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## Becoming vulnerable in the face of climate change: Questions and dilemmas for a pedagogy of vulnerability

### Introduction

This chapter aims to be both an exploration and an example of (or an experiment with) a 'pedagogy of vulnerability'. It reports and reflects on efforts to create spaces for co-inquiry with students, as attempts to both escape the limits of traditional pedagogic relationships and to create spaces and opportunities for deeper learning. We consider how or whether the central premise of a 'pedagogy of vulnerability' – that purposeful and selective acts self-disclosure by teachers can help build the conditions of trust and care needed for dialogue around emotionally and politically challenging topics – is borne out in our experience.

The setting we reflect on here is the Division of Peace Studies and International Development at the University of Bradford, UK, which offers a range of BA and MA/MSc programmes that centre around questions of peace, conflict and development at multiple levels. Our students come from all over the world, particularly on the Masters Programmes. Some of our students come with extensive prior professional experience that they want to step back from and reflect on, while others see their studies as a way into professional careers, often at an international level. In addition, some students bring their own experiences and stories of conflict, war and different manifestations of violence and inequality to their studies.<sup>1</sup>

Against this background, we focus here particularly on several initiatives we have tried over the years for engaging students with questions surrounding the contemporary ecological crisis. Climate change is a topic that we find emotionally challenging and one which, as we will explain later, both evokes and demands a sense of vulnerability. It also requires a confrontation with difficult questions about inequality and privilege as they relate to histories and trajectories of social and ecological harm. In our experience, though, these prove to be very difficult issues to explore meaningfully in the classroom. Students (and colleagues) rarely seem to share the depth of our concern, even in a context where one might expect an openness to considering these questions. Few of us, it seems, wish to enter fully into conversations about our shared futures, to enter a space that might present some difficult questions and demands, to acknowledge the urgency and extent of our ecological and social vulnerability. We are unsure about our role and responsibility as professional educators in sharing knowledge that could be considered 'toxic', which by its nature has the potential to destabilise a sense of security, agency and hope. Is this a necessary task,

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<sup>1</sup> Alongside the issues we tackle here, the question of how we make more space for sharing and exploring difficult personal stories and dynamics of othering, privilege and marginalisation among students and staff has become another area in which we are experimenting with ideas relevant to a pedagogy of vulnerability. Some of our conversations on these issues with students happened alongside the conversation we describe below.

however, given the urgency and severity of the issues? Is it possible to facilitate an exploration of precarity and vulnerability - and the emotions this generates – in an ethical way, in the current context of higher education? Can a pedagogy of vulnerability accommodate this other sense of (ecological) vulnerability in a useful sense?

Our chapter is also and at the same time a purposeful disclosure about frustrations, challenges and limits in our educational practice: During the drafting and redrafting of this chapter, we realised that documenting our learning and experience in writing, and for publication, has in itself turned into an experiment with vulnerability. It has taken us away from what one of our students (Ghunta, 2018) has described as the performance of wellness and success. It has made us wonder to what extent our own sense of vulnerability has come across to our students, and whether making ourselves more vulnerable in our encounters with them might be a fruitful way forward. To explore this further, we shared and discussed a draft version of this chapter with a group of students from our undergraduate and postgraduate degrees, and invited discussion of the issues outlined below. We wanted to see whether an effort at co-learning connected with the writing of this chapter could help us gain better insight into the question we are engaging with here: What potential might practicing a ‘pedagogy of vulnerability’ have for education about climate change and the ‘difficult knowledge’ (Pitt and Britzman, 2003; Zembylas, 2014) associated with it?

The first part of the chapter tells the story of our own encounter with and feelings about ecological crisis, and briefly reports on some of the ways that we have tried to engage students and colleagues in learning about it and its implications for peace studies. The second part engages more closely with the concept of a ‘pedagogy of vulnerability’, reflects on our experiment of sharing our work in progress with a group of students, and raises some questions that we hope will resonate with others engaged in similar work and prompt further conversation and experimentation into a difficult future.

## Becoming vulnerable

When did we know about the ecological crisis? When and how did we come to understand that human impacts upon ecological systems – not just climate change, but biodiversity loss, soil degradation, ocean acidification – were not merely matters of concern, problems that could and would be solved (did we ever really think that?), but an existential threat? Pause there: an existential threat. The end of the world as we know it. So much beauty and life placed at risk (and for what?). When did we become capable of writing those words, of thinking those thoughts?

We can probably claim to have been concerned about ‘the environment’<sup>2</sup> for a long time. We remember those videos at school about acid rain, the stock images of car exhaust pipes and cooling towers pumping out pollution. We heard about ‘global warming’. We did some of the things that one did if one was concerned about the environment – a bit of recycling, buying some ‘green’ products, saving water, joining Greenpeace, coveting an eco-house.

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<sup>2</sup> It is worth pointing out here that the frame of ‘the environment’ is itself problematic. As Wendell Berry, for example, points out across his work, thinking or talking of ‘the environment’ is already symptomatic of a way of thinking of people and places in which important connections built on affection and meaningful work have been lost – and higher education has been entangled with the processes by which these connections have been lost. (See Berry, 1977 and many later works.)

Not much, when we think of it. There must have been a change somewhere. Was there some transformative learning experience, a reconfiguration of thought?

It was probably around 2005-2006. Hurricane Katrina happened. There was an unusual amount of reporting on climate change. Connections were being made. We had recently started a family. It's a cliché, of course, but having young children gives you a different connection to the future. Or perhaps it was just the news itself: the clarity and urgency of the warnings being issued by climate scientists. Whatever the reason, we were affected by our reading in the papers. We became truly concerned. That's too weak – we felt scared. It was visceral. What kind of world would our children have to navigate? We started to read more about climate change. We used our training and position as academics to educate ourselves. Our computers filled with research from unfamiliar fields – earth systems science, social ecology, geography. We got involved with the nascent Transition Towns movement (Hopkins, 2008), people who were travelling along a similar path as us, who wanted to make their communities more resilient to climate change and peak oil. We explored what 'resilience' might mean and encountered both inspirational stories and practices of resilience, mostly at community level<sup>3</sup>, and critiques of resilience as a discourse that can imply accommodation to existing systems rather than their transformation (for our review of and response to some of these critiques, see Kelly and Kelly, 2017).

Peak oil – the obvious reality that fossil fuels are not infinite, and the plausible claims that we are near or past the point at which their availability will start to decline - was another realisation altogether. How had we not understood the extent of our societies' dependence on energy? How was it possible to reach adulthood without knowing that concentrated fossil energy – coal, oil and gas – was the magic ingredient that made nearly all the 'advances' of modern life possible, that the 'progress' we enjoy was by no means inevitable? We were as illiterate about energy as we had been about the environment, so we educated ourselves further. We learned that some biophysical limits are real, that there's no escaping the second law of thermodynamics (Mackay, 2009). We learned that energy transitions are complex, take a long time and that different forms of energy (such as electricity and liquid fuels) are not easily substituted (Smil, 2010). We realised the extent to which the recent histories of our families and communities were bound up with a wider history of cheap energy (Mitchell, 2011; Malm, 2016). We learned that struggles for social justice, too, can be bound up with the politics and availability of alternative sources of energy (Nikiforuk, 2012). We discovered that 'green' energy systems can still (re)produce the violences of the industrial system (Dunlap, 2018).

We read Wendell Berry, whose writing inspired us to try to settle, to find a sense of home, to develop a sense of belonging to a place and community over time, and, ultimately, to share the fate of a place and community (in our case, this now includes the precariousness that comes with risks of flooding). We downsized our house, started growing our own food, tried to engage others, and, intermittently, dreamed up 'escape' plans.

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<sup>3</sup> For examples, see <https://transitionnetwork.org>, <https://www.resilience.org/>.

We were challenged and inspired by activists, movements and scholars who have been making links between social injustice and ecological degradation – including (but not limited to) the Zapatistas, La Via Campesina, Movement Generation, Black Lives Matter, Standing Rock, the Climate Justice movement and activists who have been challenging exclusionary narratives and practices that continue to characterise some of the major players in the environmental movement.

We realised that if ecological and energetic limits were real, mainstream narratives of ‘peace’ and ‘development’ needed serious questioning and rethinking, and we tried – not always successfully - to encourage such questioning among scholars and educators in our field (Kelly and Kelly, 2013a; 2013b). We have often felt alienated within a working environment that continued to rely on assumptions and practices that we felt were unrealistic, irresponsible and unjust. We have countenanced the possibility that, as Anderson (2017) has suggested, Universities in their current form might be more a part of the problem than of the solution.

The encounter with climate change changed everything, to borrow from Naomi Klein (2014), including ourselves. To a significant extent, we have experienced a process of becoming more vulnerable, of recognising and reflecting on vulnerability, resilience and resistance, and of recognising injustices at the heart of environmental change.

## Teaching in a time of crisis

It has not felt possible to keep the learning and concerns outlined above separate from our work as researchers and educators in Peace Studies. As we describe below, we have explored various ways to integrate this into our teaching practice, not just to inform about contemporary issues but to stimulate the critical exploration of the assumptions that underpin analysis of environmental change and responses to it. We are not sure, however, how successful our efforts to engage students with climate change have been. For the most part, it seems to us, they have failed to generate visible signs of intellectual struggle or emotional change, let alone deep or lasting transformations. We explore the questions this raises further below.

In 2008 we secured funding for a joint student-staff collaborative inquiry project focused around everyday conversations, exploring how, whether or when we could engage others in political conversations about environmental concerns, about questions of shared and differentiated vulnerabilities, or about resilience. We had already observed a difficulty in talking meaningfully with others – colleagues, students, family and friends – about climate change and related issues. We wanted to know: What kinds of talk did we feel were necessary to enhancing resilience to climate change and peak oil, and why were we struggling to have these conversations with many of the people we encounter in our lives? What were the challenges and obstacles that affected our individual and collective willingness or ability to articulate our concerns and emotions, to listen to each other, and to engage seriously with difficult realities? The project involved individual documentation and

reflection on the conversations we were having (or not having) over a period of several months, with shared discussion within the inquiry group.

This was perhaps the period during which we personally felt our vulnerability in relation to climate change most keenly. Sharing and exploring this alongside some of our students was both valuable and challenging. It was valuable because it allowed frank discussion of our concerns at a personal as well as professional level within the group. Not everyone shared the same assumptions exactly, but the project created (for a time) the possibility for safe and meaningful dialogue. At the same time, the research we did reinforced again how difficult it was to speak with others in the same way. We noted a key tension between the social and ethical demands of relationships in various contexts and the possibility of authentic conversation, especially if that conversation was potentially unsettling. Many of us noted various forms of self-silencing – for example, in discussions of friends', family members' or colleagues' global travel – where it felt necessary to either express approval or say nothing. We observed the constant pull of the everyday on ourselves too, the desire to fit in and forget. As Eric Holthaus (2018) puts it, for most of us, 'confronting the existential dread that climate change infuses into nearly every aspect of [our lives] just isn't something [we] want to spend [our] time doing'. Thinking back on this project now confirms the potential of spaces for co-learning and dialogue, but also suggests that the conditions for co-learning – time in or outside the formal curriculum, support from the institution, opportunities to build trust, relationship and readiness with students – are often lacking, perhaps more so in an increasingly commercialised higher education system. We will return to this point below.

A further conclusion from this 'conversations' project was that, because spontaneous conversation about climate change was difficult, there is an important role for spaces that are specifically designed to encourage people to engage with these issues and each other in a systematic and informed way. Like Brantmeier (2013, p.96), we felt that we should 'begin with [our] institution', and so we organised a deliberative forum for students and staff within the (then) School of Social and International Studies at Bradford. Combining expert inputs, a facilitated spectrum exercise and small group discussion based on deliberative dialogue methods, we challenged participants to weigh up a range of ways in which our institution might plan for a future with reduced fossil energy and a lower carbon footprint. The proposals we considered together ranged from relatively minor adjustments (e.g. carbon offsetting) via significant shifts in institutional culture (e.g. horizontal management and pay structures) to material changes to established habits and expectations in a globalised higher education system (e.g. major reductions in student and staff travel). While this did stimulate interesting discussion and positive feedback, we found ourselves disappointed with the lack of both radicalism and demand for meaningful change, despite the fact that our forum took place under the auspices of the University's flagship Ecovercity programme to promote sustainability on campus and in the curriculum. Participants did not actually dispute the evidence or arguments they were presented with, and they were all capable of recognising why and how the issues matter. It simply seemed that existing expectations and ways of doing things have a stronger purchase, protecting them from serious critical examination. For example, participants could hear the case for a low-zero

carbon society, but many struggled to imagine or anticipate any significant change to the current, highly internationalised - and therefore high energy/carbon - higher education system. Pragmatic recognition of current realities ('there's no way people will stop travelling overseas en masse to study') won out over climate realism (continuing to emit large quantities of carbon into the atmosphere will destabilise vital ecosystems in the coming decades, disrupting in turn many aspects of current social organisation). Similarly, for many of us, it is difficult to accept that things we value – the opportunity to engage with people from all over the world in an educational setting, for example – can nevertheless be unsustainable and damaging. Again, thinking beyond our present seems very difficult.

At the time of the Paris climate convention in November 2015, Rhys ran an extracurricular exercise (Climate Interactive, n.d.), which simulated the COP negotiation process in various ways. Students took on the roles of different negotiating blocks and were assigned to countries with different positions and perspectives than their own. The simulation is very effective in demonstrating the political obstacles to agreement. It also uses a sophisticated software programme to calculate the results of the negotiations in terms of anticipated temperature rise. Participants can thus see the potential consequences of their choices or actions directly (our negotiations fared a little worse than the real ones, with agreements resulting in 3.1 compared with 2.7 degrees – neither being adequate). Perhaps most interestingly, the simulation highlights important aspects of climate injustice, both in terms of revealing the differentiated historic and current responsibility for carbon emissions, and in relation to how the negotiations are dominated by the power and interests of the most wealthy and polluting nations. This is even symbolised within the recommended room set-up, with 'poorer' nations (initially) given no seating or nice delegate packs. It was surprising what impact this somewhat crude element had on the (mainly European and North American) students who were playing the roles of the Maldives, Bangladesh, etc. They protested loudly about their unequal treatment. Overall, though, whilst the Climate Interactive exercise is undoubtedly very well designed, it is questionable whether the abstract nature of the discussions about issues like land-use change or country-level investment in renewables connects enough with students' own lives and choices. It was informative, perhaps, rather than transformative.

Another way in which we have tried to encourage students to reflect on and enhance the sustainability of their lives and practices has been via dedicated modules on sustainability, permaculture design, ecology and resilience. These have explicitly linked social and ecological systems and attempted to draw out the relevance of these links for the issues we look at in Peace Studies – the food system, environmental justice and injustice, the causes and consequences of disasters, alternative approaches to development, etc. Modules, of course, allow for both longer and deeper exploration of topics than one-off events. One of our observations on the challenge of teaching on these issues, however, is that if students do not already come with some understanding of ecological processes and material realities – if they have never planted anything, for example, or if they have limited knowledge of how landscapes work – it is difficult to convey the key insights without hands-on experience and observation. And while we have managed to integrate elements of this into our teaching, it does not feel enough. As Wendell Berry (2015) points out, wise interactions with the places

in which we live depend on patient, long-term observation and care. This is not something that can be learnt in a semester, or even over the course of a degree programme – and in the end, the motivation to learn ‘turns on affection’ (Berry, 2012). To bring these emotional dimensions into our teaching, we have drawn on our own connections to the place and community in which we live and on our research on local responses to severe flooding. In Ute’s ‘Peace, Ecology and Resilience’ module, for example, students have looked at the stories that have been told about the floods that affected the Calder Valley (West Yorkshire, UK, where we live) on Boxing Day 2015 (e.g. Brokate and Sutherland, 2016; Coop, 2016; Guy, 2016; Hall, 2016; Powell, 2016; Robertson, 2016; Slade, 2016; Walsh and Duncan, 2016; Shaw, 2018). In these stories, most of which are motivated by love and care for this place and community, much of the focus – understandably and for good reasons – has been on the ‘feel-good’ aspects of the experience. Studying these, students have tended to come away with a restored sense that positive collective responses to experiences of disaster and vulnerability are possible. This raises interesting questions about how we talk about vulnerability and resilience: When and why do we choose to emphasise one or the other, and with what effects? In relation to pedagogic approaches to teaching and learning about climate change, how do we balance our own and our students’ need for inspiring stories with the very real sense of crisis and foreboding that we also feel?

For some of our students, these projects and modules have had a meaningful impact, providing new ways of thinking, influencing essays and research projects, and shaping their decisions on what to pursue after graduation. At the same time, we recognise a consistent pattern in our experience of trying to teach about ecological issues: for the most part, we rarely have the sense that others ‘take climate change as seriously as [we] do’ (Doherty, 2017, in Clayton et. al., 2017, p. 28). It just doesn’t seem to be a priority issue for many students joining our programmes, and our efforts to engage them with it often seem ineffective or unsatisfactory. We are often left feeling dispirited, isolated and pessimistic. We don’t have the kinds of stories of passionate conflict or confrontation in the classroom that often appear in the critical pedagogy literature (e.g. Boler, 2014). This absence of conflict – including a sense of inner conflict and struggle – in the classroom feels troubling. Are we avoiding making our students uncomfortable? Do we have a responsibility as educators committed to peace and social justice to demand more of our students (and ourselves)? At the same time, we know that there is a significant body of literature on the ways that students receive and sometimes resist certain topics suggesting “that this cannot simply be a matter of uniformly ‘bad’ teachers using insufficiently persuasive or ineffective pedagogical techniques”. (Bryan, 2016, p. 12). There is more to understand.

## Questions and dilemmas for a pedagogy of vulnerability

We turn now to the idea of a pedagogy of vulnerability which is the focus of this book. Our reflections in this chapter connect to this idea in two ways: At one level, we engage with the practice of personal disclosure at the heart of Brantmeier’s (2013) work and explore how this might support us in navigating the subject of climate change with our students. The idea of a ‘pedagogy of vulnerability’ and earlier discussions of the pedagogical openings and challenges that come with self-disclosure (e.g. Deletiner, 1992; Bleich, 1995; Qualley & Chiseri-Strater, 1994; Boler, 1999; Ejsing, 2007; Booth, 2012) suggest that sharing personal stories, experiences and emotions can enhance the experience of teaching and

learning. Brantmeier (2013) argues that 'by opening our frames of knowing, feeling and doing to co-learners in our work contexts, we invite others to do the same'. In other words, if we make admissions of our own vulnerability, through disclosing the limits of our knowledge, making the personal aspects of ourselves more visible, and interrogating the ways in which they are embedded (and often complicit) in wider structures, we might change the terms of conversation, enabling different kinds of exchange and learning. In doing this, self-disclosure can also help to build relationships between teachers and students, among students, and between all of us and the subject matter.

How might this work when the subject matter itself is also centrally concerned with vulnerability at both individual and collective levels? What might 'vulnerability' – as a felt response to the realities of serious ecological crisis and their implications - mean in a pedagogy concerned with climate change? The concept of vulnerability features strongly in the story we told about our engagement with ecological crisis. Vulnerability, in this context, means the loss of a sense of security, the recognition of the limits of resilience, and ultimately, the increasingly likely loss of a liveable future for ourselves and others. A pedagogy of vulnerability, against this background, takes on – or needs to take on – meanings of vulnerability that go far beyond those associated with pedagogic disclosure. In this section, then, we first explore what an expanded concept of a 'pedagogy of vulnerability' might look like. We will then consider some of the implications of this for pedagogic practice.

As we have understood it, a pedagogy of vulnerability supports the ethos and goals of education for peace and social justice. In Brantmeier's account, at least, it is particularly relevant for exploring questions around identity and privilege associated with racism, patriarchy, class and other forms of social oppression. Many of those questions also arise in discussions about climate change, vulnerability and resilience, so there are clearly affinities in the work we have to do. For example, when we speak about 'becoming vulnerable' through learning about climate change, we also recognise that we are much less vulnerable and more resilient than many – simply because of who we are, where we live, and because who we are not and where we do not live. For many people in the world today, experiences of vulnerability, resilience and resistance have a long history – and here we mean the kind of vulnerability that comes from experiences of violation, colonisation, exploitation and humiliation, the kind of resilience that can come from learning to survive against the odds, and the kind of resistance that involves taking much more significant risks than articulating 'radical' arguments in an academic paper.

The double injustice of climate change, of course, is that the most vulnerable populations bear the least responsibility for the current crisis yet live in parts of the world that will experience the worst impacts of climate change. Similarly, our own 'resilience' is, at least in part, an expression of our privileged position, based on living in a country less exposed to the worst impacts of global warming (relatively speaking) and with significant resources available (at present) to support adaptation.

Given this context, is it right for us to talk about being vulnerable, or does this look like a performance from a position of privilege? Alternatively, could acknowledging our own sense of vulnerability but also the privilege that underpins our 'resilience' open space for discussion, especially when we are working with students from many parts of the world?

Probably. Posing the question of vulnerability to climate change could open up vital questions about historic accountability for environmental pollution, demanding a clear recognition of both 'asymmetric responsibilities' (Anderson, 2016) and asymmetric vulnerabilities: How do we face up to the fact that we live in 'conditions under which certain human lives are more vulnerable than others, and thus certain human lives are more grievable than others' (Butler 2004, p. 30)? In turn, this invites us to listen to the critical questions that have been articulated by indigenous, working class, and black and brown activists and scholars to counter the pervasive tendency to frame the climate crisis as one that concerns 'the planet', and to suggest – as in discussions of the concept of the Anthropocene, for example – that 'the human species' in general is responsible for the current crisis.

That all seems quite close to the work that other critical educators are already doing, so what is different in relation to climate change education? Perhaps it is this: struggles for social justice throughout earlier decades and centuries have both imagined and assumed a future that is better than the present. In the 20<sup>th</sup> century, at least, social justice for all seemed possible because of the seemingly increasing resources and technologies at humanity's disposal. This is not to say that the challenges of structural racism or poverty are easy to solve; as Brantmeier (2013, pp. 95/96) suggests, they raise large questions and our agency in relation to them can indeed 'feel stifled ... amid larger forces and barriers'. They are hard to tackle not least because they have long histories that can't easily be undone, and that shape present possibilities in many complex ways. Still, it has been possible, at least in theory, to imagine a future that is less racist or sexist, more equal, less violent, more peaceful..

This imaginary leap becomes much more difficult once we confront the evidence of an accelerating and increasingly frightening environmental crisis. This evidence adds impetus to the case for radical transformation – the recognition that the systems we currently have are not only unjust but also unsustainable, and that adequate responses to this crisis take us beyond the economic models and political narratives that have sustained these systems. But the evidence also 'puts us on such a tight and unforgiving timeline' (Klein, 2014, p. 26) that the necessity of radical responses sits uneasily with assessments of their political feasibility. What, then, if we can no longer imagine a future that is better (at least, in the sense that 'better' has meant in our era)? What different questions does that raise for us as social justice and peace educators? What difference does it make to how we conceive of our purpose and practice in the classroom? And how does (or can) a pedagogy of vulnerability accommodate or support exploration of this deeper sense of vulnerability – the existential questions that the unfolding ecological crisis poses?

Part of the rationale for a pedagogy of vulnerability is a recognition that education around sensitive and challenging topics involves emotional as well as cognitive labour. The potential of chosen acts of disclosure on the part of educators relates significantly to the affective dimensions of learning: it helps to legitimise the presence and influence of emotions in the classroom, including them within the scope of individual and collective inquiry.

This feels like a necessary and important development in relation to critical education generally, and climate change education specifically. Information about climate change is, we think, a form of 'difficult knowledge' – it is unsettling, calling into question habitual ways of knowing, thinking and feeling (and arguably, habitual ways of not knowing, not thinking

about, not feeling). (Zembylas, 2015, p. 406). Our responses to this difficult knowledge are not simply rational and dispassionate; emotions play a significant role in our processing of information that we find challenging, especially when that challenges core aspects of our self-identity. Serious engagement with climate change demands a lot of both teachers and students – asking them to ‘radically re-evaluate their worldviews’ – and as such may generate ‘feelings of anger, grief, disappointment and resistance’ (Boler and Zembylas, 2003, pp. 107-108). Without question, then, education about climate change will necessitate exploration of these emotional responses, including our own.

Yet this also raises some difficult questions and dilemmas for us. A pedagogy of vulnerability may open up opportunities for learning at the emotional level (Brantmeier, 2013), but what if the emotions stimulated by deep engagement with the ecological crisis are anxiety and despair? How do we respond to the fact that increasingly, people who spend much of their professional lives looking at these issues – climate scientists for example - are experiencing and expressing a sense of despair, grief and anger (see, for example, Oberhaus, 2017; Holthaus, 2018)? What do we make of the disclosure, by a professional ‘climate-science communicator’, that ‘right now, I feel like I have to restrain myself from opening up about how I really feel to protect whatever seeds of hope I have left’ (Holthaus, 2018)? Should we, as educators, share these emotions – including our own struggle to find grounds for hope - with our students? Is it fair to share them with students who don’t seem to be feeling them (yet)? And with those who are already feeling anxious or vulnerable, perhaps because they are dealing with other difficult issues in their lives? A recent study on climate change and mental health (Hayes et. al., 2018, p. 1) observes that ‘the risks and impacts of climate change on mental health are already rapidly accelerating, resulting in a number of direct, indirect, and overarching effects’. What are the ethical implications of actively encouraging students to engage with facts and emotions that might have negative effects on their mental health, and from which we can’t really offer a way out?

At the same time, do we have a responsibility as educators concerned about peace and social justice to be more direct, to acknowledge that discomfort may be a necessary and productive part of the learning process? Emotional responses are themselves culturally conditioned and, as such, might be a focus of critical inquiry rather than being taken at face value). Megan Boler (1999, p. 180) speaks of ‘inscribed habits of emotional (in)attention’ to describe the ways that people become emotionally invested in their beliefs, particularly when these become central to a sense of identity. These investments direct attention to information that is supportive of our beliefs, and away from anything that might be challenging to them. The educator’s task, then, involves attending to both our own and students’ reactions and responses – our/their emotional stances – considering *why* any of us might respond to issues or topics in particular ways – what our anger, or grief, or disappointment, or resistance might represent. Do we see ignorance as a lack of knowledge, or as a purposeful or habitual desire to ignore or not to know (Taylor, 2015)? What or whose purposes, both personal and political, do such protective mechanisms serve? Can we distinguish between anger that is defensive, which seeks to sustain cherished beliefs and identities and which represents a fear of change or loss, and anger that is morally necessary, a righteous indignation at injustice (Boler, 1999)?

All of those questions seem very important to teaching about climate change. The emotions of fear, grief or anger might all be legitimate or understandable responses, but they might also be self-serving, representing political investments in the status quo. Is our job then, as Boler (2014) would suggest, to ‘shatter worldviews’? After all, teaching about climate change is inescapably a political endeavour. Our stance on this topic is clearly not politically neutral. As we suggested above, socially just responses to climate change radically challenge the status quo (also see Klein, 2014; Anderson, 2015). We have ourselves been challenged by Kevin Anderson, a leading climate scientist committed to communicating the difficult conclusions of his research. In his talks and writings<sup>4</sup>, Anderson (e.g. 2017) refuses to give his audiences any easy hiding-places. For Anderson, ‘sweetening the pill’ is not a responsible option. Instead, he points out how these audiences – often globally mobile academics and students hoping to join them – are among the highest emitters of carbon and thus among those whose behaviour needs to change most urgently. Analysis by Anderson and colleagues draws out the implications of the Paris commitment that responses to climate change should be consistent with the best available science and be based on a commitment to equity.<sup>5</sup> This means radical reductions in emissions now – reductions that ‘would require unprecedented whole-system change’ (Larkin, Kuriakose, Sharmina and Anderson, . 2018, p. 699). If, as individuals and societies, we are not prepared to live by the implications of this analysis, Anderson suggests, it would be more honest just to admit that we are not, in fact, committed to equity, justice and a liveable future for all.

And yet, we have found it difficult to commit fully to all the disclosures and challenges this implies. In practice, we find it difficult to talk with our students about some of our personal attempts to make changes in our lives. For example, we gave up flying more than a decade ago. As Anderson (2016) rightly points out, the point of such decisions is essentially ‘to bring attention to the issues and demonstrate alternatives’ – to demonstrate, in this instance, that it is possible to live a satisfying life (and to be an academic) without travelling around the world at high speed. Why, then, do we not talk about this more with students and colleagues? In reflecting on this, it is interesting to observe that it doesn’t seem any easier in a one-to-one conversation than in front of a class. This is much to do with the fact that in conversations with individual students (or colleagues), the issue is most likely to come up when they tell us about holiday plans, research trips, visits to friends and family abroad, etc. In these contexts, disclosing our feelings about flying can feel judgmental and self-righteous, not least because – as discussed above – we do recognise our own position of privilege, our investment in the status quo and our own incomplete commitments. Although we feel that this is a moral issue, moralising is uncomfortable and unpopular. Do we want to risk being seen as spoilsports, or being ‘pitied’ by others who think we’re missing out?

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<sup>4</sup> For a selection of academic publications and other commentaries, see <http://kevinanderson.info/blog/home-2/>.

<sup>5</sup> The best available science, Anderson and his colleagues suggest, requires carbon emissions to fall year on year at an unprecedented rate of over 10% in OECD countries, in order to stay within the budget associated with a 2-degree temperature rise scenario. Equity requires that carbon emissions need to fall most rapidly in the wealthiest countries, and within those, most dramatically for the wealthiest people. For the UK, Anderson’s analysis suggests that what is needed is a 75% reduction in CO<sub>2</sub> by 2025, less than a decade away. Achieving the consistent reductions that are needed would involve radical cuts in energy use alongside a rapid transition to low/zero carbon economies. In the context of our current politics and of still-rising emissions, this feels like an impossible task – but the futures implied by alternative scenarios are incompatible with genuine commitments to equity and justice. (Anderson, 2017)

Talking about our own views is also difficult because our perspective clashes so fundamentally with our institution's priorities – a strategy that aims to expand the recruitment of international students - and with the expectations and hopes that the University is encouraging many of our students to cultivate – of working in a range of international contexts, of travelling professionally and for pleasure, of being part of globally mobile networks. Whether we like it or not, our jobs depend on this. We recognise, too, that in many ways, we do value the chance to encounter people from all over the world on a daily basis, the ways in which it enriches our work, and the opportunities it generates for interesting and challenging discussions in and out of classes. At the same time, we experience it as a cognitive dissonance that can make us feel alienated from and within our work experience. Perhaps these are valuable observations to share precisely because they are more complex, less clear-cut, and less moralistic. But do they offer too easy a way to avoid the challenging conclusions of our analysis ('it's complex, there are no easy answers, and change is too difficult to imagine, so we might as well continue with business-as-usual')?

There are clearly tensions here between expressing political positions informed by the need for urgent and radical change and holding open space for nuanced discussions, between the commitment to engaging inclusively with a range of views and the courage to avoid shying away from exploring deep disagreements, between starting where students are at and reckoning seriously with what climate science is telling us. As Boler (2014) acknowledges, it is easy for critical educators to develop 'attachment to another's change'. In relation to the substantive issues we have discussed here, this feels like a particularly acute question: If others don't change, and change fast, this makes us feel more hopeless, and possibly more angry. We clearly have an emotional investment in a transformative education on these issues. Perhaps the challenge is to disclose this too, to be more honest about these dilemmas in front of our students?

## A conversation with students

This was the point at which we took a break, circulated an earlier draft of this paper to some of our current students, and invited them into a conversation about the issues we were trying to explore. As noted in the introduction, we decided early on that the writing of this chapter presented an opportunity to engage with students around some of the themes and questions we have been addressing. We sent an invitation to final year undergraduate and Masters students inviting them to take part in a half-day conversation. The invitation explained the overall themes of this book project and the specific concerns of this chapter, including our interest in making dialogue with students part of the process. We had a number of responses, mainly from students we already knew quite well and who were still in Bradford for the summer. After agreeing on a date, we sent each student the draft chapter to read before we met, together with some questions for reflection (see appendix) and a copy of Brantmeier's earlier chapter on a pedagogy of vulnerability (Brantmeier, 2013).<sup>6</sup>

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<sup>6</sup> We would like to say a special thank you to Bam Baraguir, Annkatrin Bott, Shorena Duchidze, Hussein Salahaldin, Juleus Ghunta, Abubaccar Gibba, Juneseo Hwang, Leigh Stewart and Katherine Wright for engaging in this process and informing our reflections in what follows.

In a modest way, this was a deliberate effort to practice a 'pedagogy of vulnerability'. We had made various purposeful disclosures in the chapter, revealing to students (and future readers) aspects of our personal experience of engaging with and teaching on these issues. This included admissions of our sense of vulnerability in the era of climate change and of struggles and dilemmas in our teaching. It also meant sharing a piece of work that was unfinished, intentionally opening up a process of academic writing that students rarely see. (That was not an easy thing to do.) The workshop was attended by six people in the end, but we received written comments from two others and met separately with two students who were away when the workshop was held. The students who engaged in this process came from a wide range of personal and cultural backgrounds – from Germany, Jamaica, the Philippines, Egypt, Georgia, The Gambia, South Korea and the UK. Our discussions broadly focused around two strands in the paper – the more general material on pedagogy, and the discussion of climate change as difficult knowledge.

Students told us how much they appreciated the personal style of our writing and our willingness to disclose information about our concerns and dilemmas. They commented on how these personal disclosures allowed them to see us as more approachable, more 'human', and 'less of a symbol' - and conversely, also on how our paper was interesting to them partly because it had been written by people they knew and had already interacted with. On the one hand, then, self-disclosure can open up new ways of relating to each other; on the other hand, our self-disclosure, and the students' engagement with it, was enabled by a level of trust and relationship we had already established with this group of students over the preceding year. It is harder to know how they might have responded to very personal information from their lecturers earlier in the year. Still, there was a very clear and unanimous support for a more humanised relationship between teachers and students, and recognition that this 'is critical to discussions and creating avenues for collaborative work'.

Some students suggested that it would have made a significant difference to their engagement with our efforts to incorporate climate change issues into our teaching if these issues had been introduced in a similar way; if it had been explained how and why they mattered to us as an issue. This, they suggested, would have helped to communicate the significance of these topics and make them more meaningful as a focus of learning.

Students also responded to the idea that teaching around 'difficult knowledge' necessarily involves discomfort, with significant discussion taking place around the role of the teacher in challenging students to think differently and critically. In this context, some of them also expressed their sense that academics could and should be more willing to take a stance, to articulate and stand by distinct positions. Many expressed some regret that opportunities to explore disagreement, to push each other further, to engage in more critical interrogations of ideas and assumptions had sometimes been missed in their classes (not with us necessarily). For us, it was interesting to hear that many of our students and colleagues seem more hesitant to engage in challenging, political and potentially divisive discussions than we had realised, while others end up feeling frustrated by the relative lack of such discussions. Much of this is to do with differing cultural and personal expectations of what the experience of studying at a University means. For some (as for us), 'Universities should

be 'safe spaces' for oppositional, critical and uncomfortable discourse', while others expect to be 'sitting in a classroom to listen to lectures rather than to argue' and interpret challenges to their ideas as aggressive personal attacks.<sup>7</sup> For some, studying peace, conflict and development is about acquiring knowledge and technical skills, while for others it is an inherently political endeavour. Given these differences in expectations and experiences, it seemed to us that there is real value in inviting students into discussions of pedagogy. Teaching practices are too often a taken-for-granted aspect of students' experience, and many evaluate their experiences of education on fairly narrow and mainstream terms. It seemed to us that a relatively simple discussion of some assumptions in critical pedagogy gave students different ways of thinking about their experience – and a better understanding perhaps of some of our practices.

One of the key questions for us in the context of this paper, of course, was how our students would respond to what we had written about climate change and our efforts to teach about this. The introduction to our text is a kind of provocation: we don't tell our personal journey towards an increasingly 'radical' stance as a merely individual choice, but implicitly asked the students (and other readers) to consider their own story in relation to ours. How have they responded to the science of climate change or to significant moral questions about climate (in)justice? Do they share our concerns? Does reading about our experience provoke an interest or a sense of obligation to know or do more? Do they feel personally challenged by our attempts to grapple with the lack of deep engagement by many of our students and colleagues?

Perhaps disappointingly, much of our conversation stayed at a fairly safe, almost abstract level: Students put forward ideas about why students in general might not be so interested in learning about climate change ('it's not a sexy topic') and, as noted above, suggested that we could make it matter more by disclosing more of our personal experiences. There was a lengthy discussion about what is effective in promoting changes in understanding and behaviour on climate change in some of the very different settings that our students have come from or worked within. While this was an interesting and worthwhile discussion, there was an evident mismatch between their recognition – which, in general, we share - of the need for gradual, sympathetic engagement with people and of the problems with moralising approaches on the one hand, and of the need for rapid and radical action on climate change on the other hand. Although – or perhaps because – we know this tension well, we noticed our own impatience with aspects of this discussion and wondered whether our students shared our real sense of urgency, our sense that climate science now demands more of us - or if they didn't, why they didn't.<sup>8</sup>

In important ways, these discussions seemed to keep the topic at arm's length. There was little personal disclosure of how they were engaging with this difficult knowledge – or whether they did, indeed, find this knowledge difficult - from the students themselves. With most of them, it seemed that while they valued our disclosure of our own emotional

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<sup>7</sup> For interesting discussions of the dynamics of silence and speech in diverse and unequal classrooms, also see the contributions in Boler (Ed.), 2004.

<sup>8</sup> It is worth noting, though, that one of the students who wasn't able to join us for the conversation did express a similar sense of urgency: 'Warnings about climate change should be on every bus stop, every news channel, every front page in every paper every day. I honestly can't understand why this isn't the case.'

responses to ecological crisis, they were not struggling with these issues themselves. The discussion of how to promote understanding and behaviour change tended to concentrate on other people (people 'on the ground') more than ourselves – people who operate in real-world settings that are deeply problematic in terms of their environmental impacts. Also, and perhaps surprisingly given the differences in our backgrounds and positionings within larger structures (and given that some of the students have raised these questions in other contexts), questions of inequality and injustice did not become central to our conversation.

As we became aware of these dynamics during our conversation, we tried to make them explicit: We noted that we appeared to be staying away from discussing the more difficult questions raised by our paper, but also noted our own reluctance, again, to want to disrupt what was an enjoyable interaction by asking more challenging questions (despite having in effect been given permission earlier in the conversation to be more challenging). All the dilemmas we noted above were present: the fear of moralising, of closing down debate, of sharing difficult knowledge, of opening up potentially divisive issues and disrupting another's peace. Was this a lack of courage? A lack of deep emotional connection to the vulnerability of our world?<sup>9</sup> Did our collective reluctance to engage in more confrontational or more challenging exchanges keep open space for dialogue on what is, after all, a complex issue? How do we interpret the silences in our conversations (Boler, 2004)? Did we do enough simply by inviting these students to consider some questions that may have been new to them? Should we be wary of burdening our teaching with expectations that might be too high? Or should our teaching reflect the needs of our time: an honest reckoning with the scale and urgency of our predicament?

Our conversation also confirmed how difficult such an honest reckoning actually is. Towards the end of the discussion, the question of hope generated some hard questions: Although our students had told us they appreciated our attempt to be honest and challenging, they felt ambivalent about our disclosure that we struggle to find grounds for hope, and about the question of whether we should be honest about this. In discussions of climate change, closing with some sense of hope seems an almost obligatory convention, whether or not it matches with the preceding analysis. Our process of working on this chapter included engagement with work on 'critical hope' (Freire, 1994; hooks, 2003; Bozalek et. al., 2014). This has given us some important pointers – on the distinction between naïve and critical hope, on the need to build a sense of community, on the psychological and practical importance of engaging with and contributing to critical movements. Still, in relation to the issues we have considered here, we feel that the demands of intellectual and emotional

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<sup>9</sup> While not something that was discussed much in our group conversation, it is worth noting that two of our students picked up on a brief discussion of love and care in the version we sent them. One observed that he had 'never considered that love could be so important to important issues like climate change, but it absolutely makes sense to me that people would struggle to motivate themselves to care for something which they don't love'. The other's initial response that 'love is a nebulous concept' prompted an interesting email conversation about its meanings, the particular and specific commitments it engenders, and the ways in which it might ground and inform academic work. It seems to us that there are important avenues for further exploration here, and we feel inspired to engage with the work of James Thompson (2015) on an ethics and aesthetics of care, George Lamming (2011) on the creative imagination and 'the education of feeling', John Paul Lederach (2005) on 'the moral imagination', and the potential of integrating more creative practices into our personal and teaching practice.

honesty conflict with the need for transformative pedagogies to be animated by a sense of hope, however critical.

This process of writing and reflection, in dialogue both with some pedagogic literature and with some of our students, has been valuable and interesting, but it doesn't bring any clear resolution. We perhaps have a clearer understanding of the issues we are grappling with, but no definitive sense of how to address them. We see the potential of a pedagogy of vulnerability more clearly, but we recognise too how closer relationships with students can both enable and complicate difficult conversations (in the same way that professional distance can); its application will always be contingent and contextual. Likewise, we are encouraged by our students' call for greater challenge in the classroom, but our conversation with them also suggested that there will be topics that require more careful negotiation even as they also require greater urgency. In short, we keep experimenting and learning.

In the weeks following our conversation with the students, many parts of the world experienced very extreme weather – record heatwaves and forests fires across Europe, floods in Japan, etc. A hard-hitting IPCC report (IPCC 2018) made it into mainstream news coverage, as did Extinction Rebellion's (2019) approach to framing and acting on climate change and school strikes by young people inspired by Greta Thunberg (2018).<sup>10</sup> Climate change seems to be entering more discussions than it has for a while. This helps to ground public understanding but it also means that time is running out – climate change is already unfolding before us. We suspect then that our pedagogic challenge may yet evolve: Students may soon not need persuading that this era-defining issue deserves their attention, but in the process of learning more about it they will need to find or maintain a meaningful and realistic sense of hope and agency. The emphasis in our work might therefore shift from facilitating engagement with difficult knowledge, towards accompanying and supporting students as they/we come to terms with a radically altered future – what Andreotti et. al. (2015) have called 'hospicing'. It is genuinely hard to imagine such circumstances for our work, but it seems that until we do, they may only become more likely.

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<sup>10</sup> It would have been interesting to include a more detailed consideration of how and why Greta Thunberg's way of approaching these issues seems to be resonating with people in this moment (at the time of finalising this chapter). For Ute's attempt to do so via a blogpost, see Kelly, 2019.

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