, T., & Grant-Iramu, M. (2018). 100 jobs of the future: A study commissioned by Ford Australia. Retrieved from https://100jobsofthefuture.com/.
- UNESCO GAP (2019). Global action programme on education for sustainable development (2015-2019) Priority action area: Empowering and mobilizing youth. Retrieved from <a href="https://en.unesco.org/gap/priority-action-areas">https://en.unesco.org/gap/priority-action-areas</a>.
- Verlie, B., & CCR 15 (2018). From action to intra-action? Agency, identity and 'goals' in a relational approach to climate change education. Environmental Education Research, 26(9-10), 1266–1280. DOI 10.1080/13504622.2018.1497147.
- Victorian Curriculum (2017). Learning in science. Retrieved from https://victoriancurriculum.vcaa.vic.edu.au/science/introduction/learning-in-science.
- White, P.J., & Ferguson, J.P. (2021). Ethical research with young people: The politics of youth climate strikers in Australia. In P.J. White, R. Tytler, J. Ferguson & J.C. Clark (Eds.), *Methodological approaches to STEM Education Research*. (vol. 2, pp. 320–335). Newcastle upon Tyne: Cambridge Scholars Publishing.
- Wikipedia Climate Justice (2021). Climate Justice. Retrieved from https://en.wikipedia.org/wiki/Climate\_justice.
- Wired. (2016). At 15, Wikipedia is finally finding its way to the truth. Retrieved from https://www.wired.com/2016/01/at-15-wikipedia-is-finally-finding-its-way-to-the-truth/.
- Wooltorton, S., White, P., Palmer, M., & Collard, L. (2020). Learning cycles: Enriching ways of knowing place. *Australian Journal of Environmental Education*, 37(1), 1–18. DOI 10.1017/aee.2020.15.
- Youth Climate Strike US (2020). Theory of change. Retrieved from https://www.youthclimatestrikeus.org/theory-of-change/.

Peta White is a science and environmental education senior lecturer at Deakin University. She has worked in classrooms, as a curriculum consultant and manager, and as a teacher educator in several jurisdictions across Canada and Australia. She gained her PhD in Saskatchewan, Canada where she focussed on learning to live sustainably which became a platform from which to educate future teachers. Her passion for initial teacher educator, environmental education/academic activist work and action-orientated methodologies drives her current teaching/research scholarship.

**Joseph Ferguson** is an educational researcher and teacher educator at Deakin University working in science and environmental education. He is interested in exploring reasoning inside and outside the classroom, in particular in its creative forms. In his research and teaching as an environmental educator, he is motivated by a desire to work with preservice teachers, inservice teachers and students (of all ages and backgrounds) to empower them to take action on those issues that matter most to them and their communities.

**Niamh O'Connor Smith** is a climate activist and recently graduated high school student, who became involved in School Strike for Climate organising in April 2019. She is extremely passionate about politics and creating change in the political sphere. Through this, activism manifested itself as a way to create change when other avenues of change were limited. She is planning to continue her political activism by studying politics and economics at University in 2021.

Harriet O'Shea Carré is a 16-year-old environmental activist and co-initiator of the SS4C (School Strike for Climate) movement in Australia. She is motivated by her understanding of how disproportionately climate change impacts already disadvantaged people and is passionate about using her voice to create positive change and achieve climate justice.

Cite this article: White, P.J., Ferguson, J.P., O'Connor Smith, N., & O'Shea Carre, H. (2022). School strikers enacting politics for climate justice: Daring to think differently about education. *Australian Journal of Environmental Education* 38, 26–39. https://doi.org/10.1017/aee.2021.24