

Towards an emergent curriculum for climate justice adult educators/activists

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Ecoliteracy is essential for adult educators/activists en route to creating ecoliterate populations. Working cooperatively with other networks in the spirit of a 'solidarity economy', a group within the PIMA network has run a climate justice education programme through

a series of webinars. We describe and analyse a case story of an emergent climate justice curriculum in action. We use an ecofeminist analysis to understand the relational entanglement of ecological breakdown, capitalism, colonialism, racism and patriarchy which in part undergird the breaching of planetary boundaries. We identify five inquiry-based themes which are suggestive as coordinates for orientating curricula for adult educators/activists learning climate justice. One of these is the importance of building ecoliterate alliances through collaborative action as we face the ‘socio-ecological hurricane’ which is bearing down.

Keywords: *climate justice, ecofeminism, adult learning and education, emergent curriculum, adult educators, popular education*

Introduction

Bello (2022) suggests that today we face the genesis of a global social hurricane: “The big problem for all of us is when the climate, economic, and political and ideological crises intersect, which they are doing right now, for they feed into each other, like moist humid air and warm ocean water do in the formation of a hurricane, and create a combined power that can smash everything in its path’ (Bello, 2022, n.p.). Ethical adult educators cannot continue to provide the same old curricula as if the very existence of the Planet were not in peril: we have a “response-ability” (Sterling and Martin, 2019) to contribute to the struggle for climate justice. Sterling (2021) argues that educators and educational systems have the ability to respond. Reflecting on the PIMA webinar series we ask: is there an emergent curriculum focused on climate justice and what does it look like?

In this article we describe a case story of an emergent climate justice curriculum in action. Three years in the making within the PIMA network, a group of seven of us have taken responsibility. We use an ecofeminist analysis to understand the relational entanglement of ecological breakdown, capitalism, colonialism, racism and patriarchy which undergird the breaching of planetary boundaries and lead to an urgent need for ecoliteracy (Kahn, 2010) for adult educators/activists. Ecoliteracy we understand as a political/pedagogical undertaking

which refers to unfolding, critical understandings of these relational entanglements which can lead to transformative action in the interests of climate justice for the majority of humans and the more-than-human world.

We are a group of seven adult educators and activist-scholars from South Africa, Canada, England and the USA. Our contexts of working and living vary substantially. Scientists have identified Southern Africa as a “climate change hotspot.” This means that we will experience much more severe impacts with more frequent droughts, less regular rainfall, less certain food supplies, more frequent cyclones, and flooding despite having contributed least to accelerated climate change. Widespread poverty and inequality in the region exacerbate the risks to lives and livelihoods while the environment is under attack from various extractive actions (World Food Programme [WFPP], 2021). Canada is among the worst in terms of per capita emissions, water consumption, energy consumption, energy efficiency, volume of timber logged, and generation of nuclear waste and “the United States has emitted more CO₂ than any other country to date: at around 400 billion tonnes since 1751, it is responsible for 25% of historical emissions” (Ritchie, 2019). While there is a sliver of hope with the Biden administration in the USA recently committing to reduce emissions by 50% by 2030 (Reilly, 2022), climate change is rapidly unfolding around the globe with record-breaking extreme heat, wildfires, droughts, flooding resulting in insecurities of housing, food and other basic needs.

Given the dramatic ‘social-ecological hurricane’ that is bearing down, we are aware of numerous agencies, movements, organizations and individuals thinking/acting educationally in response to the crises - ours is but one modest effort which has grown across divergent regions of the world. Through this critical reflection we consider the value of PIMA’s emergent curriculum for adult educators/activists.

Overview of PIMA’s Climate Justice and ALE Programme

PIMA was formed in 2015 as Friends of Pascal International Association (PIMA) and registered in Melbourne, Australia. It is an international network of individual adult educators, lifelong learning practitioners and scholar activists from 45 countries across most regions of the world. Its mission is to promote, interrogate, and mobilise adult learning

and education (ALE) in the interests of greater socio-economic and ecological justice.

There is general agreement that the climate crises demand that scholars and practitioners work across disciplines and geographical regions, to address many of the intractable problems. It is clear that we educators need a range of new skills, expertise and commitments – all enhanced through processes of learning. Adult educators, and all other educators, have extremely important roles to play – both as citizens and in our professional capacities – we all need a more profound understanding of the climate crisis (i.e. ecoliteracy) so we can act urgently ‘as if all of our houses are on fire’!

With this broad understanding of the situation, with no financial resources at hand, in 2019 PIMA decided to ‘do something’ to encourage adult educators, scholars and activists to become engaged in the praxis of climate justice education across geographical regions, across the political ‘south’ and ‘north’. And so, a modest ‘Climate Justice and ALE’ webinar series was born. We formed a working group of PIMA members, who are located across geographical regions, and invited other adult education networks to co-host with PIMA. The PIMA Bulletin, which is published bi-monthly, has been used to disseminate reports of the webinars and a special edition of the bulletin was distributed in time for the COP26 meeting in Glasgow in 2021. This PIMA initiative is gaining some traction with the expansion of the number of networks co-hosting and the levels of interest shown in the webinars.

Here, we explore the webinar series as suggestive of an emergent curriculum for adult educators/activists across geographical regions. We assume that different contexts within which the educators and activists live will require multiplicities of emphases, modalities and priorities as they respond to local conditions, but there may well be a common core.

This article is based on data from documentation relating to the origins and development of the programme over three years. This includes email correspondence, documentation relating to the design and facilitation of the webinars; the webinar reports carried in the PIMA Bulletin; the Special PIMA Bulletins (Number 39, November 2021; Number 46, January 2023) on Climate Justice and ALE. In addition, the seven members of the Working Group undertook self-interviews

with guiding questions where we reflected on our individual and collective perspectives and learning.

Who are we?

Our own histories, concerns and energies have shaped the webinars, therefore we introduce ourselves briefly to help set the context. We are a group of seven women between the ages of 45 and 73. We all have doctorates, with all except one having worked for extensive periods in higher education. We are all eco-feminist activist-scholars, involved in local social and ecological justice struggles where we live.

A small window into our backgrounds is extracted here from our self-interviews.

Jane is a South African living in England: *“I’ve always been involved in environmental learning. Personally, I struggle with the focus on climate justice as it should just be justice.”*

Astrid is South African: *“Ecofeminism gave me the language to talk about my experiences in Bangladesh and Sierra Leone and my ongoing participation in energy and climate crisis movements.”*

Darlene is Canadian: *“I began working in the area of ecological/ climate justice in the late 1980s...my focus in this area has always been more on ecofeminism, women’s responses and also, the arts as tools of ecological teaching and learning.”*

Joy is from the USA: *“... as a first-generation Mexican-Polish-Ukrainian-American from parents who come from physical labour, and peasant farming roots, sustainable food and water systems have always unconsciously been in my core being. I am now positioned to take part in enacting educational change.”*

Shauna is Canadian: *“I am a feminist on the streets with protests – this is an important part of adult education ...climate justice is now part of daily life/living. The personal is political.”*

Colette is South African: *“As a lecturer in adult learning and education, at work I actively seek more climate justice and ALE teaching resources to inform curricular content in the areas I teach, again with community engagement in mind.”*

Shirley is South African: *“I was convinced that we adult educators needed to be far more involved in seeking climate justice as we have lots to offer across disciplines and sectors – hence the proposal to PIMA to start a series on Climate Justice Education ... I realise how little I know, how much there is to learn.”*

We have overlapping motives for joining this project and there are slightly different emphases. For some, the collaboration across geographical regions working on climate justice appealed; for another it was reclaiming the politics of environmental education with regards to justice that had been key two decades earlier; for others, the political project of mobilising for action was foremost. There is urgency and outrage that so much time has been lost to mitigate the crises and so much ecological destruction is occurring. As Jane says in her self-interview:

In my lifetime I have seen the poisoning of South African rivers to an extent that they may never recover leaving communities devastated by death, disease and poverty. This goes unreported and unseen.

Our histories and contexts inevitably shape the programme. We now introduce ‘conceptual coordinates’ we use to describe and analyse the case story of the emergent curriculum.

Conceptual Coordinates

Conceptual coordinates can be viewed like coordinates on a map. They are theoretical positions to plot our way to where we would like to go. In this article, we capture some of the key theoretical assumptions we are making as we shape the curriculum. We start by setting the scene for why adult learning and education is needed in the context of the climate crisis. We then clarify what “climate justice” means, and argue that it must be ecofeminist. This is important as many proposed climate solutions have the potential to lead to further injustice for marginalized people and for marginalized environments. Finally, we tell the story of an emergent climate justice curriculum in action in order to identify insights towards climate justice curricula for adult educators/activists.

Climate Crisis and ALE

Frank 'had been poached, slow-boiled, he was a cooked thing' (Robinson, 2020 p.12). The opening chapter of the novel, 'Ministry for the Future' must be one of the most shocking and lasting texts we have read. The notion of getting poached, while around you everything and everyone dies, is extremely disturbing – and doubly so, because it sounds totally plausible and foreseeable. Stories can inspire or depress, but they can also evoke emotions to instigate resistance. Being poached must not, cannot, happen ever. Not to humans, nor to the more-than-human world.

Robinson's predictions in his novel are coming to pass with floods and devastating heat displacing millions of people regularly. Extreme weather patterns, rising sea levels and accelerating feedback loops are commonplace features. The climate crisis is a capitalist crisis intimately connected to modern conditions of capitalism which are also colonial conditions. (Satgar, 2018; Ghosh, 2021).

Human existence and survival are based on the continual extraction of resources from the Earth, assuming that they are limitless commodities that can be used to boost profit. This false belief is mirrored in the global capitalist system's addiction to endless economic growth at the expense of people and the Planet. Unpicking the false assumptions that prop up this unsustainable and abusive relationship with social and ecological systems is one of the most pressing and challenging tasks for educators.

Given the above, it is unsurprising that the climate crises affect poor and marginalized people disproportionately, particularly women. The majority of people already experience environmental injustices that directly impact their livelihoods. The climate crises will exacerbate these and other justice issues such as food security and sovereignty, water and air pollution and land rights violations (Oxfam, 2022). Climate crises are justice crises. There is substantial evidence that those who gain most from the status quo will do little to change it with some governments denying the realities of accelerated climate change. Most states continue on carbon-intensive energy paths, with devastating results. Growing numbers of scholars, on available evidence, have dire predictions for the human species. Environmental activist-scholars are warning that political, economic and community leadership are failing to provide

systemic solutions to climate crises. The scaling up of efforts to challenge dominant worldviews across all aspects of life will be attained through political alliances of movements and people across the world. Learning and education throughout life are essential ingredients for building ecoliterate alliances. As Karp (2021, n.p.) argues,

Everyday citizens must have a means of learning about the limits to growth, how a society's energy sources shape its structure, the principles of ecological economics, political economy, and so much more. These are not specialist domains belonging to academics but pillars of a new society's common sense.

ALE includes all education and learning from the time a citizen is deemed 'adult' in a society, till death so it covers approximately three-quarters of a person's life and is the most substantial part of lifelong learning (LLL). In using the terminology of ALE and LLL, we include 'environmental education', 'education for sustainability' and other sub names. Rather than being concerned with the names, we insist on a radical turn away from neo-liberally and anthropocentrically-biased education, as noted by Lotz-Sisitka, Rosenberg and Ramsarup (2020). LLL, as opposed to some of the other subcategories of education and training, includes people of all ages, from birth to death. For example, from birth we need to learn respectful relations to water and to respect diversity of fauna and flora and all living things, as crucial to our collective survival. Shiva (2021) argues that the way we understand the world is the way we relate to it - so if we see ourselves as disconnected from other life forms and do not understand planetary limits, we will violate and destroy the environment for our own ends. If we have deep recognition of our interconnectedness and/or learn from Indigenous communities many of whose existence is based on such respectful connections, we will more likely act to conserve and preserve the more-than-human world.

Capitalism thrives on rampant consumerism and waste, whereas what is needed is an attitude of mutual interdependence, conservation, preservation, and appreciation of the finiteness of the Planet. The climate crisis is a confrontation between capitalism and the Planet which means that virtually everything we know has to be unlearned, relearned, learnt. It calls for new and imaginative thinking, across all spheres of economic, social, environmental and cultural life, including education. Growth-led

economics that maximise profits while offloading the costs to society and the more-than-human world, must become a thing of the past. Now.

Climate Justice is ecofeminist

'Climate justice' is a term and, more than that, a movement that acknowledges inequities and addresses them directly through long term mitigation, adaptation and transformative strategies. The term 'climate justice' began to gain traction in the late 1990s following a wide range of activities by social and environmental justice movements that emerged in response to the operations of the fossil fuel industry and, later, to what their members saw as the failed global climate governance model at COP15 in Copenhagen. The term continues to gain momentum in discussions about sustainable development, climate change, mitigation and adaptation (Holifield, Chakraborty & Walker, 2017; Tokar, 2019). It has a particular resonance in the Global South where early environmental movements disregarded how global capitalism and imperialism were directly responsible for environmental and thus societal degradation.

Climate justice, as elaborated in the Climate Justice Charter (South African Food Sovereignty Campaign [SAFSC], 2020), is concerned with food sovereignty, health, economic activity, gender equity, housing, transportation, and more. It demands fundamental change in the political and economic order towards socio-economic, gender and racial justice. It is about foregrounding those people who have contributed least to 'crises' and are most affected by them, both in terms of their adaptation and in acknowledgement of the knowledge they bring to the finding of just solutions. Women often occupy the frontlines of environmental justice movements as they experience climate instability and gender inequality more acutely than other groups. Therefore, gender justice is a crucial part of a just transition. Climate justice activists call for 'systems change not climate change'. They also call to be recognized as knowledge creators in their own right and not just consumers of knowledge (Chiponda, 2022; Visvanathan, 2005). Ecofeminism can be seen as an elaboration of climate justice.

Ecofeminism holds that systems built on patriarchy, where traditionally and structurally male perspectives and interests are at the apex of hierarchical systems, dehumanizes women, excludes women from

decision-making, brings women's labour into exploitative service of the economy and men's interests in households and communities. It is why ecofeminists argue that poor women must be central in struggles for climate justice. An ecofeminist framework holds promise for both the understanding and attainment of climate justice (Randriamaro & Hargreaves, 2019).

At the centre of ecofeminism is praxis. Theory is forged in the struggles to challenge the brutality of capitalism and to form alternative ecofeminist visions of the future. As Gough and Whitehouse (2019) argue, ecofeminism is decidedly transformative rather than reformist in orientation. Ecofeminists seek to radically restructure economic, social and political institutions. It makes explicit the links between the oppression of women and the oppression of the more-than-human in patriarchal cultures.

Ecofeminist orientations challenge one of the core reasons for advancement of climate emergencies - the invalid barrier between knowledge (held by 'specialists') and ignorance (the 'non-specialist'). This has led to knowledge of the more-than-human world being articulated either as raw material to be used for beneficiating production or as fragmented pieces separated from human systems and human lives. As Burt (2020) elaborates, what is deemed to be non-specialist knowledge, as that held by Indigenous populations, is often viewed as raw material to be interpreted and formulated by 'the specialist', and in the process local knowledge and practices are distorted or reformulated within a capitalist frame. The global food systems are good illustrations of this.

An important component of climate justice and ecofeminism is cognitive justice, and Nadeau, in her book *Unsettling spirit. A journey into decolonization* (2020, p.5), describes how decolonisation is a 'process of unlearning a worldview and values and ways of acting and being in the world that have prohibited and continue to prohibit any meaningful and mutually respectful relationship between Indigenous and non-Indigenous people'. It is a process which is both deeply personal and political.

Emergent Curriculum

Lange, O'Neil, and Ross (2021, p. 42) offer a useful explanation of 'emergent curriculum':

Curriculum is from the Latin word currere, which is a verb meaning “a process of seeking in conversation” and of transformation, not pre-pack-aged information. Thus, curriculum is emergent within continuous exploring among educators, learners, texts and the natural world. Emergent curriculum allows student and educator to build connections, encourage wildest dreams, create enticing propositions, and foster transformative outcomes.

Blank et al., (2007) suggest it offers a novel rationale for independent thinking and learning, one that derives from rapidly developing interdisciplinary and transdisciplinary inquiries in the sciences and social sciences into what are known as “complex” or “emergent” systems. Thus, the curriculum of climate science and the entanglement of eco-justice is emergent within iterative explorations among human and non-human material - educators, learners, texts and the more-than-human world. Emergent curriculum suggests that the course is not yet set, predefined, but ‘the road is made by walking’: participants (students and educators) together build connections, encourage wildest dreams, consider the Earth - fire, water, soil, air as co-participants in the curriculum development process, create enticing propositions, and foster transformative outcomes. Barad (2007) proposes to include both human and the more-than-human world as co-participants in creating this knowledge. These “things” are not passive objects but rather active participants in the learning process. But given how rooted we are in human perspectives; this shift is easier said than done! Fortunately, learning occurs in collective praxis, through mutual cooperation and intra-action (Lange et al., 2021; O’Neil, 2015).

In formal education, the curriculum is most often decided ‘elsewhere’, through policy and regulations that conform to pre-set norms and standards. Similarly, training, in which the learners are to be inducted into the workings of an organization, a ruling discourse such as the logic of capitalism, is hierarchical, with trainers employed to help achieve predefined objectives. Newman (1993) helpfully warns adult educators of the dangers of this approach.

In some non-formal education where learners attend voluntarily and can withdraw their participation when they see no benefit in staying, the curriculum is negotiated between facilitator and learner in a two-way

relationship. The community development tradition, including popular education, offers educational activities for people on their own terms: the curriculum is negotiated and designed together. In its radical form, the educators are concerned with addressing and redressing inequality and injustices and are careful to include considerations of culture, class, gender, geographic locality. As Freire emphasised this relationship was to be a horizontal relationship based on dialogue (Freire, 1972, p. 45).

In our working group, we prioritise collaboration as an intellectual and political approach which counters individuality and separation. However, we are wary of prescribing something with well-defined parameters like ‘feminist collaboration’. At the same time, principles of feminist collaboration include collective commitment to work through questions of intersectional power and knowledge in forever evolving processes – friendship and trust are important ingredients to do this. The approach to collaborative organising and writing challenges hegemonic modes of knowledge production. The processes are sustained, as Najar et al. (2016) identify, through building friendships, new and old, through working in solidarity. Some members of the group have been friends and/or colleagues over years, while others are new acquaintances.

All the group are activists-scholars-practitioners - we take our own ongoing education and learning seriously through participation in various fora, in local activism and in scholarly and popular writing. We share the idea of ‘scholarship as a form of conversation’ (Bordonara, 2015). The members are very active authors both through popular media like the PIMA Bulletin and in scholarly journals. This active intellectual and activist engagement is closely related to the embodiment of an emergent curriculum. In the context of the COVID-19 pandemic lockdown across all of our countries, in the growing awareness of the dire state of the Planet, with no financial resources, with commitment to the ‘solidarity economy’, and the recognition that the programme will be shaped by the energies and passions of the group, we understood that the curriculum could only be emergent.

Case Story: Emergent Curriculum

In July 2020 after two ad hoc webinars had been held, Shirley invited individual PIMA members to form the Climate Justice and ALE Webinar

Working Group. She circulated a discussion document which provided initial ideas:

My thought is to develop a 'curriculum' for the webinar series and not only depend on ad hoc geographical responses to urgent circumstances – the general purpose is to add to and advocate for adult educators to contribute towards climate justice more deliberately and urgently (Working notes, 20 July 2020).

She presented a proposition for the programme to address:

In a crisis, like the COVID-19 pandemic which is closely related to environmental crises, the evidence is clear, in particular, poor working-class women are the shock absorbers of the crisis.... The thesis is, if their conditions and positions improve so they experience greater social, economic, environmental and gender justice, the well-being of everyone, including the Planet, will have improved chances of survival (Working notes, 20 July 2020).

The question posed was, “what can ALE contribute, together with other interventions, towards this outcome”? The understanding from the outset was that ‘climate justice’ is concerned with justice across race, gender, class, geography, sexuality and so on. The group had an initial brainstorm and three aspects were identified: learning/pedagogies; case studies which highlight particular foci/ perspectives/ issues/ themes; ALE in Emergencies.

The context in which we planned the webinars was during the global COVID-19 shutdown. It was a time when most actions went virtual and there was a flourishing of Zoom-based meetings. All of us are experienced face-to-face educators, but the technology was new to some of us, as well as our participants. This was a new medium requiring different capabilities. Fortunately, some of us are savvier in the virtual world and we have been learning from one another as we stretch ourselves to recreate more engaged, participatory encounters. The dependence on the technology does create different anxieties with several parts of the world, particularly in Africa, not having stable electricity supplies. The learning/teaching environment demands living with uncertainty - exactly the capability needed in contemporary times.

Here are the topics for the webinars to date. Webinar reports carried in PIMA Bulletins give indications of the emerging curriculum.

Date	Webinar title	Webinar description
September 23 rd 2019	“Navigating climate crises: Deepening the conversation about contributions of adult educators”	Drawing insights from Cape Town’s drought.
April 8th 2020	“Adult Learning and Education (ALE), Climate Crises and COVID-19: Critical Reflections from Australia”	Case study of Australian fires during COVID.
February 10th 2021	“Linkages amongst climate change, resource extraction and adult learning and education”	Highlighting work of ecofeminist WoMin African Alliance and others struggling for justice against mining corporations.
March 30th 2021	“Climate justice and related struggles: aesthetic, creative and disruptive strategies”	Case studies from various parts of the world illustrating arts-based approaches.
May 24th 2021	“Resilience or rebellion? Exploring ‘resilience’ and climate justice: challenges for ALE”	Different meanings of ‘resilience’ with transformative resilience emphasised.
October 13th 2021	“Ecofeminism makes sense: towards life-affirming ALE”	Eco-feminism provides new political imaginaries
March 2 nd 2022	“Climate Just Pedagogy – what lessons have we learned?”	Participatory workshop utilising PIMA bulletin as catalyst.
May, 24 th 2022	“Climate Justice Education: Weaving Together Our Stories of Nature and Place”	Experimenting with and demonstrating the process of <i>métissage</i> or weaving stories together.

Table 1: Bird’s eye view of the topics for the webinars.

Who are the participants in the webinars?

On average 100 people sign up for the webinars, with an attendance of about 60. Recordings circulate to all registrants and are posted on websites of the co-hosting networks. Most of the webinars have favoured time zones of North America, Europe and Africa, with two favouring

the East. This is mainly because the facilitators are from Africa and North America. Working with PIMA, co-hosts for the webinars are the Canadian Association for Studies in Adult Education (CASAE), United Kingdom (UK) based Standing Conference on University Teaching and Research in the Education of Adults (SCUTREA), the African adult education network, MOJA, and Adult Learning Australia (ALA) - they provide support for promotions and in the case of CASAE and ALA, administrative infrastructure. Other global networks, the International Council for Adult Education (ICAE) and PASCAL, also lend support. The cooperation from these networks is impressive and has enabled the programme to flourish. It is an essential ingredient to complement PIMA's efforts and to build ecoliterate alliances which provide opportunities for peer learning and collaborative action.

It is difficult to know definitively who the participants are as we only have email addresses - but we can see that there is spread across regions including Africa, North America, Europe including the UK, and Asia-Pacific, with the greatest concentration from Africa. We do not know who will show up. Therefore, the design and facilitation are contingent. The roles of participants vary greatly from being based at a post-secondary institution, to managing cognate networks and associations, to community-based education, social movement activism, workplace training, to a combination of the above. Impressionistically, we are aware of a wide age range, a wide range of experience and of contexts. As Shauna reflected in her self-interview, "I experience a huge learning curve... I feel humbled when I am reminded of my narrow world, with remarkable people, against huge odds, doing amazing things". The discussion of climate justice across the vast expanses of wealth and poverty, within divergent contexts, are acknowledged as powerful dimensions.

The webinar on 'climate just pedagogy' (Burt, von Kotze & Walters, 2022) noted that there are deep divisions across classes and cultures, age and genders, and for adult educators, this may mean a change in roles:

Many adult educators are used to working with bounded groups within a 'learning space' or 'classroom'. Issues relating to climate justice are wide ranging spreading across disciplines, spaces and levels. They are working with multiple scales of influence...

Adult educators could find themselves having to facilitate conversations amongst powerful role players....in the midst of strikes and protest actions – with the inaction of so many national and international authorities ... more rebellious actions may be called for. There are blurred lines around personal and professional roles.

Pedagogical approaches

Our pedagogical approach is inspired by feminist popular education and contributions from holistic sustainability education, which embraces the head, hands and heart, through use of the arts, including poetry, and stories. It includes contextual, affective, experiential and conceptual knowledge. As reported (von Kotze & O’Neil, 2021), popular education approaches are crucial:

Popular education has the possibility to shift power: through the co-production of knowledge..., through teaching what climate justice is, and through always beginning with people’s experiences and knowledge, building from their realities. Indigenous knowledge is crucial to understanding risk and local risk perceptions. Adult education must break with the knowledge that is held by power and not in harmony with what people know. Therefore, feminist popular education is a powerful tool towards transformation.

We noted the centrality of context and how we position ourselves as educators will shape our approaches:

The context will determine the contours and form of climate just pedagogy. Livelihoods are a pervasive concern... and therefore for adult learners – how these connect to nature is key. As nature is destroyed so are livelihoods – this has classed, raced and gendered dimensions with certain people destroying much more than others (Burt et al., 2022).

Clearly, a starting point for any curriculum is the recognition and acknowledgment that climate justice is a political issue and climate crisis concepts and language must be politically rooted when working

towards justice. This message was articulated strongly in all webinars, as one speaker said:

One way to think about adult education in relation to climate justice is that its role is critical to democratization, that is, ensuring that political decision-making processes are informed by an educated citizenry (Butterwick, 2021).

Another basic principle resonating through the webinars is the urgent need to disrupt the understanding of `nature` as something separate from human life. There was an assertion that new, emerging curricula must understand humans and the more-than-human world as all part of Nature:

A critical fault line for climate justice is humans' relationship to 'nature' – how do we as educators establish an orientation towards whatever is 'more-than-human'? (Walters & von Kotze, 2021)

We identify that the language we use must capture nuance - language matters. Do we talk of climate change, climate instability or climate crisis? Can we replace 'natural resources' with 'gifts from nature'? Similarly, the uncritical use of the term 'resilience' that suggests something positive 'as the ability to adapt despite adversity, to bounce back' may reinforce the status quo rather than the urgent need for change: "The questions of 'resilience of what and of whom?' and 'who is left out?' are crucial if we wish to work for climate justice." (von Kotze & O'Neil, 2021, n.p.) What Saltmarche (2020, n.p.) says about framing COVID-19 could apply equally to climate crises: 'Framing the stories we share and the words we use, influences what we think about the pandemic, how we believe it should be tackled and what we believe we can personally do to help'. This is work-in-progress - we constantly need to rethink the language we use as it is infused with hegemonic belief systems we are trying to disrupt.

Meanings made from the emergence of webinars

The first webinar in 2021 was on the extractive industry – we were keen to set a tone in the series which foregrounded struggles of black

African women, ecofeminists who take on the brutal forces of extractive industries which are, on one hand, such a normal part of citizens lives, and on the other, so brutalising.

The webinar (Butterwick, 2021) highlighted the urgent need for adult educators to build economic and mining literacy:

Adult education must bring a global view, teaching how transnationalism, the erosion of the cultural and political influence of nation-states, is enabling the expansion of exploitative industries. Analysing climate change by attending to both power and place. Adult education should illuminate the various tactics used by extractive industries, particularly as they engage with Indigenous communities... Mining companies exploit a false binary between the environment and employment.

The webinar on ecofeminism (Walters et al., 2021) addressed the norms, values and morality of a curriculum directly. It asserted the importance of mutual sharing, empathy and support summarised in the dictum of 'living simply so that others may simply live.' It also suggested that in order to bring issues of climate justice close to people one should begin with the familiar issues of food security, air quality, water and energy - an essential starting point for any curriculum. It also asserted that ecofeminism can provide new political imaginaries: a conceptual tool to cut through the frozen imaginaries of people who cannot envisage an alternative.

The webinar on 'metissage' (Butterwick, 2022), offered an experience of the weaving of stories, perspectives, that 'celebrates the claiming and reclaiming of mixed identities as well as multiple, and sometimes contradictory, ways of knowing, being, thinking and doing. This weaving process can provide opportunities for participants to tell their own story (individuality) and then weave it through other's stories (a collective tapestry)'. In this, weaving certain voices may be privileged - in particular those of Indigenous communities, women, youth, people 'on the ground', so all can learn to see a-new and learn how discrimination, exclusion, racism, sexism function in order to entrench existing power relations.

Insights from emergent curricula for climate justice adult educators/activists

Emergence occurs in the co-constitutive forces in learning (O'Neil, 2015). The webinar curriculum was unpredictable and yet, as in an emergent property in the more-than-human world, there appears to be 'chaotic harmony'. This chaotic harmony leads to new insights. Through reflections on the data and in discussions amongst ourselves, we identify five emergent inquiry-based themes from the case story.

Theme 1: Embrace learning, unlearning, relearning

Cognitive justice is central. The process is one of 'decolonising knowledge'. In a world that is changing at breakneck speed we are learning to listen rather than assume to know. Both the participants in the webinars and the facilitators of the webinars are co-learners. We collectively ask how we are learning to respond to ecological crises. We recognise how little we know and how much we depend on scholars and activists from various disciplines and movements to educate us. On personal levels we are each involved in climate justice activism; we are learning through novels, movies, webinars, conversations and co-authoring. We immerse ourselves in the natural world, when possible. An example of another deep internal process of unlearning and relearning, is captured in Denise Nadeau's (2020) important book.

Many adult educators, like us, have been brought up within the Western world view of hierarchical dualisms. As feminists we know from personal experience how hard it is to challenge some of the dualisms even in our own lives where we have to unlearn and relearn deeply imbedded worldviews. Building trust amongst participants, and making learning spaces safe enough to explore new ways of seeing and relating are important.

For climate justice activists learning occurs in action. Educators, as ecofeminist Salleh (2017) says, need to be both 'philosophers and streetfighters' by acquiring relevant conceptual, contextual and experiential knowledge. An engaged, scholar-activist stance provides a critical clue for understanding learning for climate justice.

Theme 2: Educators/Activists learning what matters to them

Roles of adult educators are changing as are the learning spaces. Issues relating to climate justice are wide ranging spreading across disciplines, spaces and levels. Educators/activists could find themselves protesting on the streets, facilitating in classrooms, workplaces or communities. All of these spaces blur personal and professional roles as educators/activists engage others, for example, around kitchen tables. As co-learners, the lines between ‘teachers’ and ‘learners’ are shifting. For example, in a drought situation, it is poor and working-class people who know much about unstable water supplies and using less water and become the teachers.

Learning occurs most effectively when we learn ‘what matters to us’ (Edwards, 2017). Assessment of what matters to participants is key – one way of achieving this is to design and facilitate in ways which maximises participation where participants can hear and learn from one another, while also being inducted into bodies of knowledge by specialists in the field. People’s experiences of climate injustice diverge widely - bringing people in conversation across the vast differences can deepen understanding and connection profoundly. Popular education methodologies are key.

Theme 3: Weave together complex curriculum - joining the dots

What are the key curriculum issues? How are they entangled and what intrarelations and connections emerge?

As previously argued (Walters & von Kotze, 2021), an ecofeminist educator/activist would begin with what matters to people, including the familiar and urgent, such as food, water, air quality, energy, gender-based violence and demonstrate how this nexus is central to climate justice. Some of the weavings from the webinars include:

- challenge sexism, racism and class privilege, with gender, racial and socio-ecological justice as aspirant goals
- question the idea of the more-than-human world as a “thing”, and explore it as a complex interrelated ecosystem
- deconstruct the idea of Woman=Nature and show how this idea is critical to the functioning of patriarchal-capitalism

- unpick inextricable links amongst environmental degradation, racism, patriarchy, capitalism and colonialism
- explore relationships amongst various socio-economic, financial, health, environmental crises
- encourage engagement in social action, in which collective solidarity, standing together, fighting against domination in all its forms, prefigures and rehearses social relations of solidarity
- understand and relate to a complex, vibrant, interrelated ecosystem.

Theme 4: Imagine alternative futures

What would alternative futures look like? As mentioned above, unpicking the false assumptions that prop up unsustainable and abusive relationships with social and ecological systems is a pressing task for educators. Earth's resources are not limitless commodities to boost profits, neither can endless economic growth continue at the expense of people and the Planet. What could it mean to live in a 'finite world' where there is equality and justice for humans and the more-than-human world?

Both of these fundamental beliefs profoundly shape the world we know. Imagining alternatives means challenging these beliefs. It means stimulating imagination of alternative futures beyond capitalism. In the webinars, examples of use of creative, arts-based methodologies which spark imagination of relationships between humans and the more-than-human were demonstrated. Multiple ways to trigger imagination can be used including connecting with organisations/people working both to support immediate struggles on the ground and to imagine alternative futures.

Theme 5: Collaboration as an intellectual and political approach

How do we build ecoliterate alliances when the 'social hurricane' is bearing down?

We have prioritised collaboration as an intellectual and political approach which counters individuality and separation and builds alliances. The many case studies and voices we brought into the

webinars demonstrate how people together can challenge the status quo and construct alternatives. Collaborative organising and writing challenge hegemonic modes of knowledge production. Ecoliteracy as a political/pedagogical process is essential for educators/activists en route to creating ecoliterate populations. Working together cooperatively in the spirit of the ‘solidarity economy’ allows us to practice and rehearse the common future we are working towards.

Discussion

The five inquiry-based themes, with the elaborations, which have emerged as key to our curriculum, we believe can be used in other contexts, as coordinates for orientating curricula for adult educators/activists learning climate justice. However, to stay true to emergent curriculum, for others and in different contexts, one may find derivations or additions to our themes within our framework.

Climate justice requires radical systemic change. This radical change is unlikely to be led by those who have both created the catastrophe that is unfolding and are most invested in the status quo but through people’s actions. People engaging in real-life struggles learn what climate justice means by the entanglement of co-constitutive local and global lives. Within their movements and actions, they challenge injustices and rehearse alternative ways of relating.

Unless climate justice learning works within the radical traditions of adult education and lifelong learning, it remains concerned with climate change and does not address the multiple injustices which drive contemporary ecological breakdown. This could lead to educational responses that are simplistic and do not address the systemic reasons for the climate emergencies that are unfolding. Ecofeminist popular educational approaches are critical to giving space for multiple epistemologies to emerge.

Conclusion

A South African journalist, Rehana Rossouw (2021) stated, ‘It’s poor people who live sustainably – it’s the rich who are polluting the Earth’. Those people who are conserving the land and living sustainably need our support as we challenge the unsustainable behaviour and policies of

the wealthy. Making visible what is deliberately kept invisible has always been one of the strengths of popular education. For example, we ask: is the problem really poverty - or is it wealth?

Globally we are in a time of major transition. During these periods of uncertainty there is a double move – one which is authoritarian and exploitative and the second which is relational, concerned with solidarity with humans and the more-than-human world, seeking life affirming alternatives. It is a messy period which holds both hope and despair. If we have deep recognition of our interconnectedness we are likely to conserve and preserve the Planet. As Shiva says, oneness and connectedness are the politics of our time.

The climate catastrophe is a clarion call to humanity to change how we live. There are many communities, networks, movements, and organisations trying to prefigure ways of undertaking collective action which is more just, equal, and respectful. Individual and collective support for those at the forefront of confronting capitalism, patriarchy, racism and ecological degradation, creating conditions for greater equality, is important as part of the imaginary. We need all to become ecologically literate in the understanding that we and the more-than-human world are Nature. Through building co-constitutive respect, we can go beyond established patterns of production and consumption and forge new human and more-than-human relations and ways of living.

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