

Education and Anthropocene Workshop

30-31 March 2023



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Education and Anthropocene

Convenors

Alfred Deakin Professor Jill Blackmore AM FASSA

Professor Julie McLeod FASSA

Professor Terri Seddon FASSA

Alfred Deakin Professor Russell Tytler FASSA

Education and Anthropocene was supported by funding from the Academy of the Social Sciences in Australia (ASSA) and Deakin University's Strategic Research and Innovation Centre in Education, the Centre for Research for Educational Impact (REDI).



Background

This executive report considers the vital role of Education in addressing one of the most pressing challenges of our times – the growing evidence of climate change foreshadowing potentially catastrophic effects on Planet Earth. The ASSA workshop on which this report is based was designed as a knowledge-building event to clarify how Education research, policy and practice can contribute to climate action. It did so by first examining the scale of climate challenges facing humanity and then identifying strategies to mitigate the effects of earth system crises and enable humans to adapt to novel conditions of life. Education is fundamental to these endeavours.

The design of the two-day workshop recognised the imperative for interdisciplinary collaboration across the natural sciences, social sciences and humanities to address the climate crisis.

It also built upon recent meetings of educational researchers who are concerned about the position of Education as a knowledge tradition, usually associated with the social sciences, and a domain of professional practice, that pursues a socially just future.

In June 2022, an Education Research Leaders' Summit convened by the Australian Association for Research in Education in association with the Australian Council of Deans Education and the Committee of Associate Deans of Research in Education was held at the University of South Australia. Among its outcomes, it identified the need for the multidisciplinary field of Education to become more visible within the ASSA and politically.



Objectives and significance

Our overall aim was to examine how Education can most effectively contribute to addressing contemporary challenges through exploring the relation between Education and the Anthropocene. In doing so, we sought to assess diverse diagnoses of the current state and draw on interdisciplinary and cross-sectoral approaches in support of new educational agendas for research and action.

We adopted a relational approach and one that refuses any suggestion that the Anthropocene is a mere background or 'context', which can be responded to through one-off events, established relationships, business-as-usual systems and processes that reduce Education to 'schooling' and a skill-focused tertiary delivery system. Instead, we examined how the Anthropocene destabilises embedded narratives about human futures, with immersive effects and profound recontextualising consequences for education. In this respect, the workshop sought to identify sources and resources for more hopeful futures.

In summary, the ASSA workshop specifically aimed to:

- Consider disciplinary developments across the sciences, humanities and education, and their innovations in knowledge building that support our living planet and offer new directions for education;
- Reposition current education as a space-time for learning that extends beyond narrow measures and currently embedded concepts, methods and practices of schooling;
- Assess existing schooling and curriculum practices to grasp emerging developments that offer new directions for education; and
- Identify points of leverage in the education politics of our times to support our living

Key themes

Reckoning with educational legacies: understanding the problem.

Participants emphasised the historical role of education and why contemporary schooling has deviated away from addressing democratic politics and prioritised global economic concerns, while disregarding ecological imperatives. They noted that there was little public commentary on the role of education and the climate crisis. Three dominant narratives circulate: that we are earth makers and nature is our handiwork; that this is a disaster, so we must slow or stop, get back to where we were; and we may or may not adapt, but we must try because hope is important. There was recognition of the critical role of the media in propagating discourses which support powerful interests allied against acting on climate change and which commodify knowledge, creating a sense of disempowerment. There is an urgent need to challenge these dominant narratives and to establish 'hope' for the future as critically important. How can we practically change the climate change narrative to ensure that research, and especially in this case research that connects to education and education reform, has greater visibility and reach?

Knowledge Systems

This summary notes a paradigmatic divide between Enlightenment logics, favouring a restrictive, 'objective' view of scientific knowledge, and more integrated, relational worldviews, such as those expressed in Indigenous knowledge systems. There is an urgent need to recognise social and ethical components of scientific practice and the fundamentally interdisciplinary nature of the contemporary scientific program. Despite multiple external pressures, educators and educational researchers are innovating within disciplinary constraints to reimagine educational concepts, methods, and practices offered by diverse knowledge systems.

Indigenous voices refer to the white narratives of climate change as representing the overwhelming privileging of western narratives that perpetuate colonial violence which in turn is institutionalised through racialized systems of science that privilege abstracted knowledge and value-free solutions to climate challenges that are fundamentally socio-ecological in nature. A dominant theme of the workshop was the critical need to work with First Nations Peoples on country and to also draw on local knowledge systems to inform educational policies, curriculum and practices. There was a significant focus on the intergenerational cultural transfer of Indigenous knowledge underpinned by an epistemology that privileges experiential knowing which is embodied and holistic. This would require researchers, scientists and students to be cross-culturally aware and capable.

Recommendations

- It is imperative to engage with an expanded sense of the kind of knowledge that matters and to look with openness to Indigenous knowledge systems that bring new understandings of how ecosystems work and challenge human-centric thinking and solutions
- There needs to be greater recognition that reform relies on an emphasis on relational change and educators and researchers have a responsibility for working towards intergenerational justice.

Education systems, curriculum and pedagogy

There was serious questioning as to the capacity of current education systemic arrangements to affect the type of curriculum and pedagogical reform required to meet the challenges of the Anthropocene. To date, many responses have been characterised by ad hoc, bottom-up activity. The presentations showed that educators are often addressing Anthropocene challenges such as devastating fires and floods in their school, university, workplace and community settings and in 'on the ground' ways. Likewise, some teachers and students are climate activists in their schools and communities. These responses illustrate how situatedness and vernacular knowledges are central to thinking about educating for our collective futures. While this has some tangible benefits it does not lend itself immediately to scaling up nor provide opportunities for evaluating success and sustainability of programs.

The examples offered showed that fundamental change requires greater interagency collaboration at all levels of government and across agencies as well as educating for prevention rather than reaction and recovery from climate and health crises. More positively, there were initiatives in environmental education, codesign of curriculum, and research with global policy actors that was seeking to shift the narrative of despair and to provide policy frameworks and example practices which could be scaled up. Together, these indicated a need to focus on long term generational thinking rather than short term reactive responses as well as build stronger interdisciplinary approaches.

Recommendations

- Greater co-operation and interagency collaboration between and within education and government sectors,
- Improved outward facing communication to join up dots between diverse and often discrete initiatives that are not always well documented and outcomes which are not effectively evaluated and disseminated
- Embed SDGs into curriculum programs and institutional aims based on mutual accountability of systems and organisations
- Audit education and program responses to particular environmental crises to learn from existing activities and scale up for greater impact
- Identify how to operationalise policy and mission aspirations so that they can more effectively guide and enable changed practices at the local and school/ education level while also contributing to building new narratives about climate and climate change - do-able actions
- A focus on student and teacher agency in navigating the complex territory between disciplinary knowledge development and responses to climate crises.

More specifically on curriculum we recommend that schools and systems need to:

- Develop Intergenerational and future focussed curriculum programs
- Strengthen the scope and take up of cross curriculum priorities in the state and national curricula
- Move from a pedagogy of good intentions to more systematic, theoretically informed programming.



There was consensus that increasingly we as educators and researchers are accountable not simply to government but to the next generation

Learner-Centric Approach

A critical point emerged regarding the unpredictability of what learners absorb, challenging the traditional view of education as a simple matter of transmission of knowledge. The workshop participants considered the shift in focus from what adult-led schooling offers to what learners acquire – and require – and the need for a pedagogical commitment to climate justice. Evidence was presented that many students were ill informed about climate change and that science education was in general ill-prepared for futurist thinking. This suggests that going forward requires addressing ethical issues (e.g human/nonhuman relations) as integral to understanding reciprocal relations, advancing sustainability and acknowledging species interdependence. A key theme was for a pedagogy of hope and the need to go beyond contemporary educational discourses of 'schooling' and 'training' for work, with the aim to develop agents of change and build collective efficacy and resilience among students and young people. Pedagogically, it is critical to listen to and respect the agency of students and help students deal with controversy and complexity through processes of co-design of curriculum and a valuing of knowledge building as fundamental.

A proposed Intergenerational capabilities and compassions framework was considered, based on the complementary knowledges/skills of young people, families and teachers and which recognised the relational aspects of community.

Recommendations

- Educative experiences should therefore focus on assisting, guiding and supporting lifelong learning by providing opportunities, access, and direct or indirect development of capabilities and where such learning is acknowledged and rewarded.
- System wide support for co-design, collaborative and participatory approaches to curriculum
- Greater recognition of the critical importance of teachers' and academics' professional expertise and agency in creating these shifts
- Work towards creating education systems and organisations structured around a culture of care, reciprocity and interdependence.

Call for a New Educational Project

There was consensus that increasingly we as educators and researchers are accountable not simply to government but to the next generation; whose insights into and for whom the prospects of their lived experience are alarming.

In summary, we need to match any narratives of hope with real change, with practical guidance for individual and community actions; otherwise lack of trust arises and creates despair and loss of faith in action for change.

The report contends that the current educational project is one that is dominated by testing, assessment and ranking. In emphasising a focus on 'Measuring the Other,' education tends to perpetuate colonial-capitalist ideals and fails to address the challenges of the Anthropocene. In urging a shift towards an educational project of 'Supporting the Other,' the Workshop advocated for greater attention to reciprocal relations, recognising kinship between human and more-than-human worlds, and the need to privilege knowledge and action that is intergenerational, interdisciplinary, and epistemologically complex.

The educational project scoped out by the workshop aims to navigate unpredictable ecologies and foster a sense of responsibility towards sustaining life on our planet. It calls for a shift from individualistic and economically driven educational goals to a more sustainable, reciprocal, and interdependent approach that considers the social glue of well-being and the interlocking between both human and more-than-human worlds in these uncertain times. Socially just futures must reimagine all forms of justice. There are seeds of hope if the resources for new educational projects are entwined with action for climate justice.

Appendix 1

Participants

Name	Institution	Discipline	Role
Stephen Billett	Griffith University	Workplace learning	Presenter
Jill Blackmore	Deakin University	Equity, policy, governance	Convenor
Ruth Bridgstock	Swinburne University	Employability	Presenter
Tracey Bunda	University of Queensland	Indigenous educator	Presenter
Anne Maree Carroll	University of Queensland	Psychology	Presenter
Kira Clarke	Brotherhood of St Laurence	Youth policy	Presenter
Stewart Clegg	University of Sydney	Management	Presenter
Hernan Cuervo	University of Melbourne	Youth studies	Presenter
Amy Cutter-McKenzie Knowles	Southern Cross University	Sustainability & Environment	Presenter
Susan Danby	Queensland University of Technology	Digital child	Presenter
Steven Dovers	Australian National University	Environment & Society	Presenter
Robyn Eckersley	University of Melbourne	Eco-humanities	Participant
Maria Forsyth	Deakin University	Chemist	Presenter
Kal Gulson	University of Sydney	Policy, governance, STS	Presenter
David Karoly	University of Melbourne	Atmospheric science	Presenter
Jo Lampert	Monash University	Teacher education	Presenter
Eve Mayes	Deakin University	Student voice	Presenter
Marcia McKenzie	University of Melbourne	Environmental Education	Presenter
Julie McLeod	University of Melbourne	History of Education	Convenor
Martin Mills	Queensland University of Technology	Alternative education	Presenter
Sujatha Raman	Australian National University	STS studies	Presenter
Terri Seddon	La Trobe University	Sociologist	Convenor
Russell Tytler	Deakin University	Science Education	Convenor
Denise Varney	University of Melbourne	Eco-arts	Presenter
Peta White	Deakin University	Environmental Education	Presenter
Sandra Wooltorton	University of Notre Dame	Indigenous studies	Presenter
Lyn Yates	University of Melbourne	Curriculum	Presenter

Appendix 2

Budget

Expense item	Budget	Actual	Variation
Travel	\$6,411	\$5,302.93	\$1,108.07
Accommodation	\$2,430	\$2,427.04	\$2.96
Venue	\$3,200	In kind	\$3,200
Catering	\$5,478	\$1,651.86 (Deakin University) \$1,500 (University of Melbourne)	
Publication	\$3,000	\$250	\$2,750
Total	\$20,519	11,131.83	\$9,387.17

Appendix 3

Education and Anthropocene - Day 1, Thursday 30 March 2023

10.30 am Introduction and Acknowledgement of Country
Alfred Deakin Professor Jill Blackmore AM FASSA (Deakin University)

10.45 am The problem: Thinking about Education and Anthropocene: From problem to predicament.
Professor Terri Seddon FASSA (La Trobe University)

'A problem is a thing that has a solution: it can be fixed and made to go away, leaving the overall situation essentially unchanged. A predicament is a thing that has no solution: Faced with a predicament, people come up with responses. Those responses may succeed, they may fail, or they may fall somewhere in between, but none of them "solves" the predicament, in the sense that none of them makes it go away.' Dougald Hine, 2018

Terri Seddon is Professor Emeritus at La Trobe University and Fellow of the Australian Academy of Social Sciences. Qualified in natural and social sciences, with formal studies in professional writing and editing, she re-reads education through space-times and time-places to trace the unpredictable effects of learning beyond socialisation and schooling. Born and bred English, Terri is a first-generation Australian, hiker-bushwalker, transnational academic and series editor of the World Yearbook of Education (Volumes 2006-2021). She speaks as Grandma, expert of her own life and ancestor to hothouse Earth.

The challenges 'now': Establishing a context for dialogue

11.30 am The scientific status of Anthropocene and the climate challenge
Professor David Karoly (University of Melbourne)

We are living in the first geological era in which human activity is having a clear impact on the Earth system and on the geological layers below the Earth's surface. Past geological era have been marked by mass extinctions and the Anthropocene is no exception, apart from its very fast rates of change. Survival of our current society depends on better education and understanding of the threats to human survival from many human activities; climate change, environmental degradation, overuse of resources, This presentation is dedicated to Will Steffen, who passed away in January 2023 and was a global leader in understanding the Anthropocene.

Professor David Karoly is an internationally recognised expert on climate change and climate variability and a Fellow of the Australian Academy of Science. He is an Emeritus Professor at the University of Melbourne, having retired from the CSIRO Climate Science Centre in January 2022. David was Leader of the Earth Systems and Climate Change Hub in the Australian Government's National Environmental Science Program, based in CSIRO, during 2018-21.

The predicament in the Anthropocene

Professor Robyn Eckersley (University of Melbourne)

This intervention will reflect on the human predicament in the Anthropocene and what it means for two cherished commitments in the humanities and social sciences: humanism and the idea of progress. It will examine why these commitments have become problematic and how they might be reconceived and made fit for the Anthropocene.

Robyn Eckersley is Redmond Barry Distinguished Professor in Political Science at the University of Melbourne and a Fellow of the Academy of the Social Sciences in Australia. She has published widely in the fields of environmental political theory and International Relations, with a particular focus on ecological democracy, the state and the global ecological crisis, and the ethics, politics and governance of climate change. She received a Distinguished Scholar Award (Environmental Studies Section) at the International Studies Association Annual Convention in Toronto 2019.

Why does Australia need cross culturally aware and capable scientists – How can science education respond and produce them?

Mr Joe Sambono (Queensland University of Technology)

Scientists are increasingly looking towards First Nations Australians knowledge systems to seek solutions to the impacts of industrial societies. At the same time Australia is undergoing significant shifts in areas such as land tenure and formal recognition of rights. These changes are having significant impact on how scientists interact appropriately with First Nations Australians knowledges and their ability to successfully collaborate in mutually beneficial research. These skills are essential to current and future scientists of Australia. Introducing and developing these skills in Australian science education is critical in ensuring we don't miss the benefits of 60,000+ years of Australian science.

Joe Sambono is a Jingili man and curriculum specialist in embedding Australian First Nations histories and cultures throughout the Australian education sectors, primary to tertiary. Joe followed his passion and cultural connections to wildlife to start his career as a zoologist later merging his biology and cultural background with a career in education. Joe has previously led national curriculum initiatives at the CSIRO and ACARA and is currently the Program Lead for Embedding Indigenous Australian Perspectives with the Queensland University of Technology.

Recognising entangled narratives about education and Anthropocene

1.45 pm

Challenges for Science Education in the Anthropocene

Professor Russell Tytler FASSA (Deakin University)

I argue that multiple Anthropocene challenges demand a reshaping of the purpose and nature of School Science Education. Contemporary 'post normal' science implies the need for a curriculum that recognises science-society entanglements and offers a fresh perspective on the role of disciplines in developing the competencies and dispositions needed for negotiating an increasingly complex and uncertain future. I will draw on my work in the PISA 2025 Science Expert Group to align these ideas with contemporary trends in the science curriculum.

Russell Tytler is Alfred Deakin Professor of Science Education at Deakin University. He researches student learning in science and mathematics, socio scientific issues and reasoning, school-community partnerships, and STEM curriculum policy and practice. He is widely published and has led a range of research projects, including representing contemporary science R&D in schools to support an informed Climate Change Education.

Material sciences/ humanities

Professor Maria Forsyth FAAS (Deakin University)

We encourage our young folk to take STEMM at school and enter STEMM related fields as these are seen to be necessary to advancement of humanity and critical to solving key challenges such as climate change. But should we also ensure that STEMM education at all levels incorporates an ethical and socially responsible aspect?

Professor Maria Forsyth, ATSE (Australian Academy of Technology and Engineering), FAA (Fellow Australian Academy of Sciences) and an Alfred Deakin Professorial Fellow at Deakin University and an Ikerbasque Visiting Professorial Fellow at University of the Basque Country, Spain. Maria undertook her undergraduate and postgraduate studies at Monash University in materials science and chemistry and was awarded her PhD in 1990. She is passionate about doing science that makes a difference to society – from increasing lifetime of infrastructure to creating cleaner energy technologies.

Ethics in the Anthropocene: interrogating global narratives about the future of education

Associate Professor Jason Beech (University of Melbourne)

Promises about the future are a key source of legitimacy for international organizations. What happens when the promised future arrives and is problematic? How are the notions of ethics that underpin global discourses about education being renegotiated in the Anthropocene?

Jason Beech is Associate Professor in Global Policy in Education at the Melbourne Graduate School of Education and visiting professor at Universidad de San Andrés in Buenos Aires where he holds a UNESCO Chair in Education for Sustainability and Global Citizenship. His research focuses on the globalization of knowledge and policies related to education. He has also written and is passionate about the challenges of educating for global citizenship and a sustainable future.

Education and Anthropocene - Day 1, Thursday 30 March 2023 (continued)

3.00 pm

Getting leverage on change through education

Indigenous activism

Country matters: COUNTRY MATTERS: C-O-U-N-T-R-Y-M-A-T-T-E-R-S!

Professor Tracey Bunda (University of Queensland)

Indigenous knowledges defined and defended: Knowledges held by Indigenous peoples in perpetuity, translated generationally, produced through interconnected systems of relationality to inscribe (again and again and again) ontological belongings with people and land. IKS, in collision with colonisation, cicatrisations are forming, perhaps. Country matters.

Tracey Bunda is a Ngugi/Wakka Wakka woman and is the Professor for Indigenous Education at the University of Queensland.

Student activism

Learning from student climate justice activism

Dr Eve Mayes (Deakin University, DECRA)

This provocation will consider what young people engaged in climate justice activism are learning, outside of school, through climate justice activism, in informal sites of learning that mobilise hands, heads and hearts. The provocation will raise questions about young people's differential access to these learning opportunities and the affective and epistemic challenges of learning in and through climate justice activism. Actions to be promoted include the development of trans-disciplinary climate justice curriculum informed by student activist learning.

Eve Mayes (she/her) is a Senior Research Fellow and Senior Lecturer in Pedagogy and Curriculum; she was formerly an English and English as an Additional Language teacher. She lives and works on unceded Wadawurrung Country. Eve is currently working on the ARC DECRA project Striking Voices: Australian school-aged climate justice activism (2022-2025); see project website: <https://strikingvoices.deakin.edu.au/>.

Teacher activism

Teachers as trouble-makers: Real risks and lived repercussions

Professor Jo Lampert (Monash University)

In this brief response, I draw on some of my research on current teaching shortages and more specifically, on my concerns about which teachers are leaving the profession and why. In an increasingly corporatised and stressful teaching environment, teachers who self-identify as activists outside the classroom are finding it increasingly tough to reconcile their social justice principles within school systems in which they feel unsupported, unfortified and at-risk. Interviews with teachers including climate change activists, LGBTQI+ activists, First Nations activists suggest an exodus from teaching may well include those teachers who believe passionately in social transformation.

Jo Lampert is Professor of Teacher Education for Social Transformation in the School of Education, Culture and Society at Monash University. For many years Jo has led large social justice teacher education programs. Her current research includes two ARCs: one on co-design in Indigenous communities and another on teaching shortages including both those who leave and remain in the profession.

Systemic changes for higher education

System Activism

Professor Stephen Dovers (Australian National University)

I will reflect on decades of experiments in universities aimed at creating the cross- and inter-disciplinary opportunities and insights necessary to understand and engage with the meta-challenge of sustainability. Cross-campus institutes, interdisciplinary schools, curriculum innovations, partnerships, and more. Running ever against the grain of administrative, financial and disciplinary silos, there have been gains and fails. I will suggest what a university (and potentially other organisations) might do if they wished to purposefully prepare themselves and their students for living and working in the Anthropocene. Dedicated to the late Will Steffen, friend, mentor, colleague and communicator.

Stephen Dovers is Emeritus Professor and former Director, Fenner School of Environment and Society, ANU. Research interests: environmental policy, climate change adaptation, disaster management. Member Panel A Committee Academy of Social Sciences, Research and Technology Advisory Committee Australian Research Data Commons, chair Science Advisory Committee The Mulloon Institute, Senior Associate with the firm Aither.

4.30 pm

Wrap up

Professor Julie McLeod FASSA (University of Melbourne)

Julie McLeod is Professor of Curriculum, Equity and Social Change in the Melbourne Graduate School of Education and Pro-Vice Chancellor (Research Capability) at the University of Melbourne. Her research is in the history and sociology of education, focussing on youth, gender, inequality and educational reform, with particular interests in histories of educational ideas and qualitative methodologies. She is currently President of the Australian Association for Research in Education.

Education and Anthropocene - Day 2, Friday 31 March 2023

Re-thinking narratives for education and our times

Curriculum: how can school curriculum address international climate commitments?

9.00 am

Agency in the Anthropocene

Associate Professor Peta White (Deakin University). Mid-career.

School education addressing the polycrisis challenges of the Anthropocene needs to push on from sustainability education that often focuses on resource management. This presentation considers the work of an international expert group tasked by the OECD to include socio-ecological considerations in the 2025 PISA Science Framework. It firmly positions climate change education in the purview of science education, yet enables transdisciplinary learning opportunities.

Peta J. White is an Associate professor in science and environmental education at Deakin University. She educated in classrooms, coordinated programs, supported curriculum reform, and prepared teachers in jurisdictions across Canada and Australia. Her PhD explored learning to live sustainably as a platform to educate future teachers. Peta continues her commitment to initial teacher education and in-service teacher education through research-informed professional learning programs. Peta's current research follows three narratives: science and biology education; sustainability, environmental, and climate change education; and collaborative/activist methodologies and embodied research practice. She is committed to share research findings via accessible professional contexts.

Not waiting for formal curriculum: Co-designing climate curriculum

Professor Amy Cutter-Mackenzie-Knowles (Southern Cross University)

Formal climate change curriculum and pedagogical responses, while limited, have predominantly focussed on imparting Western science rather than grappling with cultural understandings of climate change. The systemic and critical failure of this is that climate change education cannot be adequately understood within Western narratives of science. In this presentation, Cutter-Mackenzie-Knowles will discuss an international Climate Change + Me research program revealing the potentiality of co-designing climate change education curriculum with children, parents, teachers, Elders, and Country.

Amy Cutter-Mackenzie-Knowles is a Professor of Sustainability, Environment and Education at Southern Cross University. She commenced her career as a primary-secondary school teacher. She is the Executive Dean of the Faculty of Education, as well as the Research Leader of the 'Sustainability, Environment and the Arts in Education' (SEAE) Research Cluster. Professor Cutter-Mackenzie-Knowles's research centres on climate change, childhood, nature, posthuman philosophy, and child-framed research methodologies. She is particularly focussed on the pivot points between education, science, philosophy, and the Arts. She has led over 40 national/international research projects and published more than 150 publications. Amy has been recognised for both her teaching and research excellence in environmental education, including an Australian Teaching Excellence Award (OLT) and an Australian Association for Environmental Education Fellowship (Life Achievement Award) for her outstanding contribution to environmental education research.

Thinking about some pragmatics

Professor Lyn Yates FASSA (University of Melbourne)

There is often a big distance between aims for education, written curriculum specifications, and what actually drives actions and education at the classroom level. Some of the known problems for curriculum change include: the already overcrowded curriculum and tick box approaches; the competitive agendas and accountabilities for both schools and students; confusing short-term and longer-term curriculum aims; paying too little attention to teachers. My input will focus on some choices that will have to be made in terms of education in relation to climate change.

Lyn Yates is a Redmond Barry Distinguished Professor Emeritus of Education of the University of Melbourne and a Fellow of ASSA. Her major projects include Australia's Curriculum Dilemmas: state cultures and the big issues (MUP 2011); Knowledge at the Crossroads: History and Physics in the Changing World of Schools and Universities (Springer 2017), and Literary Knowing and the Making of English Teachers (Routledge 2023).

10.00 am

Work and skills: How can education and training prepare Anthropocene workforces?

Professor Ruth Bridgstock (Swinburne University)

Ruth will engage with some of the thornier issues facing contemporary higher education in preparing professionals for life and work in changing contexts. What will it take for our industrial era institutions to transform themselves into places of genuine educational engagement with sustainability and regenerative development, transdisciplinarity, connectedness, and future- and change- readiness? In answer, Ruth will briefly traverse issues of curriculum and pedagogy, educator capacity, and educational structures and policies.

Ruth Bridgstock's educational practice and research relate to fostering future-capability – that is, how learners, educators and educational institutions can learn and adapt to rapid and ongoing digital, social, and environmental changes in the 21st century. Ruth's current research interests are focussed on future-capable curriculum, learning and identity development through social networks, interdisciplinarity, and authentic learning. Ruth is Director of Employability at Swinburne University of Technology, Principal Fellow of the Higher Education Academy, and National Senior Teaching Fellow.

Career development's role in preparing Anthropocene workforces

Dr Lizzie Knight (Victoria University)

Career development plays a key part in understanding how people engage with the economy and labour market and preparing engaged citizens for a uncertain world with climate crisis exacerbated by global inequalities. In Australia the debate about how to prepare people for uncertainty is little advanced and has previously excluded career practitioners except in very instrumental micro roles to date, frequently casting individuals who have interest in careers which attend to climate issues as having niche career interests. Now is the time to take a lifelong and lifewide view approach.

Dr Elizabeth Knight is a Senior Research Fellow at the Mitchell Institute, Victoria University and concurrently Senior Lecturer, Career Education at James Cook University. She is the national peak body for the career practitioners - the Career Industry Council of Australia's Research Advisor and has been a professional career practitioner for over ten years and has worked in VET, higher education and senior secondary settings.

Dr Stephen Billett FASSA (Griffith University)

Considerations of work and skills is essential to the development and continuity of advanced, just as sustainable societies. The occupations that buy the goods and services societies, communities and individuals' needs are cultural practices that arise from societal need and transform as those needs change. They are central to human development and continuity. Hence, they have to sit centrally in any discussions about the educational project. This is no more the case now than its ability to meet the existential challenges Australian faces in terms of climate, social and economic viability and national sovereignty.

Dr Stephen Billett is Professor of Adult and Vocational Education at Griffith University, a National Teaching Fellow, an Australian Research Council Future Fellow, Fulbright scholar and holds honorary doctorates from Jyväskylä (Finland) and Geneva, has worked in industry, as a vocational educator, in teacher education, professional development and policy formation in the VET system and researchers the relations between learning and work.

Education and Anthropocene - Day 2, Friday 31 March 2023 (continued)

Public communication: how can the public become informed?

11.20 am

Epistemic rift: Climate, capitalism and journalism

Dr Jeff Sparrow (University of Melbourne)

Ecomarxists like John Bellamy Foster, Andreas Malm and Andreas Malm argue that the commodity form creates a metabolic rift between humanity and nature. But commodification also shapes our relationship to knowledge, in ways that particularly manifest in climate journalism.

Dr Jeff Sparrow is a lecturer at the Centre for Advancing Journalism at the University of Melbourne. He is a writer, editor, broadcaster and Walkley award-winning journalist. He is a columnist for Guardian Australia, a former Break-faster at radio station 3RRR, and a past editor of Overland literary journal. He is the author of Provocations: New and Selected Writing, Crimes Against Nature: Capitalism and Global Heating; Fascists Among Us: Online Hate and the Christchurch Massacre; Trigger Warnings: Political Correctness and the Rise of the Right; No Way But This: In Search of Paul Robeson; Killing: Misadventures in Violence and Communism: A Love Story; the co-author, with Jill Sparrow, of Radical Melbourne: A Secret History and Radical Melbourne 2: The Enemy Within; and the co-editor, with Anthony Loewenstein, of Left Turn: Essays for the New Left.

Public Communications and the Digital Child

Professor Susan Danby FASSA (Queensland University of Technology)

This presentation tracks how to build research partnerships with stakeholders and communicate to the public the outcomes of a Centre of Excellence of the Digital Child. Prof. Danby elaborates on the role of stakeholder forums, seminar series, Digital Child blog, social media, public submissions and meeting with politicians. She identifies future strategies for engaging the public in the form of a radio show, working with philanthropists, government event in a strategic media plan.

Professor Susan Danby's areas of expertise are in early years language and social interaction, childhood studies, and early literacy. Her methodological expertise is in qualitative approaches, including ethnomethodology and conversation analysis.. Her research explicates the everyday social and interactional practices of children, showing their complex and competent work as they build their social worlds within school settings, homes and communities. Susan Danby's teaching leadership is recognised in higher education pedagogy and doctoral course design. She leads the Centre of Excellence of the Digital Child and is a current member of the Australian Research Council College of Experts.

1.00 pm

Imagining socially just futures

Professor Sandra Woollorton (Notre Dame University Australia)

To imagine socially just futures, recall that experiential and practical knowing have primacy, the past and future are always present; and all forms of justice enrich each other. What if we recognised our landscapes as sentient and animate? How would we relate to our communicative, interactive worlds? How would humans and places create knowledge and live well together? These concepts and practices can – and should – underpin learning, change and schooling.

Sandra Woollorton is a professor with Nulungu Research institute. She works on transdisciplinary research, environmental learning, place-based philosophies, and transformative social practice.

Has the modern school reached its use by date?

Professor Martin Mills (Queensland University of Technology)

The modern school has failed and continues to fail the most marginalised young people in our society. It is ill-equipped to contribute to addressing the major environmental, political, social and economic issues of our time. And those who work in them are leaving in unprecedented numbers and it is failing to attract replacements. Surely it is time to rethink the purposes of education and schooling.

Martin Mills is a Capacity Building Professor in the School of Teacher Education and Leadership at QUT. He was previously the inaugural Director of the Centre for Teachers and Teaching Research at the Institute of Education, University College London. His work has principally focussed on social justice issues in education. These areas have included: teachers' work and pedagogical practice, alternative education, and gender and education. He is the editor in chief of Teachers and Teaching: Theory and Practice.

2.00 pm

Education, governance and the capitalocene Professor Jill Blackmore AM FASSA (Deakin University)

Education systems' responses to environmental and health crises have been reactive, adhoc and localised, focusing on recovery not prevention, adding to reduced trust in governance. How could proactive responses better calculate how to manage sustainable universities and schools at scale through shared governance based on care of society and nature?

Jill Blackmore AM Ph D is Alfred Deakin Professor in Education, Faculty of Arts and Education, Deakin University, Australia, former President of the Australian Association of Research in Education and currently President of the Australian Association of University Professors. She is former inaugural director of Deakin Centre for Research in Educational Futures and Innovation. She researches from a feminist perspective education policy and governance; international and intercultural education; leadership and organisational change; spatial redesign and innovative pedagogies; and teachers' and academics' work, health and wellbeing. Recent ARC projects are on school autonomy reform and the geopolitics of transnational education and student mobility, and 2023 publication *Disrupting Leadership in the Entrepreneurial University: Diversity and Disengagement* Bloomsbury.

Fortifying Students - Education and Anthropocene: Preparing professionals to support our young people for the future.

Professor Annemaree Carroll (University of Queensland)

One of the three most important issues reported by young people in Mission Australia's (2021) 20th Annual Youth Survey is the environment, with one quarter stating that they are very or extremely concerned about climate change. Moreover, school students of all ages, races, genders, backgrounds and sexualities from all parts of Australia have joined together to give voice to their concerns about the future of their planet through SchoolStrike4Climate. With emerging literature indicating increases in climate stress, worry and anxiety in young people (Leger-Goodes et al. 2022), the time is now to ensure learning about climate change occurs in safe classroom environments which fortify young people by developing their social emotional competence, enhancing their wellbeing, and empowering them with strategies to enact change.

Annemaree Carroll is Associate Dean Research in the Faculty of Humanities and Social Sciences and Professor of Educational Psychology in the School of Education at The University of Queensland. Annemaree is a registered psychologist and teacher. Her research activities focus on the social emotional learning of children and adolescents, and the importance of social connectedness, (dis)engagement, and social inclusion to their behavioural and educational outcomes. Student, teacher, and community voices and agency are key considerations in her research methodologies.

Organisations and risk

Professor Stewart Clegg (University of Sydney)

The Global Resources Dividend (GRD) proposed by Pogge (2001) might be a base model for policy innovation that could be taught in high schools and tertiary institutions. Businesses would pay a tax on any services or resources that they use or sell rated proportionately to the harm that they create in extraction or production. Those business organizations that could establish that they had enacted policies that minimized the harm to the lowest rated harm decile of the tax register would pay a disproportionately lower tax than those businesses that could not so demonstrate that they qualified. Proportionality would vary with the demonstration of performance. Those organizational actors that could demonstrate commitment to circular economy principles would clearly be advantaged.

Stewart Clegg (Professor at the University of Sydney in the School of Project Management and the John Grill Institute for Project Leadership, as well as an Emeritus Professor of the University of Technology Sydney. He is recognised for his work in sociology, politics and power relations, organisation studies and project management to which he has contributed substantially over his career and for which he has received many honours.

3.30 pm

Q&A discussion and summary

Chair: Professor Julie McLeod FASSA (University of Melbourne)

Launch of the ASSA Climate Change Education Report

Contact us

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