NORRAG Special Issue 07: Education in Times of Climate Change

Themes

1. The Contours of Climate Change Education Globally

This theme explores implications for education in all its forms, and for those who are involved in educational practices of varied kinds, policy, evaluation and funding for education. Contributions may range from comments on the geo-political landscape, to the implications for diverse classrooms, social learning settings and funding programmes. They may also consider more or less appropriate theoretical tools and methodologies for understanding global climate change(s) and educational (re)actions.

Schools, universities and education systems around the world have been among the first to respond to the need to draw attention to climate change as an issue requiring responses from society. Scientists, governments, and international funding agencies have developed guidelines, policies and programmes. What pedagogical inspiration is offered to educators and what learning experiences are learners involved in – are these on the edges of transformations in society or are they 'dated' cultural reproduction tools in disguise? What does the resultant landscape of onto-epistemic engagement, social imaginary, partnership and programmes look like today? What are the main features, challenges, and possibilities for leverage, transformative and transgressive changes in education towards more just, sustainable and climate resilient futures? Is the North learning from the South, and visa versa, are traditional power dynamics and boundaries being transgressed as we seek out a new, more benign and less divided world order under climate change conditions? Are governments advising or failing the people? Are young people guiding governments or rising up in protest against historical failures to consider their futures adequately? Where are children's voices and how are they being heeded? What are the meaning(s) and consequences of social movement and the necessary solidarity building for education? How are governments and donors monitoring and evaluating change, and what are meaningful forms of information and understanding on climate change education for governments and programme leaders? Is measurement against indicators even the answer to quality climate change education? Most significantly for this NSI, what are the implications for education in all its forms, and for those who are involved in educational practices of varied kinds, policy, evaluation and funding for education; and how can learning across these spaces be enhanced? These contributions may range from comments on the geo-political landscape, to the implications for diverse classrooms, social learning settings and funding programmes. They may also consider more or less appropriate theoretical tools and methodologies for understanding global climate change(s) and educational (re)actions.

2. Transgressing Boundaries Between Formal and Informal Learning Systems in Building Forward Better Together

The Covid-19 pandemic is a defining moment in our shared global history, but countries and communities have experienced multiple crises in different ways. How do we transition in just and inclusive ways towards the alternatives? What are the implications for education and training systems and curricula, educators, educational institutions and researchers? What are the most promising practices in workplaces and among those providing education and training for work? Can partners in social skills ecosystems support work-based training, entrepreneurship and enterprise development training that truly help societies build towards inclusive, well governed and socially just green economies?

The Covid-19 pandemic is a defining moment in our shared global history, but countries and communities have experienced multiple crises in different ways. Chief among them are economic collapse and government failures. How can society build new, better economic and governance frameworks, that take into

account the needs and contributions of families, marginalised communities and the natural environment, and result in greater equality, not widening gulfs between rich and poor, leaving the middle classes highly vulnerable? How do we transition in just and inclusive ways towards the alternatives? What are the implications for education and training systems and curricula, educators, educational institutions and researchers? What are the most promising practices in workplaces and among those providing education and training for work? Can partners in social skills ecosystems support work-based training, entrepreneurship and enterprise development training that truly help societies build towards inclusive, well governed and socially just green economies? What boundaries need to be transgressed between formal and informal learning settings? Can citizen sciences oriented towards the common good be a way forward in democratizing knowledge and education? And what of Information and Computer Technologies in education and learning settings in homes, communities, and public spaces?

3. Transgressive, Transformative and Expansive Learning in Times of Climate Change

The need for more radical forms of learning-centred transformation is increasingly recognised in the discourse on transformations to sustainability. Yet these approaches to learning remain under-developed and undertheorized. How do the often ignored dimensions of cognitive and epistemic justice, environmental justice, solidarity, silent and previously hidden or marginalized knowledges, empathy, emotion, relationality, anger and other qualities of learning get more attention in mainstream learning sciences? Are they necessary for climate change education or not?

The need for more radical forms of learning-centred transformation is increasingly recognised in the discourse on transformations to sustainability. Yet these approaches to learning remain under-developed and undertheorized. There has been limited research on this type of learning, on how it emerges and how it can be expanded to strengthen agency for sustainability transformations. Transformative learning in earlier research tended to 'end' at the point of describing transformations in individual consciousness. How can this be extended to include transformations in collective relationality, collective learning and collective agency; in uncertain conditions and in open systems, and in transition movements where excess operates as a defining feature of transgression? We have provided nuance and depth to the popular notion of 'colearning' in the social-ecological systems from a methodological as well as theoretical perspective. In the International Social Science Council supported T-learning in Climate Change research programme, a need for more depth to the notion of transgressive in the learning sciences, was identified, especially in a sustainability context, but also in a context of related social justice and de-colonial scientific contexts. What do transgressive forms of transformative and transdisciplinary learning in times of climate change look like? If social change is 'activity and concept dependent', what does this mean for the development of the concept of transgressive learning and education in times of climate change? How does pedagogy and methodology influence emerging and more established qualities of T-learning and what does this mean for (re)orienting notions of quality education? How do the often ignored (in mainstream education) dimensions of education and learning - such as cognitive, epistemic justice and environmental justice, solidarity, acknowledgement of silent and previously hidden or marginalized knowledges, empathy, emotion, relationality, anger and other qualities of learning get more attention in mainstream learning sciences? Are they necessary for climate change education or not, why or why not?

4. Diverse Knowledges for Responding to Climate Change

Decolonial scholar-activist De Sousa Santos claims that if we are to solve the complex problems of the globe, we have to transgress the 'abyssal divide' that has marginalized the knowledge(s) of the world's majority peoples. Contributions are invited that share theoretical solutions and in particular, promising practical examples of pedagogy, learning processes, curricula, teaching programmes, evaluations, research and development projects and more, that have been able to mobilise and work with diverse knowledges in response to climate change and related challenges.

Decolonial scholar-activist De Sousa Santos claims that no one single knowledge system is adequate for solving the challenges of our time; we need multiple ways of knowing to complement each other as we work

together on the complex problems that affect the globe, and to transgress the 'abyssal divide' that has marginalized the knowledge(s) of the world's majority peoples. Modern Western Science has a vital role to play, but how does it do so effectively in partnerships, without hogging the space? How can experiential, local and indigenous knowledges and ways of knowing be mobilised, recognized, legitimated and interrogated for their relevance and validity, alongside mainstream sciences in responding to climate changes? These are the questions transdisciplinary researchers, curriculum developers and educators ask themselves in relation to climate change, particularly in contexts where a range of users and custodians of natural resources come into conflict with each other. Evaluators, too, face this challenge as they draw on diverse perspectives to gain a fuller picture of a programme's value. But how to make decisions in the face of dissent and disagreement? What to conclude when findings seemingly cancel each other out, or when either western or indigenous knowledges or the divisive colonial and neo-colonial logic(s) that have separated them are no longer adequate or sufficient for the challenges of the times i.e. when retreat, romanticism, abyssal mindsets, subjugation or reification are no longer possible options? Contributions are invited that share theoretical solutions and in particular, promising practical examples of pedagogy, learning processes and engagements, curricula, teaching programmes, programme evaluations, research and development projects and more, that have been able to mobilise and work with diverse knowledges in response to climate change and related challenges.

5. Young People and the Call for Climate Action

Young activists have stunned the world by speaking out against governments and for climate action. At the centre of their call is a re-imagining of materiality in modern societies. Have the schools and modern forms of binary reasoning and the foundational separation of nature and culture failed or shaped these young people? What more can education and training systems, funders and governments do to support young people? What do the curricula and classroom practices for the relationally conceived 'assemblage' approaches to education look like, in schools, universities, training colleges, and other learning / lifeworld sites? And where are the voices of young children in this all?

Young activists like Greta Thunberg (Sweden) and Vanessa Nakate (Uganda) have stunned the world by speaking out against governments and for climate action, and parts of civil society rallied around them with calls for "systems change, not climate change". At the centre of their call is a re-imagining of materiality in modern societies. Have the schools and modern forms of binary reasoning and the foundational separation of nature and culture failed or shaped these young people? What more can education and training systems, funders and governments do to support young people as they not only call for change, but shape change with their calls for re-imagining society and materialities? What are the theoretical and practical consequences in education, of re-imagining the materialities of life? What are the ethical-onto-epistemic changes required and related systemic and philosophical transformations? What is the role of the educator? Do we both induct learners into existing (bifurcated) systems, and support them to participate in necessary reframings of the relational changes in those systems including foundational understanding of the socio-materiality of lives lived? What do the curricula and classroom practices for the relationally conceived 'assemblage' approaches to education look like, in schools, universities, training colleges, and other learning / lifeworld sites? Have activists exceeded the formal education systems with their perceptive engagement with these forms of understanding and interests, and how can the learning that takes place among activists and within social movements, be supported, amplified and shared? And where are the voices of young children in this all? What are their existential and social-ecological concerns and are these being 'seen' and 'heard' by educators in whose care they are placed?

6. Transforming Education Systems for Sustainable Futures - How Do Schools, Universities and Technical Institutions Prepare Us for Climate Change?

This theme addresses the wider question of transforming the structures and functions of education systems for sustainable futures in all of their levels and facets. It is vital for example to consider whole school / whole institution responses. How are educational institutions responding to climate change in their buildings, meals, gardens, transport and more? Are professional communities in agreement on the intended learning outcomes of climate change education? How supported are educators to be change agents in times of

climate change? These are some of the questions authors could explore to guide more robust practice, policy, monitoring and evaluation for the educational transformations that are needed.

This theme addresses the wider question of transforming education systems for sustainable futures in all of its levels and facets. It hones in on formal education institutions in our society, their curricula, pedagogical practices, infrastructure and personnel, the ways in which they have been responding to the climate change imperative (or not), and how such a response can be broadly conceived (e.g. as a significant decolonial move to shift educational theory and praxis (with colonial influence being conceptualized to include modern market-based coloniality of young people's cultures and minds as much as it is an historical marginalization practice). These institutions have dual or multiple roles, inducting young people into societal norms and practices, but also preparing them to participate in perhaps radical processes of change towards sustainability. What contradictions and challenges exist at this interface for policy and practice transformations? What are the learning theories that (need to) inform curricula and educational practices in times of climate change? It is also vital to consider whole school / whole institution responses, and analyse the education ecosystem in its entirety. Are there examples of educational institutions that respond to climate change in their actual functioning, in alignment with changing curricula and in order to provide coherent educational opportunities? For example, how are buildings, campus management processes and services, meals, gardens, transport and more adapted to mitigating climate change or responding to it? Are professional communities in agreement on the intended learning outcomes of climate change education? To what extent are educators clear on their (changing) roles and practices, and how supported are they to be change agents in times of climate change? These are some of the questions authors could explore as we seek to guide more robust practice, policy, monitoring and evaluation frameworks for the educational transformations that are needed for facing the future and for co-creating a more sustainable future for all (human and non-human forms of life inclusive).