

AFFECTIVE PEDAGOGIES: FOREGROUNDING EMOTION IN CLIMATE CHANGE EDUCATION

AUDREY BRYAN

Abstract: This article addresses the psychic and emotional challenges associated with enabling learners to apprehend their role in, and vulnerability to, the evolving climate crisis. Global warming is arguably one of the most cognitively as well as emotionally complex topics for learners or members of the public more generally to engage with. Given the emergent nature of climate change, many educators are unsure about how best to enable citizens to navigate the complex emotions that they experience in response to their proximity to, and responsibility for, a myriad of injustices and environmental catastrophes associated with global warming.

Meanwhile, new emotions, including ecological grief and heightened levels of climate-related anxiety amongst young people have been reported in epidemiological studies, our understanding of which is as of yet underdeveloped. This article argues that a psychosocial approach to climate change education (CCE) which emphasises the mutual interaction between psychic and social processes which affect the climate crisis and how we relate to it should comprise part of a broader and sustained public response to the climate crisis, especially in contexts where climate-related anxiety and grief are becoming more widespread. It introduces a conceptual toolkit to inform the psycho-affective aspects of CCE, with a particular emphasis on the pedagogical complexities of engaging learners located in emissions-intensive societies with their role as ‘implicated subjects’ in the climate crisis (Rothberg, 2019).

Key words: Global Warming; Climate Crisis; Implication; Pedagogy; Affect; Emotion; Psychosocial; Psychoanalysis; Responsibility.

Introduction

The climate crisis arguably represents the biggest existential problem facing the planet (Chomsky, 2019), posing, as it does, a significant risk to planetary sustainability and to human and non-human forms of life. The scale of the environmental crisis is magnified by global warming's interaction with a host of other social, economic and political factors, thereby heightening or 'multiplying' the risk of poverty, disease, food insecurity, political instability, conflict etc. (Peters and Vivekananda, 2014). Whereas some commentators controversially argue that a climate apocalypse is unavoidable (e.g. Franzen, 2019; Wallace-Wells, 2019), others maintain that there is still a small window of opportunity to act to avert total climate chaos and question the usefulness of so-called 'doomsday scenarios' where global warming is concerned (Mann, Hassol and Toles, 2017).

Development education (DE) and other closely aligned adjectival educations such as education for sustainable development (ESD) and human rights education (HRE) have a critical role to play in ensuring that climate change education (CCE) forms part of a broader response to the global effort to reduce greenhouse gas emissions in order to prevent further catastrophic climate scenarios. As Naomi Klein observes, learning about global warming has radicalised a generation of young people whose 'school strike' movement and other forms of protest have significantly increased the level of public and media interest in the climate crisis (Klein, 2019). DE/ESD is ideally positioned to provide learners with a deep understanding of the complexity of the ecological crisis and with the systemic effects of climate change. This article builds on earlier work that presented a rationale for embedding CCE within the context of ESD (See Mochizuki and Bryan, 2015).

In a previous article, Yoko Mochizuki and I (Mochizuki & Bryan, 2015) argued that as a set of processes, pedagogies and practices which seek to ensure that education systems are responsive to, and prepared for, current and emerging global challenges and crises, DE/ESD is ideally positioned to enhance learners' understandings of the causes and consequences of climate change and their readiness to take action to address it. We also identified

socio-affective learning (i.e., learning that involves the sharing of feelings, emotions and sensibilities) as a critical component of effective CCE in an ESD context (CCESD) and argued that educators need to be comfortable addressing the range of emotions that learners may feel, and to engage productively with the feelings of despair, powerlessness, guilt and denial which they may encounter in their classrooms.

This article extends this earlier work by elaborating on the psycho-affective aspects of CCESD, particularly as it relates to the psychic and emotional challenges associated with enabling learners to apprehend their role in, and vulnerability to, the evolving climate crisis. The article makes the case for foregrounding emotion in any pedagogical response to the climate crisis, in recognition of the fact that emotions have been identified as ‘the missing link’ in effective communication about climate change (Salama and Aboukoura, 2018). It introduces a conceptual toolkit to inform the psycho-affective aspects of CCE, with a particular emphasis on the pedagogical complexities of engaging learners located in emissions-intensive societies with their role as ‘implicated subjects’ in the climate crisis (Rothberg, 2019). While space limitations do not permit a fuller engagement with the overall pedagogical framework informing the particular approach to CCE being advanced in this article, the concepts and ideas presented here are informed by a larger project concerned with Affective Pedagogies, Emotion and Social Justice which seeks to broaden our understanding of how emotions are embedded in ‘difficult’ learning encounters and in various social injustices and inequalities (Bryan, forthcoming).

The Affective Pedagogies framework is underpinned by a psychosocial approach which places particular emphasis on the role of affect and unconscious processes in shaping our engagement with the climate crisis but simultaneously attends to the social, structural and cultural contexts within which we are embedded and which shape our thoughts, feelings and behaviours (See Adams, 2016). The framework is further premised on an understanding of learners as ‘feeling-thinking beings’ for whom cognition and emotion are two sides of the same coin, resulting in complex psycho-affective

responses to learning. It stresses the importance of embracing – rather than glossing over – a range of emotions that are associated with the climate crisis, including loss, guilt, shame and despair and of coming to a deeper understanding of the defence mechanisms that are mobilised in order to avoid these difficult feelings (Adams, 2016; Hoggett, 2019; Norgaard, 2011; Weintrobe, 2013).

The article is organised as follows: having presented an overview of the pedagogical complexities of CCE and a rationale for engaging with the affective dimensions of the climate crisis, I map out a conceptual toolkit for CCE which is informed by a psychosocial perspective. Central to this toolkit is the notion of learners’ positioning as ‘implicated subjects’ in the climate crisis – rather than merely victims of, bystanders to, or the actual perpetrators of, the harms associated with global warming (Rothberg, 2019) – as a means of enabling them to look critically and reflexively at themselves in terms of their proximity to, and responsibility for, climate-related harms and injustices.

Feeling the climate crisis

Despite the severity of the risks associated with the climate crisis, both personal and political responses to global warming have been wholly inadequate (Norgaard, 2011; Palsson et al., 2013). Whereas some people are constructively channelling the difficult emotions that the ecological crisis arouses by participating in collective climate action, environmental degradation has met with complacency, apathy, indifference and inertia amongst many others, particularly amongst those who have been shielded from its catastrophic effects. As Hoggett (2019: 3) puts it: ‘our collective equanimity in the face of this unprecedented risk is perhaps the greatest mystery of our age’. Even amongst those who do care deeply about the environment, ecological paralysis can render people unable to act on this care and concern (Lertzman, 2015). Research suggests that promoting climate literacy through CCE and communication is necessary to ensure public support for, and engagement with, climate action (Lee et al., 2015). However, the scientific and affective complexities of CCE render it incredibly challenging, pedagogically speaking, often producing a range of contradictory and

ambivalent effects. While the scientific challenges associated with CCE are well-documented, the emergence of a new emotional landscape involving forms of ecological guilt, grief and anxiety remains under-theorised.

Interactive social spaces – including schools, the family, social media platforms etc. comprise ‘emotional hotspots’ wherein strong affective responses to global warming are evoked (Ojala and Bengtsson, 2019). On social media, for example, aggression, rage and hostility have been levelled against climate activists by conservative white males for whom any perceived threat to their traditional masculine identity, social position and ‘fossil-soaked lifestyles’ triggers a range of defensive behaviours (Daggett, 2018: 29). The ‘tsunami of male rage’ (Gelin, 2019) that climate activist Greta Thunberg has been subjected to since emerging as a leading figure in the global climate movement is illustrative of a larger campaign to intimate, silence and discredit climate scientists and activists who highlight the urgent need for behavioural, institutional and structural level changes in how societies are organised if total climate catastrophe is to be averted (Bryan, 2019).

The expression of a range of different emotional responses to climate change are illustrative of just how emotionally charged our engagement with the climate crisis can be. The question of how to meaningfully engage with this evolving emotional landscape poses a significant pedagogical challenge for climate change educators, not least because the role that emotions play in teaching and learning is largely neglected in mainstream educational discourse. As Lanas (2014: 175) observes: ‘[k]nowledge remains commonly perceived as emotion-free and essentially painless. No structures are in place to recognise, accept and work with difficult emotions or to accept the painfulness of learning’.

The pedagogical complexity of CCE

The pedagogical complexity of CCE stems in part from the temporal and geographical ‘outsourcing’ of global warming to people and places who have contributed least, if at all, to the problem (Nixon, 2011: 22). As a temporal crisis, global warming has taken generations, centuries even, to develop and

will inevitably affect those who haven't been born yet. Because greenhouse gas emissions can have climate effects anywhere on the planet, regardless of where these gases are emitted, global warming is affecting citizens who are located thousands of miles from the emission source. Burundi and the Democratic Republic of Congo, for example – the countries with the lowest *per capita* CO₂ emissions globally – also happen to be the countries that are *most* at risk of food insecurity due to extreme flooding, droughts, and extreme weather caused by global warming (Ware and Kramer, 2019). The average person in the United States (US) or Australia, for example, generates as much CO₂ as almost 600 Burundians (Ibid.). Because the greenhouse gases emitted in these Western contexts is temporally and geographically deferred, those who produce them are often unaware of their effects. For this reason, global warming has been characterised as a form of 'slow violence' whose effects are often imperceptible (Nixon, 2011) – at least to those who haven't experienced its impacts directly (Davies, 2019). The task of accepting or attributing political responsibility for climate change is complicated by the fact that the risks associated with global warming are often intangible, diffuse, unintended, ongoing, and invisible (Eckersley, 2012).

Another reason why it can be difficult for individuals to apprehend their role in – or to take responsibility for – the suffering of distant others is because it is *aggregate*, as opposed to *individual* use of CO₂ which make a decisive difference in the atmospheric concentration of greenhouse gases (Gonzalez-Gaudiano and Meira-Carrea, 2010). Furthermore, CO₂ emissions are often the result of 'normal' patterns of production and consumption which many – if not most people – in emissions-intensive societies take for granted as a way of life (Phoenix et al., 2017). Moreover, when societies and individuals are faced with more acute challenges, climate change can seem like a far off problem rather than an urgent priority (Ibid.). These complex realities have resulted in a *politics of indifference* about climate-related injustices, at least amongst those least affected by them (Davies, 2019).

While the need to mainstream CCE is increasingly recognised as an important response to the intensifying climate crisis, serious educative efforts

to address the climate crisis are in their infancy (Læssøe and Mochizuki, 2015; Mochizuki and Bryan, 2015). Furthermore, existing educative efforts appear to have had limited impact or ambivalent effects. For example, the potential for information provision and awareness raising campaigns to undermine – rather than enhance – efforts to arrest the climate crisis is evident (Lorenzoni, Nicholson-Cole, and Whitmarsh, 2007). Informing people about the enormity of global warming has, in some instances, been found to promote a sense of powerlessness to effect change and hence inaction on their part. Moreover, the so-called ‘knowledge-behaviour gap’, i.e. the disjunction between individuals’ awareness of the climate crisis and their everyday harmful behaviours is increasingly recognised as one of the great paradoxes of the climate crisis (e.g. Jamieson, 2019; Phoenix et al., 2017; Uzzell, 2000).

Recent research on families’ everyday engagement with climate change in India and the United Kingdom (UK), for example, revealed that many families, despite identifying as environmentally aware and responsible, continue to prioritise more immediate concerns for their children’s wellbeing and comfort and therefore engage in high carbon practices which they perceive to be necessary or convenient for family life (Phoenix et al., 2017). This research also reveals that whereas children are neither ignorant or apathetic about global warming, their ability to engage in climate action is often constrained by existing power structures at familial and societal levels.

Collectively, these findings suggest that a complex set of affective, socio-cultural, economic and perceptual factors, interact to shape people’s engagement (or lack thereof) with the climate crisis. The psychic and emotional dynamics of climate catastrophe and related injustices, as well as the possibilities that affectively-inflected engagement with climate change afford, merit exploration in light of the limitations associated with purely knowledge-based approaches to alleviating the climate crisis. The next section of the article makes the case for CCE that is informed by a psychosocial approach (Adams, 2016). While conscious of the limits of pedagogy – including limits to teaching and to knowing (Ellsworth, 2005) – as well as the need to avoid positioning education as a panacea to social problems (Vavrus,

2003), it suggests that a psychosocially-informed CCE should comprise part of a broader and sustained public response to the climate crisis, especially in contexts where climate-related anxiety and grief are becoming more widespread. Building on Adams (2016), the article suggests that a psychosocial approach to CCE can help us to come to a deeper and more critical understanding of how and why learners respond to climate-related knowledge as they do, and *implicates* us in an ongoing social and political response to it (Ellsworth, 2005).

The climate crisis as a form of difficult knowledge

As outlined above, the climate crisis is ‘difficult’ in the sense that learners are forced to grapple with its scientific complexities and representational and imaginative challenges (Nixon, 2011). But climate-related knowledge is also ‘difficult’ in a psycho-affective sense. The construct of ‘difficult knowledge’ (Britzman, 1998) refers to social and historical content (e.g. genocide, war, rape etc.) that is traumatic or hard to bear as well as learning encounters that are cognitively, psychologically and emotionally destabilising for the learner. In other words, knowledge is difficult not only because of the traumatic content of the knowledge itself, but also because the learner’s interaction and engagement with this content is deeply unsettling (Simon, 2011; Zembylas, 2014).

Critically-oriented approaches to CCE are difficult in a psycho-affective sense, not least because of the ‘unbearable anxiety’ that increasing numbers of people are experiencing as a result of climate crisis (Weintrobe, 2013: 43). Until recently, relatively little attention has been paid to the mental health effects of global warming (Gifford and Gifford, 2016). However, as the climate emergency intensifies, a new emotional landscape involving climate-related guilt, fear, despair, helplessness, loss, mourning, and trauma is evolving (Gillespie, 2020). Some commentators have hypothesised that global warming can cause not only post-traumatic stress disorder (PTSD), as a result of the trauma of displacement from extreme weather events, for example, but can also generate an immobilising anticipatory anxiety regarding the future known

as ‘pretraumatic stress syndrome’ (PreTSS) (Gifford and Gifford, 2016; Kaplan, 2015).

Although there is currently a dearth of robust epidemiological evidence on the mental health effects of climate change, which makes it impossible to gauge how widespread these symptoms are amongst members of the general population, it seems likely that as the climate emergency intensifies, climate-related forms of anxiety will become more prevalent, particularly amongst younger generations who are more likely to experience inter alia, disrupted livelihoods, risks to food and water supplies, injury, ill-health and death associated with the ecological crisis (Intergovernmental Panel on Climate Change, 2014). While until recently the mental health aspects of climate change have been relatively neglected, concepts such as ‘climate distress’, ‘climate grief’, ‘climate anxiety’ and ‘eco-anxiety’ are beginning to feature in mainstream media and public consciousness (Pihkala, 2019). Moreover, the need for mental health professionals to understand climate-related anxiety and its manifestation in psychotherapeutic situations is increasingly recognised (Adams, 2016; Ojala, 2016; Weintrobe, 2013).

Recent findings from Growing Up in Ireland (GUI), the national longitudinal study of children in Ireland, found that almost one in three 20 year olds are ‘highly concerned’ about climate change, and that these concerns were more pronounced than their fears about issues such as employment opportunities or terrorism (ESRI, 2019). However, as Weintrobe (2013: 46) suggests, ‘we are, in a realistic sense, not nearly anxious enough [about climate change] given the current news that [global] warming is proceeding faster than had been estimated’. Although critical exploration of the psycho-affective dimensions and impact of the climate crisis is still in its infancy, coming to a deeper understanding of how learners feel about climate change, and how they actively negotiate, contest and interpret the climate crisis, is a necessary starting point for effective CCE (Adams, 2016). Without opportunities to express, and reflect critically on, their emotional responses to global warming, individuals and societies are likely to remain locked in states of emotional

paralysis or denial, thereby preventing engagement, action and responsibility (Hamilton, 2019).

CCE that engages critically with emotional, visceral and experiential, as well as scientific ways of knowing about the climate crisis (Boycoff and Perman, 2019) can cultivate deeper forms of emotional self-awareness or ‘cosmopolitan reflexivity’ amongst learners (Christensen and Jansson, 2015). As Adams (2016: 161) suggests, a psychosocial approach to CC can ‘bring into awareness structures of feeling that encourage inertia, inaction and other responses that prevent or even escalate the social and psychological engagement with anthropogenic ecological crisis’. The shared space that classroom and other learning contexts provides creates opportunities for working through and coming to terms with the complex and difficult emotions associated with the climate crisis.

Having made the case for foregrounding emotion in CCE, the remainder of the article introduces a number of concepts that lend themselves to productive engagement with climate-related emotions, with a particular emphasis on our positioning as ‘implicated subjects’ in the climate crisis (Rothberg, 2019).

Pedagogies of implication

As highlighted above, knowledge about global warming is ‘difficult’, in both an intellectual and a psychic sense. The devastating impact of global warming has already been felt for some time in Small Island Developing States (SIDS), for example, whose ability to adapt to the consequences of rising sea levels, extreme weather conditions etc. is often limited by poverty and resource scarcity. However, climate-related catastrophe is now also being normalised in other geographical contexts, including so-called first world contexts, as evidenced by the record-breaking heat waves and bushfires that swept South-Eastern Australia in 2019-2020, resulting in the issuing of ‘catastrophic’-level fire warnings in Sydney and surrounding areas (Wallace-Wells, 2019). While the impact of the global environmental crisis isn’t uniformly felt, it is increasingly part of the lived experience of those who inhabit the global North

and South. As Rothberg (2013: xvi) puts it: ‘Although distributed unevenly, and disproportionately impacting the poor and the Global South...climate catastrophe implicates us all’. As evidence of our increasing vulnerability to extreme weather-related events becomes more widespread and harder to ignore, climate-related anxiety is likely to intensify.

In addition to the survival-related anxiety that climate change provokes (Weintrobe, 2013), the ecological crisis is traumatic in the sense that the planetary changes that are threatening the survival of human and non-human species are anthropogenic, or human-induced. In other words, global warming is occurring primarily as a result of fossil fuel usage and production and consumption practices that are ‘normal’ features of consumer capitalist societies and lifestyles. These routine practices, which include ‘essential’ activities such as eating, keeping warm or cool, travelling to work etc., are profoundly implicated in the planet’s fate, rendering the climate crisis an economic, societal, political as well as scientific problem of enormous proportion (Adams, 2016). While it may not be easy to accept, those of us who live in carbon-intensive societies are, therefore, complexly entangled or implicated in transnational and transgenerational relations of ecological harm (Rothberg, 2019). As Rothberg (2019: 12) explains: ‘[c]itizens of the Global North are not precisely perpetrators of climate change, yet [they] certainly contribute disproportionately to current and future climate-based catastrophes and benefit in the here and now from the geographically and temporally uneven distribution of their catastrophic effects’. Our active positioning as ‘implicated subjects’— rather than merely victims of, bystanders to, or the actual perpetrators of, the harms associated with global warming (Rothberg, 2019) - forces us to look critically and reflexively at ourselves in terms of our proximity to, and responsibility for, climate-related harms and injustices. Rothberg’s conceptual framework helps us to see our proximity to a myriad of social injustices by enabling us to think more deeply about our own involvement in, and connection to, both past and present social and global inequalities and to derive new ways of seeing, and being in, the world. As Rothberg (2019: 200) elaborates:

“If there is a potential ‘solution’ in positing the existence of an implicated subject and drawing attention to the breadth of implication in a globally connected world, it derives from the impetus to combat and transfigure implication by self-consciously grasping one’s position as an implicated subject and joining with others in collective action”.

Rothberg’s figure of the implicated subject is essential in terms of holding individuals, governments, global corporations and international institutions to account and realising new models of social responsibility in that it prompts social actors to acknowledge the essential role that they play in producing and reproducing violence and inequality and highlights their role as agents for positive social transformation. It is closely aligned with Iris Marian Young’s Social Connections Model of Responsibility (Young, 2008). Young presents an alternative to liability-based understandings of responsibility that are primarily about attributing blame or punishment. Rather, Young focuses on the role that well-intentioned actors, through their everyday practices, play in the perpetuation of systemic injustice. This reimagining of responsibility articulates how structural harms are the result of the participation of thousands or even millions of people and considers the subtle ways that individuals are involved in the perpetuation of systems of injustice that are not of their own making. Young’s framework has the capacity to shift the focus from denying responsibility for systemic injustice or looking to blame others to an emphasis on taking responsibility for contributing to the collective process of trying to transform society. It has particular relevance to global warming because it has a hard to pin-down quality and hasn’t yet managed to produce the same sense of political responsibility that other catastrophic risks have (Eckersley, 2012).

While the figure of the implicated subject is instrumental in forging transgenerational and transnational solidarity and collective climate action, critically engaging learners with their positioning as implicated in the suffering of others is risky from a pedagogical perspective, not least because it threatens their image of themselves as ‘good’ human beings (Boler, 1999; Taylor, 2011). While space limitations do not permit a fuller exploration of these challenges

here, suffice it to say certain pedagogical conditions are necessary in order to successfully combat and transfigure implication by enabling learners to self-consciously grasp their position as implicated subjects (Rothberg, 2019). It is essential that climate change educators have a deep understanding of the psychic and affective dynamics that underpin pedagogical encounters with ‘difficult knowledge’, particularly as it relates to how human beings both affect, and are affected by, global warming. As Rothberg (2019: 200) explains:

“Implication derives from one form of acting in concert: the kind we undertake without being conscious of our actions’ impact or that we perform while engaging in more active forms of disavowal. Socially constituted ignorance and denial are essential components of implication; as such, they are also potential starting points for those who want to transform implication and refigure it as the basis of a differentiated, long-distance solidarity”.

As those approaching the climate crisis from a psychosocial perspective have illuminated, exploitative and harmful practices that contribute to ecological degradation are sustained in part by powerful defences such as denial, distortion, rationalisation and dissociation which are currently under-theorised in CCE (Adams, 2016; Hoggett, 2019; Lertzman, 2015; Norgaard, 2011; Weintrobe, 2013). Norgaard (2011), who studies the climate crisis from a sociological perspective, demonstrates how these psychodynamic processes are, in fact, culturally and socially organised, such that the political economic context shapes our individual and collective response to climate change. Her ethnographic study of ‘Bygdaby’, a small rural community in western Norway, demonstrates people’s capacity to deny the realities of global warming in their own locality, even as they witness climate change in action, such as much higher than average temperatures in winter, delayed snowfall and the consequent inability to engage in ‘normal’ activities such as ice-fishing and skiing. Norgaard’s research provides a useful illustration of ‘implicatory [climate change] denial’ in action (Cohen, 2001), i.e. individuals’ capacity to deny the significance of global warming by minimising the moral and political implications that climate change entails.

Norgaard shows how these psychodynamic defences, which are mobilised in order to avoid emotions of fear, guilt and helplessness, to adhere to cultural norms and to maintain a positive sense of oneself and nation, articulate with broader political-economic interests and are therefore ultimately socially and culturally organised.

Any pedagogical effort that seeks to ameliorate the climate crisis must therefore directly confront these socially sanctioned forms of denial. More specifically, interrogating the complex patterns, rhetorical strategies and defence mechanisms that minimise personal or societal level responsibility for global warming, needs to be at the heart of critically and affectively-informed CCE. The wide range of emotions that the climate crisis evokes, as well as the defensive strategies that are mobilised in order to avoid these feelings, need to be worked through, rather than glossed over, if their productive potential is to be realised. For example, CCE can take inspiration from group work methodologies designed for use within activist and civil society organisations to enable participants to explore and work through a range of complex and often contradictory emotions aroused by the ecological crisis (see Hamilton, 2019).

As part of this working through process, learners can be encouraged to consider the productive capacity of their emotional responses, namely the political agency of knowledge that has the capacity to disorient, unsettle and make one come undone. As highlighted by a range of scholars (e.g. Britzman, 1998; Ellsworth, 1997; Felman, 1982; Lesko and Bloom, 1998; Logue, 2019), psychoanalytic insights are instructive in terms of elucidating the function that ignorance serves in the learning process – not as a lack of knowledge but as a desire to ignore or a desire not to know – and the role that defence mechanisms play in making it difficult for us to admit and confront truths about ourselves and the world (Felman, 1982). In other words, contrary to popular understandings which perceive ignorance as a lack of knowledge, psychoanalytic perspectives on learning view ignorance as ‘an integral part of the very structure of knowledge’ (Felman, 1982: 29). Drawing on the Lacanian notion of a ‘passion for ignorance’, Felman (1982: 30) explains that:

“Teaching, like analysis, has to deal not so much with lack of knowledge as with resistances to knowledge. Ignorance, suggests Lacan, is a ‘passion’. Inasmuch as traditional pedagogy postulated a desire for knowledge, an analytically informed pedagogy has to reckon with ‘the passion for ignorance’. Ignorance, in other words is nothing other than a desire to ignore: its nature is less cognitive than performative. [...] it is not a simple lack of information but the incapacity—or the refusal—to acknowledge one’s own implication in the information” [emphasis in original].

Pedagogically speaking, this demands that we confront socially sanctioned forms of denial and ignorance that are central to the human condition with a view to embedding self-reflexivity and emotional self-awareness within the pedagogical encounter. As Rothberg (2019: 203) remarks, ‘the self-reflexivity of implicated subjects is not sufficient for the construction of durable solidarities, but it remains a necessary component of coalition building’.

Conclusion

CCE is currently underutilised as a means of promoting structural as well as behavioural-level changes and collective climate action to pressurise governments to regulate emissions and to bring about the necessary cultural and political economic changes that are necessary to avert total climate catastrophe (Mochizuki and Bryan, 2015). The foregoing analysis has argued that CCE should comprise part of a broader and sustained public response to the climate crisis. It further suggested that critical engagement with the emotional and psychic dimensions of global warming is a necessary component of any such pedagogical effort. Yet, given the emergent nature of the climate crisis, many educators are unsure about how best to enable social actors to navigate the complex emotions that they experience in response to their proximity to, and responsibility for, a myriad of injustices and environmental catastrophes associated with global warming.

Meanwhile, new emotions, including ‘ecological grief’ and heightened levels of climate-related anxiety amongst young people have been

reported in epidemiological studies. While our understanding of these complex emotions is as of yet underdeveloped, climate-related anxiety has been described as a complicated form of grief (Clayton et al., 2017), and is therefore deserving of our attention. Addressing the emergence of these new emotional landscapes within formal educational contexts is especially challenging, because these environments privilege the rational and cognitive aspects of teaching and learning and perceive emotion to be peripheral or irrelevant to education (Kenway and Youdell, 2011). However, as Ahmed (2014) explains, far from being ‘after-thoughts’, emotions are instrumental in shaping how we are moved by the worlds we inhabit. Indeed, as Moser (2007) argues, we neglect the emotional aspects of the ecological crisis at our peril.

The conceptual toolkit advanced above has attempted to illuminate the circumstances under which social actors can move beyond disabling emotions and psychological states that prevent them from taking climate-related action that is in their own interest and the long-term interest of planetary survival. At the heart of this is a conceptual framework that enables learners to acknowledge their role as ‘implicated subjects’ (Rothberg, 2019) in modes of violence and injustice that are often routine, insidious, or difficult to apprehend and that intersect with, and produce, a host of other global crises. The figure of the implicated subject has the potential to enable learners to better apprehend their role in contributing to, as well as alleviating, the climate crisis by refiguring implication as the basis of solidarity and collective climate action (Rothberg, 2019). While conscious of the limits of pedagogy (Ellsworth, 2005), and the need to avoid positioning education as a panacea to social problems (Vavrus, 2003), a psychosocial inflected CCE that engages productively with climate-related emotions that might otherwise be disabling and that directly confronts socially sanctioned forms of denial and ignorance is vital to the broader public response to the climate crisis.

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Audrey Bryan is Associate Professor in the School of Human Development, Dublin City University. Audrey.bryan@dcu.ie.