Achieving Sustainability In Education: what will it take?

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The Commonwealth

56 developed and developing nations around the world


Asia: Bangladesh, Brunei Darussalam, India, Malaysia, Maldives, Pakistan, Singapore, Sri Lanka

Caribbean & Americas: Antigua and Barbuda, The Bahamas, Barbados, Belize, Canada, Dominica, Grenada, Guyana, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and The Grenadines, Trinidad and Tobago

Europe: Cyprus, Malta, United Kingdom

Pacific: Australia, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

Updated: December 2022
To help Commonwealth governments and institutions use technologies to improve and expand access to education and training
Plan

- Context
- Sustainability in Education
- Models and Approaches
- Way Forward
Age of Disruptions

COVID-19 PANDEMIC

TECHNOLOGY

CLIMATE CHANGE
Learning Loss during Covid-19

- Learning loss of about three percentile points
- Learners from less educated home 55% more prone to learning loss

Source: https://osf.io/preprints/socarxiv/ve4z7/
AI Revolution

• New essays, short articles, Tweets etc
• Language translation
• Text summarisation
• Image generation from Text
• Microlearning courses from text
Record-breaking rainfall in **Pakistan**, turning roads into rivers leaving 35% of pop. without electricity and water.


**Hurricane Dorian** devastated schools on Grand Bahama and Abacos Islands in **The Bahamas**

80 per cent of **Tonga** population impacted by **eruption** and **tsunami**


**Volcanic eruption** leaves ‘entire population’ of **Saint Vincent** without clean water

Are we prepared?

- Population over 8 billion
- Life expectancy: half the people born after 1997 could live up to 100
- By 2025, 85 million jobs may be displaced but 97 million more jobs may emerge
- Skills for the green and blue economies

Sustainability in Education

• What is the relationship between sustainability and education?
• How can we make education sustainable?
• How can education lead to sustainable development?
Sustainability in Education
Sustainable development

'Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future.'

-Brundtland Commission Report, 1987

Source: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf
GOAL 4

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

SUSTAINABLE DEVELOPMENT GOALS
More at sustainabledevelopment.un.org/sdgsproposal
4.3: ensure equal access to affordable and quality tertiary education

4.7: integrate key sustainability concepts across the curriculum
Sustainability: Environmental Conservation

- Greening the Curriculum to integrate ESD
- Greening campus and site operations
- Using distance and online learning

Sally Caird & Robin Roy
Greening the Curriculum

• Environmental Literacy: SFU

• Aligning with SDGs: University of Pretoria: trans-disciplinary approach to curriculum
Greening the Campus

Australian National University
• Environmental Management Plan 2021—decrease carbon emissions by 30%; increase renewable energy generation by 50%; increase sustainable commuting to 80%

Groningen University
• 2015-2020 Roadmap to become carbon neutral through energy efficiency; renewable energy; water conservation
Research on Emissions and ODL

- 3x less carbon emissions
- Travel – greatest contributor
- Mode of delivery - determinant

Terms

• **Sustainability Education**: interdisciplinary, creates a space for values and goals of sustainability

• **Education for Sustainable Development**: holistic and transformational lifelong learning process

• **Education for Sustainability**: includes both process and vision of sustainability

• **Sustainable education**: realise human potential in relation to economic, social and ecological wellbeing

  Dr Eila Jeronen, ‘Sustainable Education’ Finland
learning for sustainable development
Economic growth: Skilling and re-skilling

• COL’s partnership with Coursera facilitated free access to over 5,000 courses

• COL admitted close to 150,000 citizens of the Commonwealth to gain skills to regain employment, with more than 42,000 of them graduating
Social Inclusion: Reaching the Bottom Billion

- Use technologies that are appropriate and affordable
- Content designed for delivery in low bandwidth situations
- Open Content in local languages ie. OER
- Social media integration
Environmental Conservation

• Green Teacher
• Business for Sustainable Development
• Training Climate champions
Models and Approaches
Education for Sustainable Development (2005-2014)

- Increased **visibility** in national policies and international agreements

- Ethos and values of ESD gaining acceptance, but **not fully integrated** into the education systems in most countries
'Whole-School Sustainability'

Source: https://www.greenschoolsalliance.org/about
Linking activities to the environment and community

- *Fureai* Lunches (*Fureai* means "interaction" in Japanese)
- ‘These enable school children to communicate directly with farmers over school lunch.’

Source: https://www.independent.co.uk/life-style/japan-school-lunch-program-children-food-model-countries-world-a8275616.html
Outdoor Education

To better support students’ understanding of their local environment and empowering thoughtful action, through learning that is outdoor, experiential, place-based and place-conscious.

- The Kootenay-Boundary Environmental Education Initiative (KBEE) British Columbia

Source: http://kbee.ca/
E-Apprenticeship Model

The majority of learning takes place in the learner's own community using technology

Barefoot wireless engineer training in India
Focus on Green Skills

• Renewable energy
• Air pollution control
• Sewage and waste management
• Environmental control system
• Financial skills to quantify environmental impact
• Policy and leadership skills for green economy

Community-based learning instills a sense of interdependence and responsibility which is crucial to behavioral change for environmental conservation.
Understanding the Blue Economy
Open Universities

• UPOU: Doctoral programme in Sustainability
• OUSL: Centre for Environmental Studies and Sustainable Development
• OU, UK: Sustainability Hub
• AIOU: 485\textsuperscript{th} among 956 universities on THE Impact Rankings
What have we learnt?

- Sustainability needs to move from margins to centre
- Dedicated resources, incentives, awards work
- Partnerships and platforms
- Leadership at both management, student and community levels
Towards Sustainability in Education
Bill Gates: How to Avoid A Climate Disaster, 2021

- 5 big emitters of greenhouse gases
- Construction: Cement, steel plastic: 31%
- Electricity: 27%
- Farming: plants and animals. 19%
- Travel and transport: 16%
- Airconditioning: 7%
Education: Impact on Climate

**DIRECT**

- Emissions from construction of schools/infrastructure
- Emissions from energy use in schools
- Learner emissions

**INDIRECT**

- Emissions from ‘development’ and economic growth associated with higher levels of education in a country
Views of the High-Level Panel

• Urgent action required
• Need for behavioural change for climate action
• Engage and empower youth
• Promote disaster response and recovery through education and lifelong learning
• Promote collaboration esp with the private sector
Recommendations

• Resilient infrastructure
• Skills for the blue and green economies
• Promote climate justice
Green learning agenda

Skills for green jobs
Skills aimed at fulfilling the requirements of green jobs and supporting the transition to a low-carbon green economy

Green life skills
Cross-cutting skills that serve both technical, instrumental, and adaptive, transformative ends

Skills for a green transformation
Adaptive skills aimed at transforming unjust social and economic structures
Climate Justice: addressing inequalities

• Countries with harmful gender norms, gender discriminatory education policies are also countries with low levels of climate resilience and high levels of vulnerability to climate disasters.

• Women and girls more vulnerable to disasters

• Girls typically excluded from technical fields and STEM required by the green economy
Transformative pedagogy

**Typical Approach:**
- Skills / Competencies
- Employability and Entrepreneurship
- Achievement

**Transformative Approach:**
- Empowerment for Change
- Environmental Conservation and Global Citizenship
- Accomplishment
Real, World-Improving Projects

"Projects that produce actual...changes in our kids' local and global communities"
- Marc Prensky

Evolution of sustainability education

• Environmental education
• Campus greening movement
• Transformative and emancipatory pedagogies
• Contemplative education

Contemplative pedagogy

- ‘Ways of knowing that complements the rational and the sensory’ (Hart, 2004)
- Pedagogical practices that cultivate the values of personal growth, creativity, empathy and caring for others
- Mindfulness and meditation improve concentration, autonomy and interconnected yet liberated learners

Papenfuss, 2019
The Role of Technology

- Scale
- Access
- Collaboration
- Reduce emissions
Digital divide

Internet usage / ownership of mobile phones
Globally: 60%  |  Africa: 40%

Men: 69%  |  Women: 63%
• 259 million more men than women were using the internet last year.
• Women are 12% less likely to own a mobile phone than men.

Technology: the future is blended

• Appropriate technologies to create *blended learning* opportunities
• **Multiple pathways** to acquire qualifications
• Using technology to *personalise learning*
Technology must be placed in an appropriate social, cultural and political context.
ESD for 2030

• Policy
• Transforming learning environments
• Capacity development of educators
• Youth empowerment
• Local level action

UNESCO World Conference on ESD, 2021
Reduction of carbon emissions
Raising awareness on sustainability
Reskilling people for a greener future
Resilience for the education sector
Sustainability in Education means

- Providing affordable and accessible quality education for all
- Promoting research and knowledge creation for the sustainable development of societies
- Modelling sustainable behaviours for the people and the planet
Thank you