Sustainability Frontiers

Unleashing Blessed Unrest As the Heating Happens

How learning spaces can help to avoid the worst scenarios now before us and four learning activities to engage young people

By **David Selby** and **Fumiyo Kagawa**

CALIFORNIAN ENVIRONMENTALIST Paul Hawken coined the phrase 'blessed unrest'. He uses it to describe the worldwide grassroots stirring of peoples—at best loosely organized and thinly networked—in defense of "the timeless ways of being human" now "threatened by global forces that do not consider people's deepest longings".[1] This movement, informed by social justice and environmental activism as well as indigenous cultural resistance to globalization, seems to us to be core to any meaningful response to runaway climate change. In this article we consider how learning spaces can help unleash the blessed unrest we hold to be vital if human society is to have any chance of escaping the worst scenarios now before us for the heating of the planet. (In using the word 'heating', our aim is to avoid the soothing connotations of 'global warming'.)

There is almost universal consensus across the global scientific community that climate change is happening and that it is mostly human-induced.[2] And, as understanding of the amplifying and uncontrollable effects of so-called climate tipping points deepens, there is widening scientific conviction that, without radical and concerted U-turns now, global surface temperatures cannot be stabilized at the 2.0ºC rise relative to pre-industrial levels that governments and the United Nations regard as livable with and 'economically acceptable'. (We should note that one of the world's leading climate scientists, James Hansen, perceives a 2.0ºC rise as being nothing short of a "disaster scenario" and that a growing number of scientists think that holding the global temperature rise to 2.0ºC will be an uphill, perhaps impossible, task anyway[3].)

As runaway climate change lurches forward, future scenarios look grim—a mix of ubiquitous environmental disaster (including a huge loss of biodiversity), ongoing and massive internal and external population displacement as a result of sea incursions, seasonally recurring wildfires and desertification (and resultant social dislocation), hunger, starvation, internecine strife, violent conflict, tribalism, aggressively defensive localism, as well as the ever-lurking danger of genocide.[4]

Not that the present is short of trauma and tragedy. A report on the human impact of climate change from the Global Humanitarian Forum describes the 'silent crisis' of climate change that is already upon us and that, on yearly average, is causing over 300,000 deaths, seriously affecting 325 million people and bringing about economic loses of US$125 billion per year.[5]

In the face of such a present condition and future prognosis, why is there such reluctance to wholeheartedly and

comprehensively engage with the climate change threat? Looking back on the so-called 'credit crunch' of 2009, it is quite remarkable (but not really surprising) how much the reverberations from a failed banking system threatening to undermine the prosperity of a global minority so quickly eclipsed the 'climate crunch' threatening the very existence of the world as we know it. "This is a most dangerous state of affairs," writes Jess Worth. "It's like finding out that you have got cancer, but then delaying going to the doctor's for treatment for a few months because you want to repaint your house."[6] This is but a particularly striking example of the 'eyes wide shut' syndrome that characterizes much of the response to climate change.[7] From government, media, the corporate sector, the world of education and the public comes a presenting acceptance, oftentimes fulsome, of the severity of the looming crisis. This acceptance is coupled with an ill-preparedness to confront the deep personal change and societal transformation needed to have any chance of staving off the worst effects of global heating.

Avoiding looking in dark corners, we fall back on characterizing climate change as a technical problem that can be managed by a mix of technological innovation and policy solutions that avoid challenge to 'business as usual' rather than as evidence of a profound crisis in the human condition calling for nothing less than complete and total transformation.

The Lost Key

But why are 'eyes wide shut'?

First, as implied by the house painting analogy, we have become straitjacketed by economic growth fetishism. Across the mainstream political spectrum there is a deeply entrenched identification of progress with continued increase in Gross National Product. "To question growth is to oppose progress and those who do are immediately accused of wanting to take us back to the stone age, as if living in a mansion or cave were the only options."[8] Hence, although it is clear that subjugating the planet to the demands of the market is rapidly devastating both ecosphere and ethnosphere, environmental advocates seeking influence often narrow their case to argue that renewable energy and green technology carry enormous growth potential. Collusion with the growth fetish in this way subordinates their environmental message to the earth-devouring development agenda. In schools and universities, the environmentalism that is most acceptable, often 'education for sustainable development' (ESD), embraces or stays mum about its stance on growth. Much ESD discourse has indeed become steeped in 'business as usual' assumptions by implicitly and sometimes explicitly interpreting development as connoting sustained economic growth. As such, it becomes part of the disease rather than part of the cure. If we accept the finiteness of the planet—that the planet is not an inexhaustible cornucopia—and if we interpret 'sustainable development' as 'sustainable growth,' then the 'sustainable development' label becomes oxymoronic, a contradiction in terms, a 'self-contained *non-sequitur* between noun and modifier'.[9]

Second, people of the metaphorical North of the planet as well as elites in the South have become so immured in the myths we tell ourselves—not only the myth of unending growth but also the myth of ever upward progress, the myth of human centrality to existence ('Our World'), the myth of separation from and dominance over nature – that runaway climate change threatens our very sense of who we are. It is too painful to contemplate. Confronted by ever more dire accounts of a global climate lurching towards ever-deepening crisis and of the consequences for the human condition, we engage in cognitive dissonance—processes in which the human psyche, while rationally acknowledging the threat we face, uses devices such as prevarication, pleasure seeking or quixotic hopefulness to avoid or slow an appropriate and proportionate response. Dissonance arises between the evidence we are presented with, and which part of ourselves accepts, and what the other part of us wants to be true as we cling to our individual and social identity. We then act like the man in the Sufi story who lost the key to his house:

> He was found to be looking for it under a light. He looked and looked and couldn't find it. Finally someone asked where he had lost the key. He answered, "Well, I did in fact lose it over there." And when asked why he didn't look for it over there, he said, "Well, it's dark over there, but there is light here for me to look".[10]

Avoiding looking in dark corners, we fall back on characterizing climate change as a technical problem that can be managed by a mix of technological innovation and policy solutions that avoid challenge to 'business as usual,' rather than as evidence of a profound crisis in the human condition calling for nothing less than complete and total transformation.

Our review of climate change educational materials supports this contention. In most teaching packs and learning resources, we find a preponderant focus on the science of global warming rather than ethics and values issues. We find absorption with technical fixes in aid of climate change adaptation and mitigation (the former increasingly to the fore in that it falls in with 'business as usual'). We find a reluctance to investigate the culpability of neo-liberal economic growth models and to explore slow growth or no growth alternatives. Overall, we find a tendency to characterize climate change in terms of an immediately presenting symptom; that is, as a CO_2 problem curable within mainstream terms of reference.

On the obverse side of the same coin, there is a concomitant reluctance to explore climate change as a crisis of an ethically numb, inequitable and de-natured human condition. There is, too, an avoidance of envisioning and addressing personal and societal climate change scenarios that are likely to be played out in learners' lifetimes. Current climate change education more often than not eschews the darkened corner.

Staying within the comfortable arc of the light, education addressing climate change also sidesteps root-and-branch scrutiny of consumerism, defined by Alastair McIntosh as

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Japanese educators and students share their understandings and perspectives on climate change.

"consumption beyond the level of dignified sufficiency".[11] Fuelled by the advertising industry and its dream factory of images and desires, consumerism has become key to personal identity for millions and millions of people. What we buy shapes how we feel about ourselves. To borrow from Descartes, 'I consume, therefore I am'. But the substitute gratification we enjoy is not authentic identity and the 'I am' requires regular purchasing replenishment. That is precisely what the global marketplace needs. A "constant feeling of dissatisfaction to sustain spending" is essential because "unhappiness sustains economic growth".[12] For Sue MacGregor, consumerism is a form of structural violence exploiting the natural environment and sweatshop laborer and enslaving the consumer herself. "People behave as they do in a consumer society," she writes, "because they are so indoctrinated into the logic of the market that they cannot "see" anything wrong with what they are doing. Because they do not critically challenge the market ideology, and what it means to live in a consumer society, they actually contribute to their own oppression".[13] For McIntosh, consumerism and the spurious sense of identity it spawns "interrupts the very journey of life" towards mature self-realization.[14]

In addressing the environmental impact of mass consumerism, environmental and sustainable development educators often promote 'green consumerism' employing the 'reduce, reuse, recycle' legend. Not only does this fall short of a thorough unpacking of consumerism as such, it can inadvertently bolster a consumerist ethic. The recycling bin in most classrooms is a case in point. Often cited as evidence of the school's commitment to sustainability, it can easily convey the subliminal message that consumerism approached responsibly can be benign. In terms of addressing the powerful structures fuelling runaway climate change, 'green consumerism' is also found wanting in that it tends to highlight individual responsibility and culpability and leaves forces driving the engine of the global marketplace in the darkened, unexplored corner. A class of students working out their individual 'ecological footprint' on a dedicated website carries a barely camouflaged subtext of overpersonalizing responsibility.[15]

But, as many readers of *Green Teacher* are well aware of, in the darkest corner of all is our radical disconnection from nature and the associated conceit of thinking humanity above nature. The prevailing view of nature, bred from modernism, is that of machine having instrumental value rather than of an organic whole having immanent purpose and intrinsic value. As such, we have taken unbounded license to exploit, but as exploiter have paved the way for the erosion of our inner life. It was during the time of Galileo (1564-1642) that T.S. Eliot says a "disassociation of sensibility set in, from which we have never recovered".[16] For McIntosh, it is this "breaking up of the ability to feel and relate to life" that "lies behind the mindlessness that underlies anthropogenic climate change".[17] In this way, a vicious circle has been wrought in which the desiccation of the psyche has both fed from and fed into the destruction of the planet. Denial of the sacred, the "vast interconnected whole that is the totality of all the nested system or minds making up the living world" [18] fuels an anthropocentric and dominance-fixated ethic that is the harbinger of destruction. "If we learn, before it is too late, to make this move towards reverential relationship with the systemic and material world, we will be in a win-win situation," writes Noel Charlton. "We will gain enormously in quality of life. We will cease to be a pathology within the systems of the living Earth".[19] And yet some of our most respected environmental advocates still speak in instrumental, desacralized lexicon about the importance of preserving 'ecosystem services' and of protecting and harnessing 'natural resources' and 'natural capital'.[20]

They do so, we would suggest, because they know that

this is the language of possibility within the corridors of power where they are looking for traction and influence. This is the rub. While government, corporations, and other sources of power are prepared to embrace a trimmed, reformist climate change agenda seeming to do something but maintaining 'business as usual', a transformative agenda in the face of oncoming planetary destabilization remains beyond the pale. Educational institutions and systems are caught up in the same cultural pathology. The best hope, we hold, lies in helping foment 'blessed unrest' outside the constraints of those institutions and systems within informal and non-formal community learning spaces but also by opportunistically availing of as many subversively fertile niches as possible within formal learning contexts. What might a learning program for unleashing 'blessed unrest' in a time of climate crisis encompass?

A Transformative Learning Agenda

Breaking Through Denial

It has become almost axiomatic amongst global and environmental educators to say that undiluted exposure to 'gloom and doom' is disabling and disempowering for the learner. That said, an honest education facing up to the onset of what Alastair McIntosh describes as "a great dying time of evolutionary history"[21] calls for an overturning of the comfortable delusion that major disruption of the Earth's climate can be avoided or neutralized. Recognizing that present and future generations need hope, we have to ask what the hope is grounded in and what kind of hope it is. Is it spurious optimism, a comfortable fiction based on what we would prefer to see happen while keeping our 'eyes wide shut'? Or, is it a pared down and realistically straitened optimism born of confronting the present and future earth condition? Is it cozy but inauthentic hope or hard-edged but more authentic hope? A program for 'blessed unrest' calls for what Martin Seligman calls "the courage to endure pessimism".[22] Truly transformative learning, we submit, involves conscious, deep and sustained processes of engaging with pain, despair and grief over what we are losing, moving towards acceptance while searching for radically new meaning and values, and equipping ourselves for personal and collective empowerment and action; what have been called the stages of 'Despair, Accept, Act'.[23]

Within such processes, it becomes vital that a careful processing of the 'dying time' takes place; an engagement with death and impermanence as core to existence, and an understanding that such engagement can lead to a deeper, non-materialistic appreciation of life that can be the harbinger of radical social renewal.[24] "We cannot address the future in a serious or comprehensive way," writes Diarmuid O'Murchu, "without embracing the dark and perilous threat that hangs over us as a human and planetary species. …We are compelled to assert what seems initially to be an outrageous claim: a radical new future demands the death and destruction of the old reality. It is from the dying that new life sprouts forth".[25] Joanna Macy's despair and empowerment work provides a powerful canon of learning activities for breaking out of denial about what is happening to the world, working through despair and loss towards renewed commitment and purpose, and so being ready to embrace the activism of 'blessed unrest'.[26] Future envisioning activities are also important in this regard, opening the way to pre-empting the future by entering the future. Learners guided on visualization journeys into the dystopian futures that climate change future histories lay out[27] can also be facilitated through their despair and towards pre-emptive action.

Alternative Conceptions of a 'Good Life'

So ubiquitous is the myth of never-ending economic growth and the view that growth is essential to personal and collective wellbeing that we are living with dangerously delusional 'no alternative' assumptions.[28] It is instructive that while schools commit to offering a multiplicity of perspective allied with critical rigor, the growth economy and its environmental and social impacts are rarely scrutinized. Taking up such scrutiny, learning programs for 'blessed unrest' need to offer an antidote by making available age-appropriate learning windows for considering ideas for transition to slow growth, no growth and steady state economies, concretizing those ideas through learning-in-community experimentation and practice. "Climate change means we have no choice," says Peter Victor, author of *Managing Without Growth: Slower by Design not Disaster*. "We can either design a slower-growth economy over the next few decades, or we'll get there suddenly through environmental disaster".[29]

In the project of subverting the 'no alternative to growth' worldview, a root-and-branch critique of consumerism is key. We term what we have in mind 'anti-consumerism education', distinguishing it from 'consumer awareness education' with its subliminal agenda that consumerism can be made benign, just as, given the exigencies of structural racism, liberal 'race awareness education' had to give way to a more radical 'anti-racist education'. Anti-consumerism education has the twin goals of protecting environments and exploited peoples while liberating individuals from the thrall of identity-distorting consumerism for a journey of autonomous (but interconnected) self-discovery.

One counter to the idée fixe of neo-liberal growth, as proposed by a succession of transformative educators who have published in *Green Teacher*, is that of living and learning informed by 'voluntary simplicity', the term connoting frugal consumption, ecological awareness, connectedness, conviviality, community and personal growth based on the harmonization of physical, psychological and spiritual needs. The pain of transition to voluntary simplicity, its originator argues, is more than compensated for through the quality of revitalized community experience and the cultivation of "conscious watchfulness", i.e. the ability to behold the close-at-hand world through an intimate eye.[30]

Poetizing Intimacy with Nature

Intimacy with nature is crucial to fomenting 'blessed unrest'. The intimacy we have in mind walks the interface of science and spirituality as it cultivates resistance to forces destroying cultural and natural environments. In a time of violation of flora and peoples occasioned by the English land enclosures and agrarian 'modernization' of the 1820s, the laborer-poet John Clare conveyed a sense of loss through a finely-detailed depiction of flower species under threat, images that in their detail also betokened a sense of oneness between flowers and laborers "as fellow members of

Wendy Agnew

A visualization exercise leads Toronto Montessori teachers towards creative expression of their concerns for the future, the interrelationship of all things and the undercurrents of climate change.

the great commonwealth of the fields," now sharing a common fate in their eviction.[31] His radicalism and expansiveness were bred of a nature intimacy in which were folded together science, spirituality and social justice. In a time of present and looming runaway climate change eroding environments, cultures, social relations and livelihoods, it is profoundly important to enable learners to cultivate a sense of enfoldment in nature and a disposition to hold onto what is being lost by fostering scientific intimacy as well as poetic and spiritual ways of knowing such as attunement, awe, celebration, enchantment, intuition, reverence, wonder and the oceanic sense of the oneness of being. This is another reason why ESD gives cause for concern. As a field, it but rarely gives space to honing poetic and numinous insight, relying instead on scientific rationality. "At the heart of the matter," writes Michael Bonnett, "is the question of the adequacy of rationality to resolve issues in an area as complex, subtle and multidimensional …as environmental concern," especially, he adds, given how rationality has proved so effective a tool in the exploitation of the environment.[32] To borrow the title of Eban Goodstein's fine book, the calling to blessed unrest is one of *Fighting for Love in the Century of Extinction*.[33]

Learning in the Democracy of Denizenship

"Conservation of the earth's resources and creation of sustainable livelihood," writes Vandana Shiva, "are most caringly, creatively, efficiently and equitably achieved at the local level. Localization of economies is a social and ecological imperative".[34] For Shiva, localism invokes a "living democracy" integrated with a "sustenance economy". "In living democracies, people can influence the decisions over food we eat, the water we drink, and the healthcare and education we have. Living democracy grows like a tree, from the bottom up."[35] Turning globalization on its head, Shiva envisages a sustainable future in which the "most intense relationships are at local level and the thinnest interactions at the international level" with decisions being taken "at the level closest to where the impact is felt".[36] Such a conception speaks to a reorientation of citizenship and citizenship education away from a primary focus on arms-length representative democracy towards close-at-hand participatory democracy grounded in a keener, immediately experienced, appreciation of the "interdependence between nature and culture, humans and other species".[37] A citizenship education for 'blessed unrest' in time of rampant climate change, we submit, needs to be shaped by engagement in community-based action that creates, resists and transgresses in the name of sustainability. The notion of 'citizenship' might helpfully give way to that of 'denizenship', a denizen being an inhabitant of a particular place, the word connoting the primacy, aliveness and realness of immediate context while also neatly sidestepping the built-in anthropocentrism of citizenship, in that a denizen can be either human or other-than-human.

A Cosmopolitan Dialogue for Climate Justice

Opening the way to the close-at-hand democracy of the denizen does, however, carry the ever-attendant danger of protectionism and insularity, raising the specter of the climate change equivalent of the gated community, especially amongst the affluent. Building a concomitant commitment to a global climate justice ethic is, then, a crucial dimension in catalyzing blessed unrest (it remains by and large ignored in current climate change curricula). While countries in the

South of the planet are held to account for their financial indebtedness, there is no holding to account of countries of the North for their ecological indebtedness arising from their polluting the atmospheric global commons.[38] Also, the effects of climate change are falling and will continue to fall in a hugely disproportionate way on nations and communities of the South, who are least responsible for CO_2 emissions.[39] These issues, calling for reparation, on the one hand, and restorative justice, on the other, speak to engagement in a cosmopolitan and reflexive learning dialog as a vital complementary dimension to localized learning and action.[40] There need to be learning synergies through the sharing of blessed unrest.

A Harbinger of Authentic Hope

Blessed connotes blissfulness, good fortune, a favored state, a condition of spiritual wellbeing and joyfulness, a state of reverential entanglement with the world. Unrest signifies disaffection, dissatisfaction, discontentment, disturbance, a state of active unease and unsettlement fomenting dissidence and dissent. The words, juxtaposed, look like an oxymoron. But, we suggest, they offer a potent transformative learning concoction in response to 'interesting times' that are marked by crisis, danger and turbulence, on the one hand, but are also redolent with the creative and liberating potential bred of impending collapse. The climate change learning we propose is no easy road; it is countercultural, it runs against the grain of the prevailing 'eyes wide shut' syndrome, and it will not be favored by those of 'business as usual' disposition. But to look only where comfortable light shines, we maintain, leads to the easy embrace of inauthentic hope. The rough ride of 'blessed unrest' offers a ruffling and dark pathway but a way through to an authentic, grounded hopefulness.

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The authors would especially welcome feedback from teachers who try the following four activities with their students. Contact them at info@sustainabilityfrontiers.org.

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Weathering Climate Confusion

Purpose: Clarifying the difference between climate and weather while alerting students to levels of public confusion about the two terms.

Grade level: 5-9

Time: 45-60 minutes (and 60 minutes for the extension activity)

Materials:
- 1 sheet of paper
- 1 sheet of newsprint
- 3 markers of different colors
- 1 glue stick
- copy of *Climate and Weather* handout (see next page)
- cut-up set of *Weather or Climate?* cards for each group of four students (see next page)
- masking tape

Procedure
- Students form groups of four. Without any explanation from the teacher, they are asked to discuss the difference between 'weather' and 'climate', ending their discussion by writing one-sentence definitions of each term on their sheet of paper (and noting down the nature of disagreements if members of the group cannot agree). Each group reports back, with the teacher facilitating a whole class discussion of differences of opinion and of issues raised. At an appropriate moment, the handout is distributed and discussed, the teacher explaining that while the difference between weather and climate is not so difficult to understand, there seems to be frequent and widespread confusion among the general public, often making for muddied debate on climate change.

- Groups consider each of the *Weather or Climate?* cards. They arrange them on the sheet of newsprint, pasting them down. They write 'weather' (using a marker of one color) against a statement that they think is describing weather, and 'climate' (using a marker of a second color) against a statement they think is describing climate. They use a marker of a third color to explain any misperceptions, misunderstandings or ambiguities they discern in the statements. Completed charts are hung on the classroom wall and groups visit each others' charts, noting down queries or objections they want to raise in the ensuing classroom discussion.

Potential
This activity seeks to illuminate and clarify a fundamental misunderstanding that often clouds and distorts public responses to climate change warnings and subsequent debate, fuelling climate change denial. As such, it aims to provide a sound springboard for exploring climate change issues while alerting students to often expressed (and sometimes seemingly deliberate) misunderstandings in the media and everyday conversation.

Variation
The class begins with the *Weather or Climate?* exercise followed by a plenary discussion during which the handout is introduced and discussed. Groups then return to their *Weather or Climate?* charts and make any amendments they feel to be necessary before further class sharing and discussion.

Extension
Students are given the task of each asking four adult members of the public to write their definitions of climate and weather on separate sheets of paper, putting their chosen pseudonym for each adult against each definition. In class, the sheets are arranged on a pin board and used to analyze levels of misperception and misunderstanding in the sample. Students are asked what implications the results might have for inclusive, informed public debate on climate change.

CLIMATE AND WEATHER

Weather

Weather is what we see when we get out of bed in the morning and say 'what a lovely day!' or 'It's very icy; the school bus won't run this morning'.

It's a brief moment in a long movie about the air conditions that surround us and that affect our lives. That moment can't be relied upon to give you a sense of the whole movie.

When you listen to a 'weather forecast' on the television, the presenter will say what conditions people in different regions can expect based on satellite and other information collected by 'meteorologists' (weather scientists who study what is happening to the 'atmosphere', the air surrounding the earth). The forecast will say what temperature a place can expect; whether there will be rain, snow, freezing rain or hail (what is called 'precipitation' - that which falls to the ground from the skies); whether it will be cloudy or sunny; how windy it will be and from what direction (north, south, east, west or in between the compass points); how far you will be able to see (what is called 'visibility'); likely levels of air pollution; and how much moisture there will be in the air (what is called 'humidity').

So, weather is the mix of conditions and events that we experience over a short period of time: a day, a week up to a few months. It is not the same everywhere. It might be hot, dry and sunny where you live, but fifty kilometers away it might be wet and cold. Weather change happens quickly.

Climate

Climate is about weather patterns over a long period of time, usually 30 years. Meteorologists keep all the weather information—for example, daily temperature, rainfall and snowfall measurements, wind speeds and directions—they have collected for each day of each year in the 30-year period and work out, on averaged past evidence, what weather is likely in any period of time in any place.

So, climate is about long periods of time. It is about weather averages. Knowing the climate of a place leads us to expect a certain kind of weather in a certain place at a certain time of year, for example snow and sub-zero temperatures in Ontario, Canada in February. But remember we are talking averages – there are sometimes comfortably warm periods in Ontario in February!

Scientists also use the information they collect to see if the climate is changing. For example, they may look at the thirty years of information for, say, 1970-2000 and then at the thirty years of information for 1980-2010 to find out if there is a change in the average climate picture. Doing such exercises warned them that a rise in temperature was happening around the planet and especially so in certain regions. This is what we call 'global warming' or 'climate change' that, unlike weather, cannot be so easily experienced on a day-to-day basis, making some people question whether it is happening.

WEATHER OR CLIMATE?

Everybody agreed that the day was just right for a picnic and swim. What a bright, sunny morning!	Antarctica has been freezing cold, even in summer time, for tens of thousands of years.
There is a cold front coming in from the west!	This 'global warming' idea is garbage; it's been a wet, cold summer.
'Every winter there was so much more snow than there is now,' said the old man. 'It was piled up to our waists, when I was a young boy.'	'In the past few years the swallows have started returning earlier,' said the farmer.
'We are calling for a hot, hot week in Toronto, and there will be smog over the city,' said the newscaster.	The sun was beating down on the desert landscape.
A Snow Advisory was issued for southern Quebec.	The sweltering midsummer heat wave went on and on and on. 'Wow,' she said, 'this is really global warming!'
England has cooler summers and wetter, warmer winters. Spring starts much earlier than in most of Canada.	It was much cooler than usual that June in Alberta.

Climate Change Denial

Purpose: Exploring the phenomenon of climate change denial, what lies behind it and the dangers it presents, and considering what might be done.

Grade level: 10-12

Time: 60 minutes for Stage 1; 60-75 minutes for each of Stages 2 and 3; ongoing short periods of time for Stage 3

Materials:
- cut-up set of cards from handout (see next page)
- newsprint, markers, glue stick
- pile of blank cards for each group of four students
- Climate Change Denial pin-board

Procedure

1. Class members sitting in a circle are asked to think about times when they have worried about something but put it 'to the back of their minds' or otherwise tried to forget about or reduce its significance – things like going out to play ball the evening before a big exam when as they play they feel uncomfortable not to be studying, or going through the motions with a boyfriend or girlfriend when they no longer feel good about the relationship but aren't prepared to face up to the fact by telling them, or behaving in some other way when part of them is telling them they should be behaving in another but not confronting the problem. They recount examples they are prepared to share and the feelings they had. The teacher introduces the idea of denial: that in big things and small things people use self deception to evade reality and to protect themselves from facing up to things. The class is asked if they can identify in their examples different forms of denial and give each form a descriptor.

2. Students form groups of four. Each group receives a set of cards, newsprint, markers and a glue stick. They are asked to read and discuss the cards and determine the range of issues raised by each card and by the set of cards taken as a whole. Their task is to arrange the cards on the newsprint sheet, demonstrate connections between the cards by drawing one or two-way arrows, and write commentaries explaining the issues raised by the cards, and the nature of their card arrangement.

   During the work group, members take time out to write on blank cards their own personal examples relating to or mirroring the examples in the card set. They do not share these at this stage.

   Each group presents, with the teacher encouraging feedback and discussion of what is said. At an appropriate point towards the end of group-generated discussion, the teacher reveals the following explanations:

   Climate change denial is the term used to describe attempts to downplay the extent of global warming, its significance, or its connection to human behavior, especially for financial interests, but also to protect individuals from facing the future and facing up to changes they would need to make in their behaviors to slow global warming.
   Cognitive dissonance, a term used in social psychology, describes an uncomfortable feeling caused by holding two contradictory ideas or behaving in two contradictory ways simultaneously, or when we know but won't acknowledge that what we are saying or how we are behaving is contradicted by evidence and our own opinions, but resist amending what we say or do.

Questions are then asked of the class:
- Do we see denial in the different cards and, if so, what forms does it take?
- Do you see examples of cognitive dissonance lurking behind or within what is written in the cards?
- Do you see any 'big ideas' in any of the cards that would help explain denial and cognitive dissonance?
- Do you see any 'big ideas' in any of the cards that would suggest how to deal with denial and cognitive dissonance?
- What examples of denial do you find most shocking?
- Should we distinguish climate change denial from climate change ignorance?
- Does denial of climate change add to the magnitude of the threat the planet faces?
- How should climate change denial best be dealt with?

  Throughout the discussion following each question, students are encouraged to share examples of personal climate change denial as they have written them up on the blank cards.

3. Students are asked, ahead of the next class, to each conduct a brief three-question interview with five members of their community:
   a. How serious do you think climate change is?
   b. What are you doing personally to stop climate change?
   c. Is there anything more you think you should be doing?

   During the second activity session, groups re-form and students analyze their twenty interview responses through the

lenses of the concepts of denial and cognitive dissonance. They are specifically asked to identify different types of denial. Each group reports on its findings. Class discussion follows.

4. A Climate Change Denial pin board is made available in the classroom. Students are invited to bring examples of climate change denial they find in newspapers, magazines and on the web, or overhear, and pin them on the board with their own note of explanation. The class reviews the board occasionally.

Climate Change Denial Cards[1]

1. Asking rich people...
Asking rich people in rich countries to act to prevent climate change means asking them to give up many of the things they value – their high performance cars, their flights to Hawaii and Mexico – for the benefit of other people.

2. We've managed before...
He watched the program on climate change. It really worried him. But then, he thought, 'we've solved these sorts of problems before, and somebody will come up with something'.

3. We must act now...
His speech on the dangers of climate change was really well received. 'We must act … and act now!' he had said. The audience of young people loved it and gave him a rousing ovation. Leaving late, he sped his SUV down the highway to get home in time.

4. Urgent and vital
Addressing climate change is an urgent and vital part of our election program,' the politician said. 'This is why we have a definite target of cutting carbon emissions by 60% by 2050.'

5. Deeply concerned
I am deeply concerned, even horrified, about global heating,' the Norwegian woman said. 'But I live in a small country. The real blame lies with America and its gas-guzzling way of life and with China where they are building a new coal-fired power station every week.

6. Reward for green behavior
Research in the UK from 2008 found that 'green idealists' or 'green activists'—those most aware of climate change and environmental issues—took the longest and most frequent flights, often seeing them as a 'reward' for otherwise green behavior.

7. Small window of opportunity...
The newspaper front page had a shocking piece about the melting of the Arctic ice. 'We have only a small window of opportunity to stop this,' the editorial said. On page 8 the newspaper was advertising its special world travel offers.

8. That is why...
'We have become the leading Canadian university for environmental protection and education,' the university press release announced. 'That is why forty of our academics representing several faculties are attending the world conference on climate change in Copenhagen.'

9. Blue skies thinking...
For society to function well, it's important to keep a climate of optimism that a better future lies ahead. It encourages the belief that we can all be successful and self-improve. We need blue skies thinking. The dark skies thinking of global warming doesn't fit with the way our society works.

10. Big business...
Huge corporations are funding scientists to dispute what the vast majority of scientists are saying: that human-made climate change is happening and is dangerous. These scientists don't publish in the best journals. They write in popular magazines and appear on television offering punchy sound bites. These are the 'climate change skeptics' paid by corporations scared that action on global warming will cut their profits.

11. Failure to tell...
The biggest climate change denial is the failure of the wealthy nations to tell people that climate change is already having devastating effects for the people of the developing world, with 300,000 dead each year and the lives of 325 million seriously affected.

12. The story people want to hear...
Commentators denying climate change is happening get more than their fair share of airtime because the story they tell is one that people want to hear.

13. Science will see us through...
New scientific breakthroughs will see us through the climate crisis,' the teacher said. 'Solar, wind and wave power are just the start. There will be means to extract and bury carbon in the atmosphere. Sun shields in space that will protect us and cool the earth. There will be a brave new world allowing us to continue with business as usual.'

14. What a huge problem...
The teacher talked about what a huge problem global warming is. 'What shall we do?' the student asked. 'Recycle, wear things longer and have the family buy a smaller car,' he suggested.

Climate Change Despair and Empowerment Activity Sequence

Purpose: Encouraging students to share their anxieties about climate change futures; helping them discover that others share their fears; fostering their disposition and readiness to take action.

Grade level: 9-12

Time: 60-90 minutes

Materials:
- circle of chairs, well spread out
- sufficient cards, crayons, pencils and sheets of paper laid out within the circle
- a flip chart and marker

Procedure
When students have become familiar with climate change issues and debates, the teacher takes the students, sitting in circle, through a series of stages each triggered by a question or instruction.

1. *Feeling Powerful.* Students are asked to think about times when they have had to do something really difficult or scary but where they came out feeling really powerful. After a few minutes of reflection they pick up a card and write down images that capture the experience and feelings of those times. Students share their images around the circle. They store their card for future reference.

2. *Thinking the Unthinkable.* The teacher asks students to each pick up a card and write three sentences beginning with:
   - 'The thing that worries me most about the heating of the climate is…'
   - 'The thing I prefer not to think about happening with climate change is…'
   - 'What scares me most about a hot planet is…'

   Three to four minutes are given for writing (the teacher avoids giving examples and urges students to write what they wish). The cards are collected in, shuffled and given out again. Each student reads out the card they have received. All sentences are accepted without comment.

3. *Climate Change Nightmares*. With eyes closed, students are asked to silently run a film in their heads about dangerous climate change inspired by their recall of a bad dream or of something they have read in a newspaper or book or seen on film. Without opening their eyes, they draw a picture on paper, not to be shown to anyone, of their feelings.

4. *Something You Love*. Again with eyes closed, students are asked to think deeply about something they most value about life or the world. Volunteers are asked to share and describe things they thought of.

5. *A Hopeful Future*. On a new card, students write three sentences beginning:
   - 'We really could face up to global warming by…'
   - 'Life could be good, even better, if…'
   - 'To transform things, a good way forward would be to…'

6. *Brainstorming*. Students are asked to brainstorm things that people and whole societies might do to stave off dangerous climate change. All ideas are accepted and written on the flip chart by the teacher.

7. *Revisiting Feeling Powerful*. Students are asked to go back to the images of themselves being powerful and look again at their cards (*Stage 1*). They are asked to quietly reflect on how those feelings of power might be drawn upon to help reduce climate change and, in particular, be used in realizing any of the ideas brainstormed. Everyone in the circle is encouraged to share their reflections; those who wish to are encouraged to write 'commitment to action' cards to be shared or not shared with the class as the writer sees fit.

Potential
This activity sequence is designed to take students through a rollercoaster of powerful experiences and emotions before demonstrating their potential for social action ('blessed unrest'). First, they recall feelings and moments of power (*Stage 1*) before encountering climate change dystopias in the face of which they may very well feel an acute sense of powerlessness (*Stages 2, 3*). The orientation then swings (*Stages 4, 5*) to focusing upon what they value most in life and to considering hopeful futures (something that is likely to be made more intense by just having considered what they love). The focus then turns (*Stages 6, 7*) to action to preempt or reduce dangerous climate change. This segues into student consideration of personal change agency potential, by recalling the power students have been able to find in themselves in seemingly disempowering circumstances.[2]

Guidebook for Survivors

Purpose: Students work within an imagined dystopian climate change scenario to develop a guidebook for climate change survivors. They then transform gloom into purposefulness and pro-activity by considering whether they and others could act on their guidebook now to avoid global warming, and to what effect.

Grade level: 9-12

Time: 120 minutes

Materials:
- newsprint
- thick markers, paints, brushes, and water jars for each group of four students
- masking tape

Procedure

1. Climate change writers such as James Lovelock and Mark Lynas[3] have imagined a world in which humanity has lacked the willpower and resolve to prevent dangerous climate change and human society has shrunk to a remnant living close to the Arctic Circle and sub-polar areas in a few contracting 'belts of habitability'.

   Students breathe deeply, relax, close their eyes and are taken through the following guided visualization, read slowly with pauses, that is based on the Lovelock and Lynas scenarios:

   The world has become a hot place. Pictures in books of tall leafy trees, green meadows, cool lakes, markets full of fresh fruit, and having fun in winter snow just don't seem real. Nobody experiences 'the joys of spring' or 'winter delights' any more. Our parents brought us here. Their own parents had been the lucky—some would say unlucky—ones. They had escaped north as the big heating and big seas spread. They were pilgrims in search of any cool and fertile place. Millions moved north as the heat became intolerable, farms turned into desert, food became scarce, and there was nobody or nothing to contain the wildfires. The sea spread inland and the interiors of countries turned to hot desert islands surrounded by saltwater. Refugees were not always made welcome. They were often turned away violently. The local people whose land they had entered had themselves so little to live on and, before long, they in turn became north-fleeing refugees. The world had become chaotic and hostile. So, first our grandparents and then our parents fled to what was once a place of ice and cold, a place where life was just about possible; where the few remaining humans could scavenge an existence in a hot Arctic desert mercifully scattered with oases of green. They were survivors first of the journey and then of the time when too many people came to a place that could only sustain a few, and most perished.

   The dawn breaks and the sun throws a piecing light across our camp, slanting light from close to the horizon that once glittered off breathtakingly beautiful snowfields. The cool freshness in the air lingers for a while but is swallowed up as the heat of the day takes over. The camels wake, blink, and slowly rise on their haunches. The tribe gets ready to move on to another oasis in search of food and water. We eat a meager breakfast. Food is always scarce. Such is our climate survivor civilization. Through the generations to come there is one thing we must never forget: to learn and pass on the lessons of what has happened so that when, in thousands of years time, the cooling begins and green re-appears on now barren land, we are ready to live in an earth-friendly, sustainable way, as our long-awaited southward return begins.

   The visualization over, students maintain reflective silence for a few minutes before, again silently, they paint their felt response to what they have heard. Paintings are hung on the class wall. Class discussion is at this stage avoided.

   The teacher introduces the idea of a *Guidebook for Survivors* as proposed by Lovelock:

   One thing we can do to lessen the consequences of catastrophe is to write a guidebook for our survivors to help them rebuild civilization without repeating many of our mistakes[4]:

   Students, working in groups of four of five, are asked to think of themselves in the visualization scenario and to decide what would be the insights they would most want to pass on to generations of survivors of global heating, especially when, after many generations, the climate cooled and humans could move south again into a greening world. Each group prepares a one-sheet presentation. Groups report back. Class discussion follows.

2. The teacher makes the point that the 'belts of habitability' scenario is preventable and asks groups to re-form and imagine that they have just received their own Guidebook and should consider what they and others could do in the present day to prevent the scenario ever becoming a reality. Groups are asked to prepare an action plan on a sheet of newsprint. Groups report back and class discussion follows.

Potential

This is a very powerful activity and may well engender a strong emotional response. It is best not to immediately discuss the painted responses to the visualization but to allow the emotional charge from the visualization and painting to inform the *Guidebook* work, engaging the class in discussion of the whole experience as groups report back on their insights. Students may wish to express shock, even, incredulity, at the scenario but they will equally express gloom, despondency and despair at the way the world is going. Here strategies such as those in the *Despair and Empowerment in an Age of Climate Change* activity may prove useful. The debriefing should begin at the emotional level using questions such as 'what feelings did you have at various points in the activity?' and 'what in the visualization affected you most?' At an appropriate moment, discussion should turn to students' decisions about what future generations need to know to avoid the same thing happening again. Crucial to the whole activity is the teacher helping students train their guidebook insights on the current situation using group action plans as a stimulus and asking 'what do your insights and action plans tell us about what we as individuals and societies should do now?' The activity is intended to take students through gloom, despondency and despair into empowerment.

Extension

Students present their action plans to local community groups by way of finding common ground for school/community projects.

Endnotes

1. The following sources were used in devising some of the eighteen cards: Hamilton, C., *Requiem for a Species: How We Resist the Truth about Climate Change*, Earthscan, 2010; Kagawa, F., & Selby, D. (eds.), *Education and Climate Change: Living and Learning in Interesting Times*, Routledge, 2010; Leiserowitz, A., "Climate Change Risk Perception and Policy Preferences: The Role of Affect, Imagery and Values," *Climate Change*, vol.77 (2006), pp. 45-72; Lovelock, J., *The Revenge of Gaia: Why the Earth is Fighting Back – and How We Can Still Save Humanity*, Allen Lane, 2006; Monbiot, G.,. *Heat: How to Stop the Planet Burning*, Doubleday, 2006; Global Humanitarian Forum, "The Anatomy of a Silent Crisis," Global Humanitarian Forum Human Impact Report (2009). Where an author is cited on a card, the quotation is verbatim.

2. Activity inspired by learning approaches described in Macy, J., *Despair and Personal Power in the Nuclear Age*, New Society, 1983.

3. Lovelock, J., *op.cit*; Lynas, M., *Six Degrees: Our Future on a Hotter Planet*, Fourth Estate, 2007.

4. Lovelock, J., *op.cit*.