Challenges and opportunities with education around net zero

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Key Challenge – ensuring conceptual clarity about 'net zero education'

What are we really talking about? And what might that imply?

Possible options:

1. A 'net zero emissions education' is a helpful way of expressing 'climate friendly schooling'?

2. There's a need to shift 'education about net zero emissions' towards an 'education for net zero emissions'?

3. A commitment to 'net zero emissions' should be a key marker of any climate change education strategy?

… Something else?

Challenge – Conceptual clarity about 'net zero education' - 1

A 'net zero emissions education' is a helpful way of expressing 'climate friendly schooling'?

This aspect serves to recognize that schools and their teachers, students, caretakers, leaders, communities and other stakeholders have long supported a broad range of local to international efforts addressing diverse expressions of the climate challenge.

NB many of these initiatives may have their roots in some form of environmental education, and have existed before the Action for Climate Empowerment emphasis that followed UNFCCC's (2015) Paris Agreement, or broader talk of 'net zero emissions'.

Monroe & eeWORKS - https://naaee.org/programs/eeworks/climate-change

Clarity on this may serve to remind us some schools may have little control or influence on achieving 'net zero emissions' status, but can still be active in climate-related initiatives, and education provision that has pedigree, is innovative or displays quality teaching and learning.

Challenge – Conceptual clarity about 'net zero education' - 1

Examples included for this challenge seldom mention 'net zero emissions' or possibly becoming 'carbon positive'. Nor do they explicitly focus on energy-related aspects, but they often promote excellent work in teaching and learning that can help ensure schools are 'climate friendly':

- Infrastructure focused – internationally, via participation in, for example, FEE's Eco-Schools, and by undertaking site-specific transformations, e.g. Barcelona's Climate Shelters Project

- Network focused - e.g. joining a grassroots network, such as climatefriendlyschools.org.uk or a topic group, such as KEEKS or CLIKIS Network, focusing on school kitchens and food

- As part of whole-school approaches – e.g. emphasized in UNESCO's (2016) 'Getting Climate Ready: A Guide for Schools on Climate Action', to show interconnectedness of challenges schools can address, e.g. gender inequality, patterns of vulnerability, and ethical dimensions.

More examples at #eerjournal, *Environmental Education Research*, www.tandfonline.com/EER

Challenge – Conceptual clarity about 'net zero education' - 1

Power of the explicit, implicit & hidden curriculum?

> "More and more schools around the world are adopting whole-school approaches to climate action. In a whole-school approach, students' classroom learning about climate change is reinforced by the formal and informal messages promoted by the school's values and actions. In other words, students – girls and boys alike - and other members of the school community live what they learn, and learn what they live."

UNESCO, 2016, p.3

GRAPHIC 1 THE WHOLE-SCHOOL APPROACH TO CLIMATE CHANGE

Challenge – Conceptual clarity about 'net zero education' - 2

A need to shift 'education about net zero emissions' towards an 'education for net zero emissions'?

Extracts from an assessment of the first of an eight-year Sustainability & Climate Change Strategy:

> "Education is the public sector's largest emitter of carbon from buildings: 37% of public sector emissions, comprising 13% from state primary schools, 11% from state secondary schools and 13% from universities."
>
> "DfE [Department of Education, England] is taking steps to incorporate sustainability into its new build schools but net zero schools delivered through the School Rebuilding Programme will only represent 2% of the estate when complete."
>
> "As it stands there is no plan in place for achieving the scale of decarbonisation across the education sector that is needed for DfE to make a proportionate contribution to government's targets."

UK Government National Audit Office (28 June 2023) - https://www.nao.org.uk/reports/dfe-sustainability-overview/

Challenge 2: Conceptual clarity about 'net zero education'

Scheme 1, 2, 3 scope emissions. Credit: Plan A based on GHGprotocol

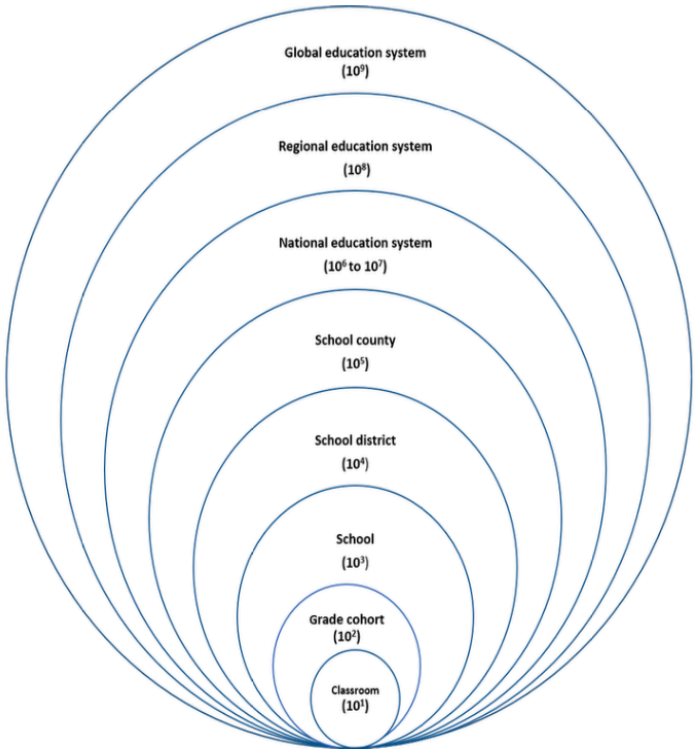
Net zero discourse is typical of business-based approaches, e.g. associated with ESG (environmental, social, and corporate governance) goals and reporting.

> *These can all be topics for teaching and learning – but does this association tend to default to provision of 'about' net zero aspects rather demonstrating 'for' net zero emissions in schools?*

Then, factor in context: any cash-strapped 'educational estate' typically receives few funds in general, let alone that for 'net zero' and 'climate action' work at 'scale' or 'depth'.

Challenge 2: Conceptual clarity about 'net zero education'

Figure 1. Powers of 10 framework of cross-scale optimization for interventions aimed at rapid sustainability transformation, applied to the education system



Note: Labels and their corresponding power of 10 cohort are approximations, and would depend on the size of the country, the reach of its national education system, and whether non-state providers are included. Adapted from Bhowmik, et al. (forthcoming).

Credit: Christina Kwauk (2020) Roadblocks to quality education in a time of climate change. Brookings (p.16)

Challenges might therefore become framed around questions of priorities and realities for investment and commitment in the schools sector.

For example, is 'optimization for net zero interventions' largely understood by way of:

(a) improving current ways of 'doing school' or

(b) inventing new ways of 'doing school',

now and into the future, and for all, not just the few?

Put differently, given business as usual will never do for achieving net zero for everyone, both (a) and (b) will require various forms and processes of:

unlearning as much as new learning

Challenge – Conceptual clarity about 'net zero education' - 3

A commitment to 'net zero emissions' as a key marker of any climate change education strategy?

https://www.britishcouncil.org/climate-connection/get-involved/resources-school-teachers

Leveraging recognition of UNFCCC, IPCC and COP (e.g. in Glasgow, Sharm el-Sheikh, Dubai, …) there is a case to be made that governments do more than 'pledge' – i.e. they could concretely support the creation of 'net zero' or 'carbon neutral schools', to ensure they foster:

> *"innovative ways for educators to play their part in reducing carbon emissions with the involvement of pupils and the wider school community"*

(Rachel Salmon, British Council Education Team)

Challenge – Conceptual clarity about 'net zero education' - 3

"Why Schools Need to Look at Their Own Carbon Footprint" – Harvard University

"If you're not using gas, you're going to have better indoor air quality, and if you have a green schoolyard, you'll have lower temperatures than a school surrounded by asphalt," [Laura] Schifter says. "Building climate resilient schools is going to be central to student health and learning outcomes."

"But the transition to more sustainable schools won't just be a benefit for students. Schools have the opportunity to be centers of resilience and support for their communities in the face of climate change, in particular for communities of color and low-income areas that have been disproportionally affected by deadly weather."

https://www.gse.harvard.edu/ideas/usable-knowledge/21/11/why-schools-need-look-their-own-carbon-footprint

Challenge – Conceptual clarity about 'net zero education' - 3

"Strategy 101" - focus on low-hanging fruit to meet the investment and commitment challenges?

> "Energy consumption in Australian schools is expected to increase in the coming decades due to an increased use of digital technologies, aging building stock and poor minimum efficiency standards. This, combined with expected increases in utility costs, will put additional financial stress on schools. There is also a heightened urgency to reduce global carbon emissions, requiring action from all sectors of the economy. Regardless of where a school is located, effective management of school buildings provides a prime opportunity to reduce emissions."

Odell, P., Rauland, V. & Murcia, K. (2021). Schools: An untapped Opportunity for a Carbon Neutral Future. Sustainability, 13(1), 46, https://doi.org/10.3390/su130[illegible]046

Challenge – Conceptual clarity about 'net zero education' - 3

"Strategy 101" - focus on low-hanging fruit to meet the investment and commitment challenges?

> "Despite the abundant environmental and social benefits, and the imperative to address rising emissions, utility consumption and costs, there has been mixed ambition and approaches from various levels of government in Australia to push quantifiable carbon reduction in schools."

> "The study showed that schools reduced their carbon emissions on average by 20% on a per student basis and saved an average of 15% in costs. More than 70% of the actions identified by participating schools were low or zero cost."

Odell, P., Rauland, V. & Murcia, K. (2021). Schools: An untapped Opportunity for a Carbon Neutral Future. Sustainability, 13(1), 46, https://doi.org/10.3390/su1301[illegible]046

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ResourceSmart Schools – embedding sustainability and reducing emissions in Victorian schools

"It's time to help the more than 9,500 schools in Australia achieve net-zero emissions through behaviour change, technology, tools and a practical plan. Enough talk. Let's walk the walk."

https://zeropositive.org

Albert Park Kinder:

2019 - first early learning centre in Australia to be certified carbon neutral

2022 - Albert Park College:

> *"To become a regenerative, carbon negative, zero waste, resource smart school"*

Environmental Goals Action Plan

https://www.ecocentre.com/blog/resources-carbon-neutral-sch

- NB - learning from their neighbors -

Key Challenge – measuring conceptual clarity about ‘net zero educ

Alternative option: something else? That may include asking, for example:

- when and why did the education estate become ‘carbon intensive’?

- who benefits from keeping the education estate ‘carbon intensive’?

- who might benefit from having, for example, ‘net positive schools’?

- might schools become ‘living learning labs’ about net zero emissions?

- does every net zero building, classroom, etc. need to be equivalent of ’Green Star’ rated …

… and what ever happened to ‘learning outside the classroom’?

The oldest school in Australia - established 1816

NEWCASTLE•EAST PUBLIC•SCHOOL

University of Melbourne (2050)
Fishermans Bend campus mockup

Key Challenge – ensuring conceptual clarity about 'net zero education'

SUMMARY - What are we really talking about? And what might that imply for next steps?

Possible options:

1. A 'net zero emissions education' is a helpful way of expressing 'climate friendly schooling' - *but it may require Strategy 101, 201, 301 … alongside other forms of environmental education*

2. There's a need to shift 'education about net zero emissions' in the schools sector towards an 'education for net zero emissions' – *but who decides what comes first - 'policy', 'practice', 'consensus', 'everyday experience', a 'whole school approach' …?*

3. A commitment to 'net zero emissions' should be a key marker of any climate change education strategy – *but not the only one?*

… Something else?