# Key Challenges for Teacher Education in the Anthropocene Age

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# Greetings

Greetings to friends and colleagues in Timor Leste and University Nacionale Timor Loro Sa'e, guests and world citizens.

# Anthropocene

- Controversial term for the current 'geological' period, when human activities began to impact global climate and ecosystems in ways not seen since the last major Ice Age which finished around 11,700 years ago.
- Anthro = Human
  Cene = New

# Intertwined fate of the Earth and Humans

- 'Anthropocene': coined by Paul Crutzen, (and related others) put into wider use around 2000, but still being debated by geologists, although multiple sciences now accepting and using, including a major journal: The Anthropocene Review

'The Anthropocene represents a new phase in the history of both humankind and of the Earth, when natural forces and human forces became intertwined, so that the fate of one determines the fate of the other'

(Zalasiewicz, Williams, Steffen & Crutzen 2010, p.2231)

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# URGENCY

IPCC (2014) 5$^{th}$ assessment report Summary for Policy Makers:

- 'In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans ….
- In many regions, changing precipitation or melting snow and ice are altering hydrological systems, affecting water resources in terms of quantity and quality ….
- Many terrestrial, freshwater, and marine species have shifted their geographic ranges, seasonal activities, migration patterns, abundances, and species interactions in response to ongoing climate change ….
- Based on many studies covering a wide range of regions and crops, negative impacts of climate change on crop yields have been more common than positive impacts ….
- Violent conflict increases vulnerability to climate change….'

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# Spectators as we walk towards our own demise? (Rose, 2013/2014:211)

- 'We are spectators in the unmaking of the world we have known; we are spectators in the mass death of other creatures and the misery of numerous and diverse forms of life, including humans; we may indeed become spectators  of our own demise'

# Interlinked crises for the Anthropocene

- How to understand?
- What to do?
- How to do?

The crises of knowledge:

- the binary between science and humanities
- the separation of education and research from human action and daily life
- The complexity of the interlinked problems

Link with

- The separation of politics from daily action, located in separate formal institutions and
- nation-state forms of organisation of citizenship and 'politics' that problematise global citizenship and governance
- Failure to link global and local
- Continued crises of capitalism and commitment to growth paradigms
- The uneven effects in poor and small countries compared to larger, 'developed' countries of both ecological crises and capitalist effects.

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# Wallerstein's history of the modern world system

- Consequently, the fundamental political problem that Great Britain, France, and the world-system had to face in 1815, and from then on, was how to reconcile the demands of those who would insist on implementing the concept of popular sovereignty exercising the normality of change with the desire of the notables, both within each state and in the world-system as a whole, to maintain themselves in power and to ensure their continuing ability to accumulate capital endlessly (Wallerstein 2011, p. 1).

Wallerstein, I 2011, *The modern world-system IV: centrist liberalism triumphant, 1789–1914*, University of California Press, Berkeley, CA.

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# The Enigma of Capital and the crises of capitalism (Harvey 2010: 123)

Seven Activity Spheres:

1. Technologies and organisational forms
2. Social relations
3. Institutional and administrative arrangements
4. Production and labour processes
5. Relations to nature
6. The reproduction of daily life and of the species
7. Mental conceptions of the world

Each sphere inter-dependant and co-evolving through crises.

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# Harvey's activity spheres, Anthropocene crises, and challenges for education

- In material and ideological ways, massive political-economic forces operate powerfully across all 7 spheres; However, counter-movements generally can gain mass in 1, maybe 2 spheres.

- Powerful political-economic exertions operate through a kind of complex simplification syndrome. If counter-movement cannot match in material-ideological mass, it perhaps can challenge best by contesting simplification via knowledge, thought and action, pursuing democratically participatory and *informed* citizenry (cf N. Fraser, *Scales of Justice*).

- This proposes a substantively *political-educative* – approach, involving new governmentalities for linking thought and action (praxis).

# An education←→action orientation towards new futures (cf Harvey quotes)

"A double blockage exists: the lack of alternative vision prevents the formation of an oppositional movement, while the absence of such a movement precludes the articulation of an alternative" (Harvey 2010: 227)

To get beyond this blockage, we need to work on the evolution of both, 'in a spiral' (227), each feeding the other.

'The trick is to keep the political movement moving from one sphere to another in mutually reinforcing ways' (228)

…'all manner of experiments in social change in different places and at different geographical scales are both likely and potentially illuminating as ways to make (or not make) another world possible' (229)

# Foundational split to overcome: human and nature

- Modern Education institutions built on split between humans and nature: anthropo-centric
- Knowledge as ab-straction, decontextualised from place, relationships and action
- Knowledge as past rather than prospective and future-invested
- Knowledge as private and individually 'owned' rather than understood as co-constructed IN action.

# Education sector: barriers and blockages

Organisational form of education institutions tied to capitalism and its vicissitudes esp: sorting and selecting, via curriculum, ideology of meritocracy, most recently concerned with global performativity through accountability and economism, including vocationalism, and ideology of politics of the nation-state and transmission of 'national' stories.

Closely connected to crises of the nation-state and governmental 'interventions'

Education politics largely intra-(n)-state and single issue rather than linked to other domains

Built on 'foundational' binaries of separation of knowledge from action, cognition and emotion, largely age-cohorted and mass- school as default institutional model.

# Education's potential strengths

- Almost universal institutions, so affects most people, but also multiple sectors including EC, Schools, FE, VET, TAFE, Hed, popular, community and political education, social pedagogies
- Has some insights into how to understand complexity and respond complexly
- Some history in contributing to producing citizenship which might be transferable to global citizenship
- Some traditions which can be built on and reconfigured (experiential learning, inquiry learning, critical pedagogy; place-based education; group work/rich tasks; art-based and imagination-reliant futures work)

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# Finding Multiple Pathways

- Most Euro-Anglo 'pathways' work for an elite minority and do not build equity. Copying current models of pathways will not provide short-term, medium-term or long-term outcomes for students.
- They are not 'pathways' but dead-ends or cul-de-sacs for many people.
- Need to document knowledge in action – useful for Recognition of Prior Learning.
- Need multiple entry and re-entry aand exit points.
- Learn together what pathhways are future oriented

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# A Vygotskyan Challenge:
# Bringing life-world knowledge back in

[T]here [should] exist *within the very nature of the educational process*, *within its psychological essence … as close an interaction, with life itself as might be wished for.* **Ultimately only life educates***, and the deeper that life … burrows into the school, the more dynamic and the more robust will be the educational process. That the school has been locked away and walled in as if by a tall fence from life itself has been its greatest failing. Education is just as meaningless outside the … [life] world as is a fire without oxygen, or as breathing in a vacuum. The teacher's educational work, therefore, must be inevitably connected with his [or her] creative social and life work.* (Vygotsky 1997: 345, with original italics and '[or her]' added)

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# The curricular value of disciplinary knowledge exists in a rich dialectic with life-world funds of knowledge

In conceiving how learners extend knowledge capacities in 'the zone of proximal development', Vygotsky (says Moll 2014: 34-35), conceives a dialectic between disciplinary and life-based knowledge:

> *Everyday concepts provide the "conceptual fabric" for the development of schooled concepts, and the everyday concepts are also transformed through their connection with the more systematic concepts. Scientific concepts grow into the everyday, into the domain of personal experience, thus acquiring meaning and significance. However, scientific concepts bring with them conscious awareness and control, which Vygotsky believed to be essential characteristics of schooling.* (Moll 2014: 35)

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# Big Euro-Anglo Policy debates on teacher education

- Teaching is the hot issue for economists who see it as crucial for economic competitiveness
- This results in narrowing of educational purposes of education, reduced to economic and vocational purposes not including citizenship and social capacity-building
- This has politicised the field of education, including teacher education
- Teacher education in many countries has fallen prey to **standardisation not innovation**

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# Some really big questions for education

- How to deal with decolonising and reconciliation?
- How to deal with this stage of world capitalism and our own place in it?
- How to deal with The Anthropocene: the intertwined fates of the Earth and humans?
- How to deal with (re)building a nation in an era that is Northern-centric in its globalising processes?
- How to deal with the tradition/s of education institutions as part of ideological efforts to gain compliance with inequality?

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# Some big questions for teacher education

- How and where do teachers learn to do all the things they need to be able to do?

- What are appropriate on-campus priorities for pre-service teachers to learn?

- How do pre-service teachers develop expert practice in schools/Technology Institutes, University?

- How do we work for all sectors of education: early childhood, primary schooling, secondary schooling, technical and vocational education, higher education, community and popular education, health education, political education?

- Which and whose knowledges are built upon?

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# Our answers to the questions?

- The answers have to co-evolve as we build new knowledge
- The answers need to construct new narratives of the world

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# Knowledge linked to action

- The domains of knowledge and government action tend to work in silos. If schools, technological and vocational education and universities are to contribute to advancing knowledge, the best way is through linking knowledge with forms of action to improve the local world

- Domains of action need to be jointly defined. The action domain then becomes a pathway for knowledge generation.

- Funds of Knowledge traditions: documenting and analysing local knowledge, linking with others' knowledges

# Why 'teacher training' is the wrong term

- Teaching is not just a set of skills which get learned and reapplied in any new situation
- 'Training' presumes what is needed is already known and just to be passed on …
- Citizens, family membership, friendship – are better models for thinking about how to learn to work together and co-produce knowledge
- Teacher education requires a wider view of education: where teachers and students are seen as scholar-citizens who are future-oriented on behalf of the world and future generations of our species and others.

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# Teachers as citizen-scholars and community-activists

- Public good professionals (Walker and MacLean
- Global and local citizens
- Learning to 'read the world' and build new narratives of the world
- All teachers as teachers of literacy

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