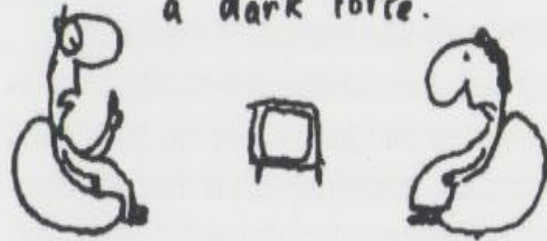https://www.eumetsat.int/real-time-imagery/earth-view

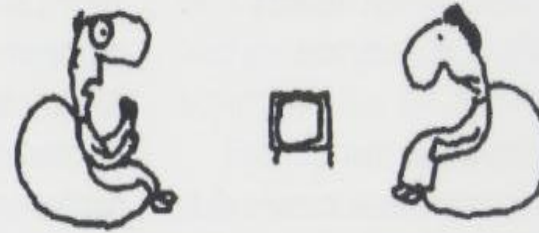# *Educating for the future we want: sustainability and transformation in critical times*

Dr Stephen Sterling
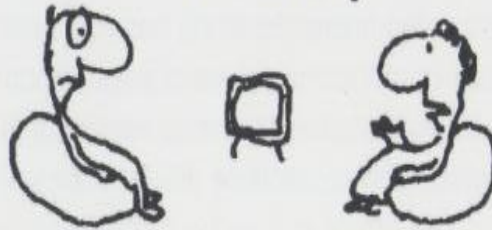*Professor Emeritus of Sustainability Education*

March 24th 2025

https://www.leunig.com.au/works/cartoons

Prof Stephen Sterling University of Plymouth

Educating for the future we want

1 **Context and challenge** – where are we now?

2 **Critique** – what's satisfactory/unsatisfactory in education?

3 **Vision** – what shifts are required?

4 **Design** (going forward) – how do we enact change?

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Then...

...52 years ago...

A Friends of the Earth/Ballentine Book

$1.25

A HANDBOOK FOR ENVIRONMENTAL EDUCATION

TEACHING FOR SURVIVAL

MARK TERRY
Foreword by Garrett Hardin

Barbara Ward and René Dubos

Only One Earth

The care and maintenance of a small planet

THE LIMITS TO growth

Donella H. Meadows
Dennis L. Meadows
Jørgen Randers
William W. Behrens III

A Report for THE CLUB
Predicament of Mankind

A POTOMAC ASS

STOCKHOLM CONFERENCE ECO

JOINTLY PRODUCED BY THE ECOLOGIST AND FRIENDS OF THE EARTH

16th JUNE 1972

THANK YOU SWEDEN

OUT OF STOCKHOLM, A NEW INITIATIVE

World Ecological Areas Programme Launched

STOCKHOLMS- EKO KONFERENSENS
ЭХО СТОКГОЛЬМСКОЙ КОНФЕРЕНЦИИ
ECO DE LA CONFERENCE DE STOCKHOLM
ECO DE LA CONFERENCIA DE ESTOCOLMO
斯德哥尔摩会议回音

A sustainable society...

"is one that can persist over generations, one that is far- seeing enough, flexible enough, and wise enough not to undermine either its physical or social systems of support".

- Meadows, D.H., D.L. Meadows, and J. Randers. 1992. *Beyond the Limits - Global Collapse or a Sustainable Future*. London: Earthscan.
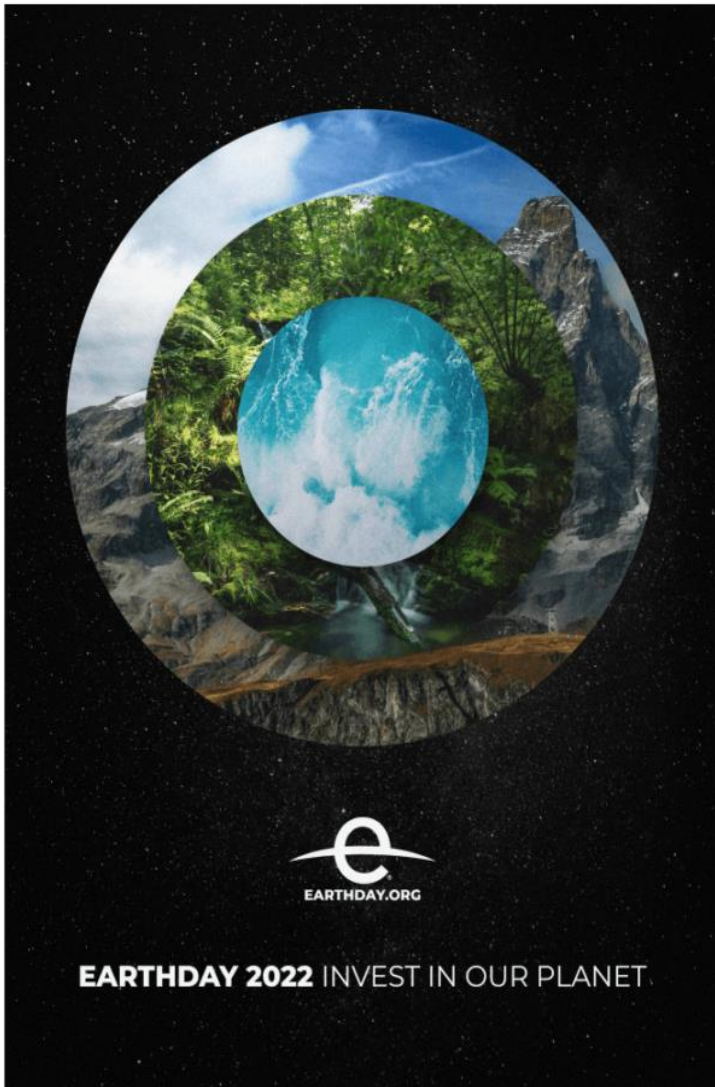
'*A triple crisis* – *climate change, biodiversity loss, and pollution – is threatening the lives of millions of people worldwide. There is still hope, but we need to do much more and much faster'*.

- UN Secretary-General António Guterres, Earth Day, April 22nd, 2022

Such issues:

❑ are 'wicked problems'

❑ are systemically interrelated

❑ present an existential threat to life and society

Living in a world of systemic 'polycrisis'

(Further recommended reading: *Polycrisis - Cascade Institute*)

Prof Stephen Sterling University of Plymouth

Global Risks Report 2025

Global risks landscape: an interconnections map

WORLD ECONOMIC FORUM
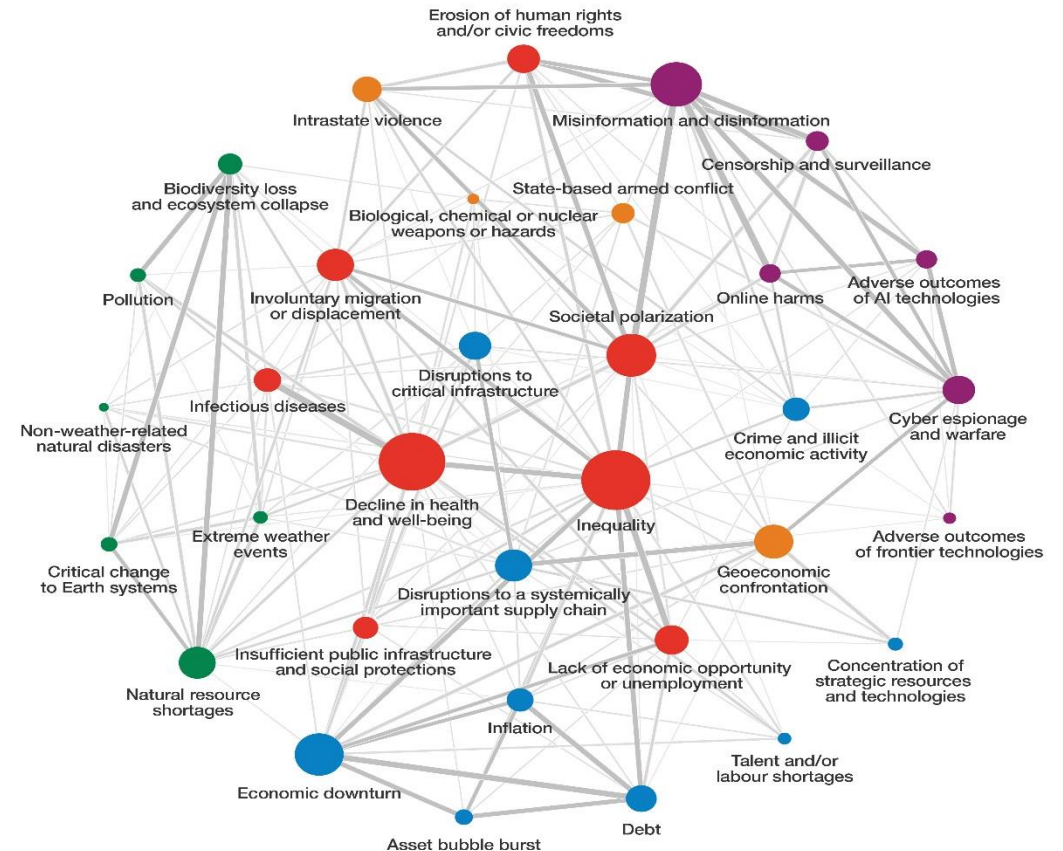
Relative influence, Edges — High — Medium — Low

Risk influence, Nodes ◯ High ◯ Medium ○ Low

Risk categories ● Economic ● Environmental ● Geopolitical ● Societal ● Technological

Source: World Economic Forum, Global Risks Perception Survey 2024-2025

Global risks

https://www.weforum.org/publications/series/global-risks-report/

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THE MOST IMPACTFUL GLOBAL
Short-Term & Long-Term Risks

The World Economic Forum surveyed over **900 experts** on the most pressing global risks looking ahead.

SHORT TERM 2 YEARS

LONG TERM 10 YEARS

Legend:
- Technological
- Environmental
- Geopolitical
- Societal

Short Term:
1. Misinformation & Disinformation
2. Extreme Weather Events
3. State-based Armed Conflict
4. Societal Polarization
5. Cyber Espionage and Warfare
6. Pollution
7. Inequality
8. Involuntary Migration or Displacement
9. Geoeconomic Confrontation
10. Erosion of Human Rights and/or Civic Freedoms

Long Term:
1. Extreme Weather Events
2. Biodiversity Loss and Ecosystem Collapse
3. Critical Change to Earth Systems
4. Natural Resource Shortages
5. Misinformation and Disinformation
6. Adverse Outcomes of AI Technologies
7. Inequality
8. Societal Polarization
9. Cyber Espionage and Warfare
10. Pollution

Source: World Economic Forum Global Risks Report 2025

Major reports on Earth futures

'How do we achieve a flourishing future for a projected 9 to 11 billion people as an integral part of a life-sustaining Earth system?' – Global Systems Institute, U of Exeter

Prof Stephen Sterling University of Plymouth

Summit of the Future
the Future
Our Common Agenda

22-23 September 2024
Summit of the Future
Multilateral Solutions for a Better Tomorrow

"The choices we make, or fail to make, today could result in breakdown or a breakthrough to a greener, better, safer future. The choice is ours to make.

ANTÓNIO GUTERRES, *United Nations Secretary-General*

Which future?

OR

Prof Stephen Sterling University of Plymouth
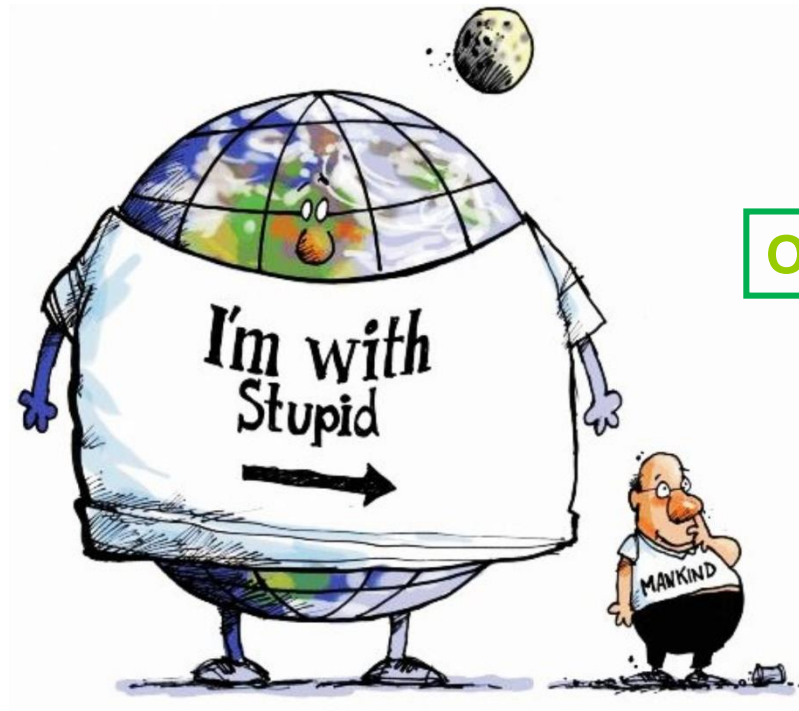
A social learning revolution

- intentioned **un-learning** of habits and ideas that got us to the point of systemic crisis

- a **re-learning** and reclaiming of approaches that are more sustainable and life-affirming, and

- **new learning** that has the potential to sustain human and natural systems wellbeing into the future

- *'What kinds of learning do we need to foster, rather than undermine, planetary health and community resilience?*

- *What is at stake when we don't accept responsibility for ensuring that our education systems and lives benefit both the planet and all our tomorrows?*

  - Quoted from on-line conference publicity

    https://www.monash.edu/education/events/public/learning-to-accept-responsibility-the-priority-for-education-in-and-out-of-times-of-crisis

RESPONSIBILITY
RESPONSE/ABILITY

YOUR ABILITY
TO RESPOND
THE RIGHT WAY

@WHITEBOARD_DAILY

...or maybe the ability to respond at all!

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A higher calling

'Universities are serving a failing system in need of reinvention and are losing the capacity to engage in critical reflection and advance ways of thinking and acting that go beyond their immediate mandates.

In an increasingly individualistic and consumerist society, social responsibility gets lost in the noise of markets, financial metrics, rankings, and competition.'

-*A Higher Calling for Higher Education*,

Cristina Escrigas, 2016, Tellus Institute

https://tellus.org/tellus/publication/the-university-of-tomorrow

Educating for the future we want

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Students and sustainability

Study Choices

A 2022 survey of over 3,000 prospective international students emphasises that the majority see sustainability as an 'all encompassing movement' necessitating a whole-institution response, and see it as a strong driver for recruitment.

Sustainability Skills Survey

'Since 2010, our annual research has found that around 80 per cent of students want their institutions to be doing more on sustainability, and around 60 per cent want to learn more about it.'
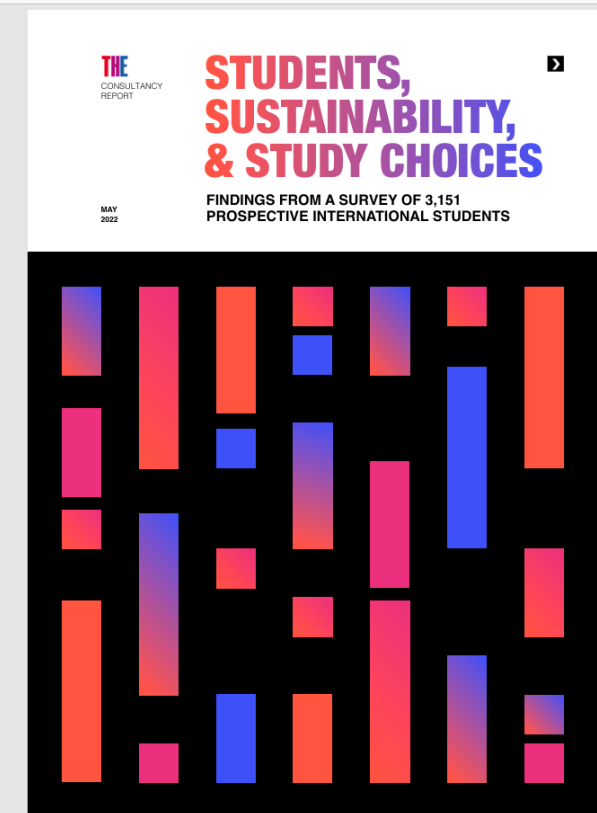
Key question

How should–and how can–education and learning be re-thought and re-configured...

...to make a <u>significant</u> and <u>central</u> contribution to achieving a more sustainable and just world?

Same issue – *but viewed from a deeper level*

What is the nature of the change of consciousness that appears necessary to achieving a safe, more ecologically sustainable and liveable society – which can both survive and thrive?

What changes may be required in the way we view and practise education and learning if they are to contribute fundamentally to such a change of consciousness?

UNESCO and education for transformation

EDUCATION HAS THE POTENTIAL TO TRANSFORM THE PLANET, BUT FIRST WE MUST TRANSFORM OUR EDUCATION SYSTEMS

bit.ly/sdg4all   #SDG4ALL

UNESCO (2016) *Education for People and Planet: Creating sustainable futures for all*

'We must change the way we think and act as individuals and societies. So, in turn, education must change to create a peaceful and sustainable world for the survival and prosperity of current and future generations.'

'We are increasingly asking if what people learn is truly relevant to their lives, if what they learn helps to ensure the survival of our planet'.

– Stefania Giannini, Assistant Director-General for Education, UNESCO, 2020

Education for Sustainable Development — A Roadmap

#ESDfor2030

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International Commission on the Futures of Education

REPORT FROM THE INTERNATIONAL COMMISSION ON THE FUTURES OF EDUCATION

'A global initiative to reimagine how knowledge and learning can shape the future of humanity and the planet'.

'...to shape peaceful, just and sustainable futures, education must itself be transformed'. (p.6).

'...education systems often reproduce and perpetuate the very conditions that threaten our shared futures....limiting education's potential to be truly transformative' (p.11)

ICFE, (2021) *Reimagining our futures together: A new social contract for education,* International Commission on the Futures of Education, November 2021, UNESCO
file:///F:/UNESCO%202022/Futures%20of%20ed%20rep%20summary%20Nov21.pdf

Prof Stephen Sterling University of Plymouth

Prof Stephen Sterling University of Plymouth

'We face an existential choice between continuing on an unsustainable path or radically changing course....
Education is crucial to this change of course....Yet education itself must be transformed.'

- UNESCO (2024), Concept Note, 'Renewing Education to Transform the Future', UNESCO.

  https://www.unesco.org/sites/default/files/medias/fichiers/2024/07/ROK%20Forum%20-Concept%20Note_8July24.pdf

Prof Stephen Sterling University of Plymouth

Educating for the future we want

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Worldviews and futures….. Mechanistic/reductionist?

Or **Ecological/systemic** (relational)? See for example…
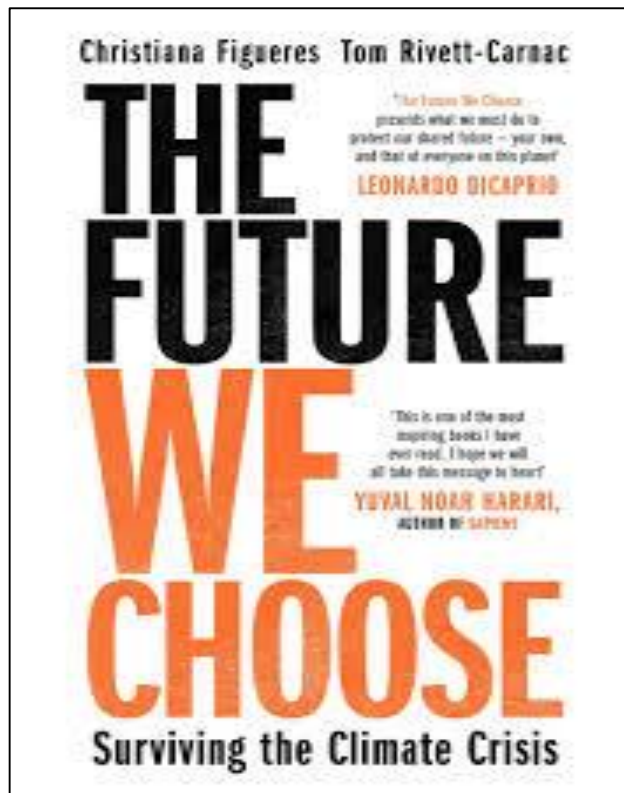
"The World we Must Create"
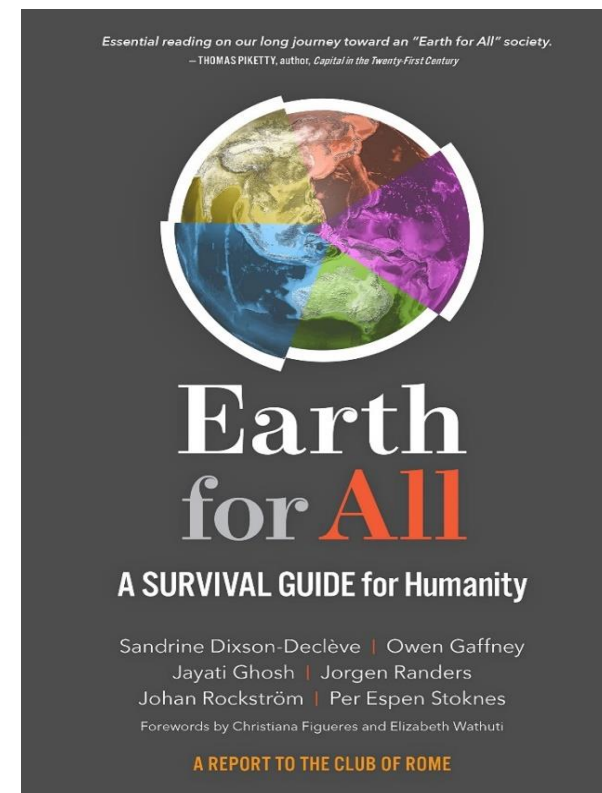
"The Great Leap"

Learning to change our view of the world...

'how can we consciously change the way we think -
while we still think that way?'

https://www.clubofrome.org/publication/learning-new-ways-of-becoming-human/

Mechanistic/analytical ⟷ Ecological/holistic

Analytical orientation

- Values historical data and analysis
- Identifies problems and solutions
- Assumes cause, effect and linear relationships
- Reduces phenomena down to individual issues
- Seeks to restore or improve on the status quo
- Depends on frameworks, models and tools
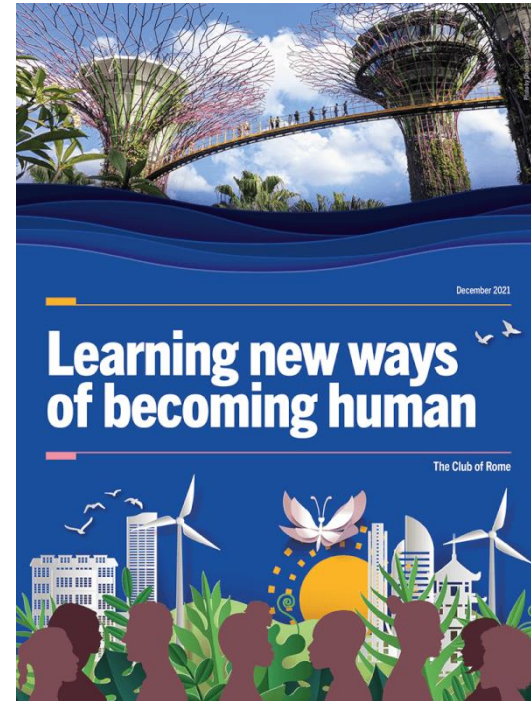- Seeks certainty and stability

Ecological orientation

- Looks for patterns and interdependencies
- Assumes complex, non-linear relationships
- Focus is on description rather than explanation
- Values curiosity, insight and intuition
- Works creatively with paradox, uncertainty and contradiction
- Extends peripheral vision beyond traditional boundaries

After Day, A and Power, K, 'Developing leaders for a world of uncertainty, complexity and ambiguity', *The Ashridge Journal* Winter 2009-10

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Organisational and socio-ecological complexity...

'...entails some fundamental changes in what we think and how we think, in what we teach and how we teach, and ultimately in the ways we organise ourselves'.

David Hancock   https://medium.com/undaunted-leaders/continuing-to-attempt-to-tame-a-world-increasingly-filled-with-messes-and-wicked-problems-makes-e639816fcd2b

DYNAMIC COMPLEXITY

	LOW	HIGH
BEHAVIOURAL COMPLEXITY HIGH	Wicked problems	Wicked messes
LOW	Tame problems	Messes
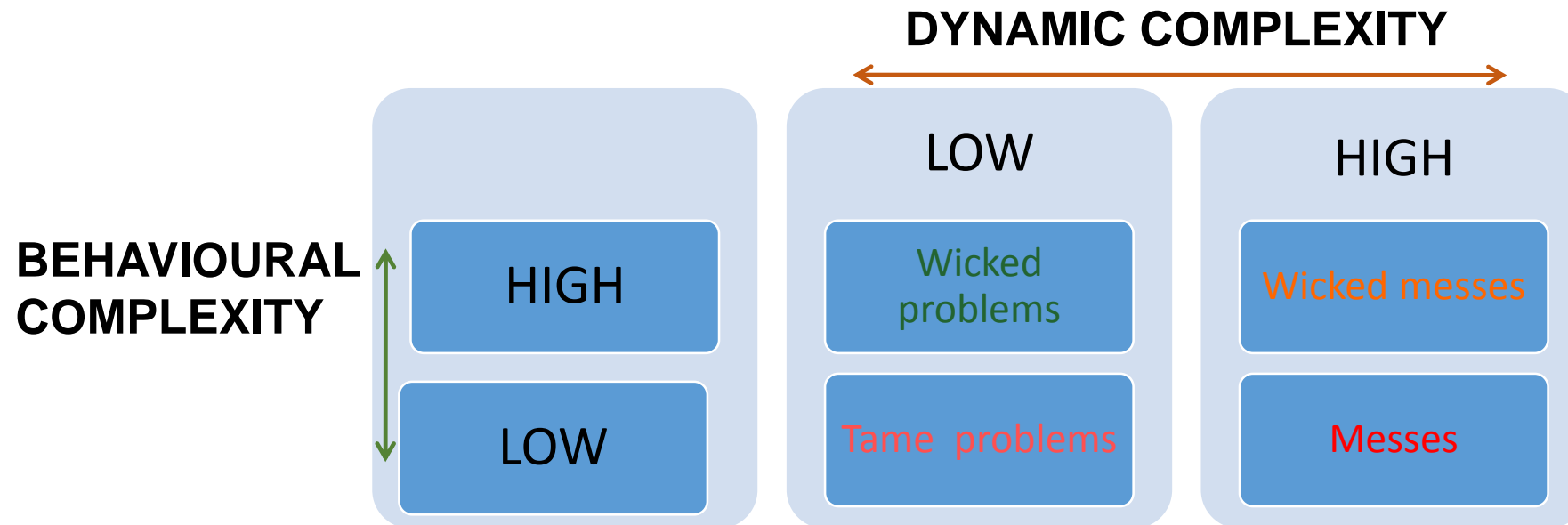
Source: Hancock, David *RMA Journal* July/August 2004

Professor Stephen Sterling

Education for complexity

We should:
'create learning that enhances critical thinking, the understanding of the self, the systems and environments in which we live, and the situations we experience...'
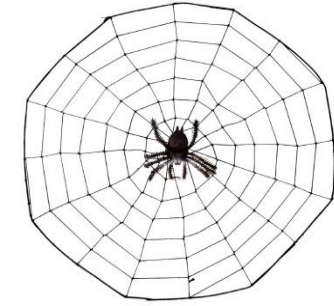
We need to:
'..understand and manage complexity, cope with ambiguity and uncertainty, and grasp the connectedness and interdependence of the systems of which we are a part.'

- Bela Banathy, *Systems Design of Education*, 1991.
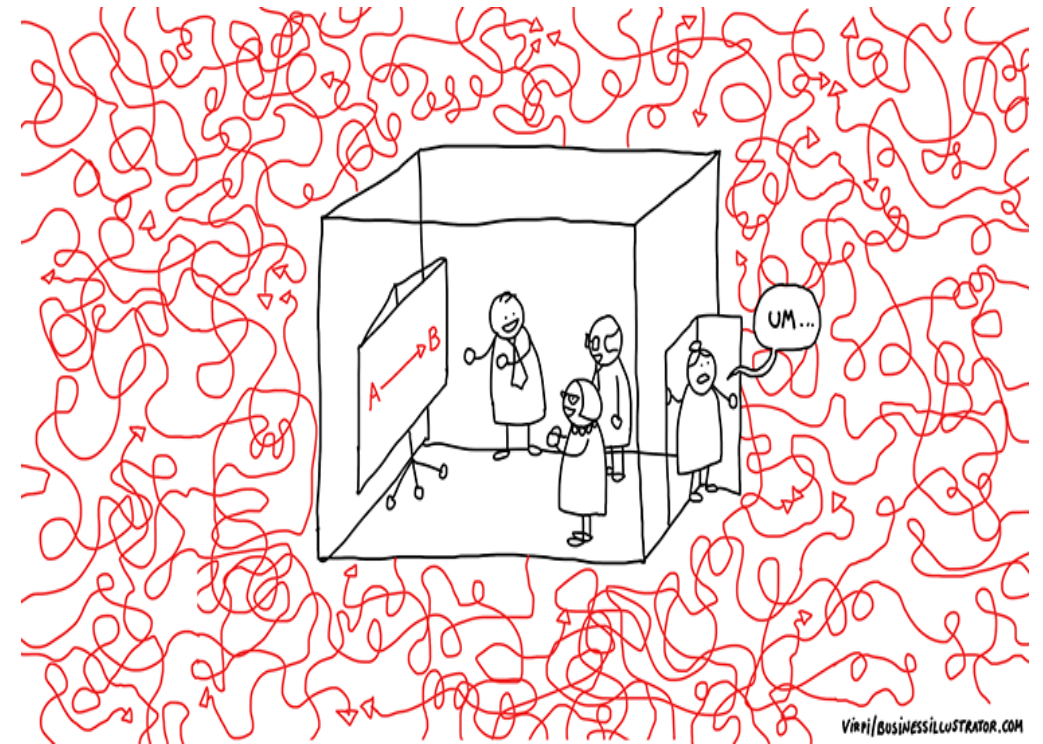
Two ways of thinking…

- **Problem-solving**
- **Analysis**
- **Reductive**
- **Closed cause-effect**
- **Atomistic/segregative**
- **Narrow or closed boundaries**
- **Objectivism**
- **Dualism**
- **Rationalism**
- **Determinism**
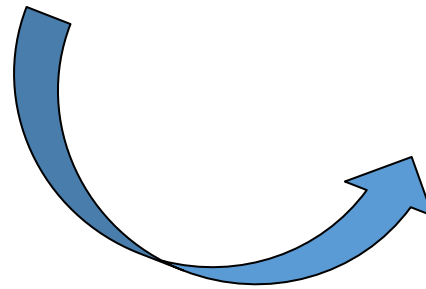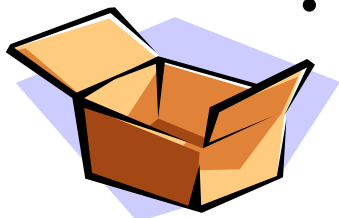
"A shift of attention"

- **Appreciation / reframing /betterment**
- **Synthesis**
- **Holistic**
- **Multiple influences through time and space**
- **Integrative**
- **Extension of boundaries**
- **Critical subjectivity**
- **Pluralism / duality**
- **Rational and non-rational ways of knowing**
- **Uncertainty, tolerance of ambiguity**

Professor Stephen Sterling

Effects on educational outlook

FROM.....

TOWARDS....

- ***<u>Mechanistic</u>*** **view of education**

- **Reductionist view of knowledge**

- **Deficit view of learner**

- **Transmissive model of pedagogy**

- ***<u>Ecological</u>* (relational) view of education**

- **Holistic view of knowledge**

- **Appreciative view of learner**

- **Transactional or transformative view of pedagogy**

Levels of knowing

Actions

Ideas/theories

Norms/assumptions

Beliefs/values

Paradigm/worldview

Sterling, 2011

Professor Stephen Sterling University of Plymouth
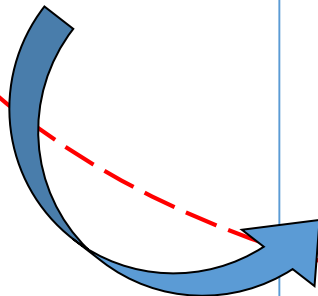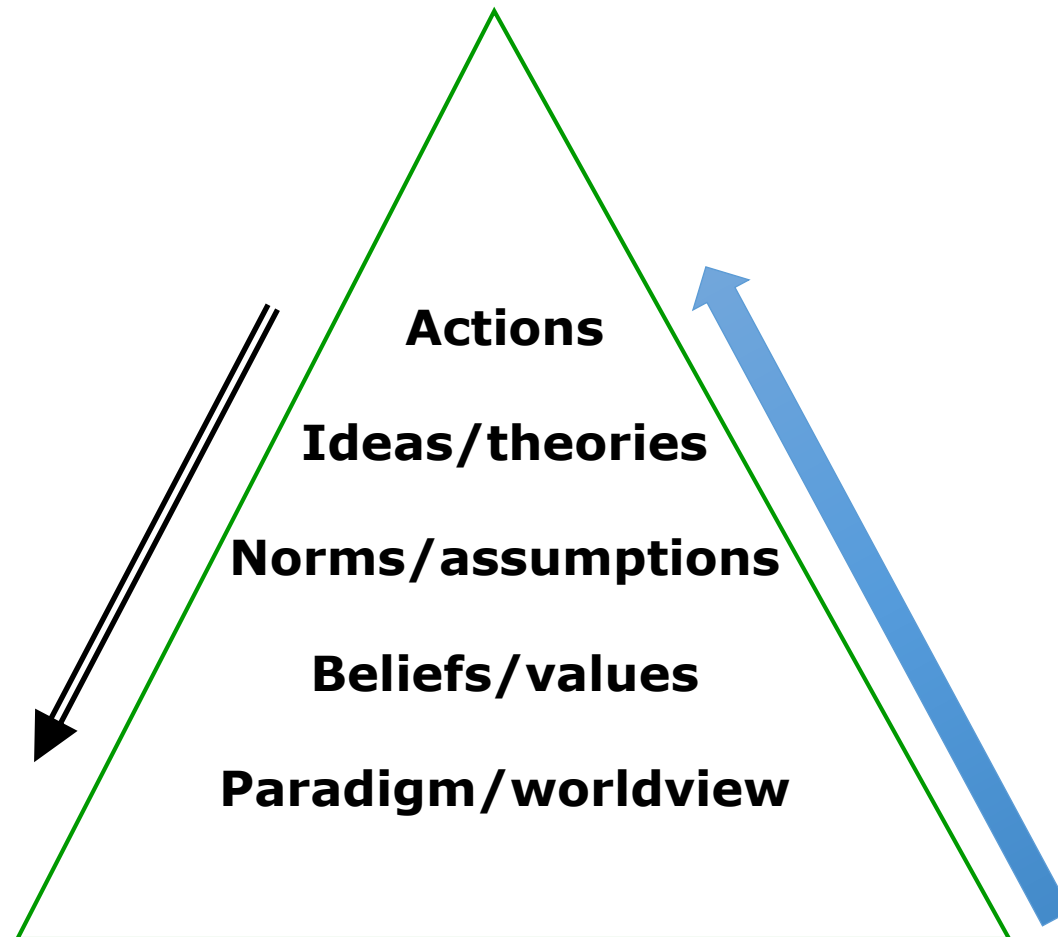
Organisational and educational culture:
levels of manifestation

Sterling 2013

Practice

Provision

Policy

Purpose

Paradigm
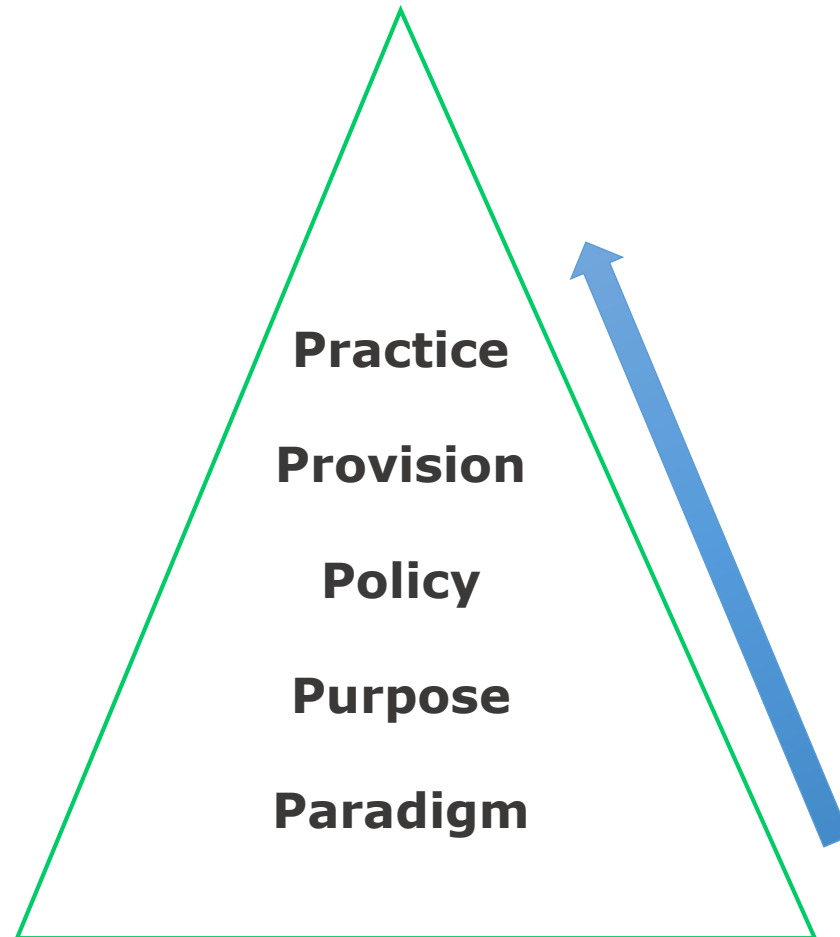
UNSUPPORTIVE FOUNDATIONS?
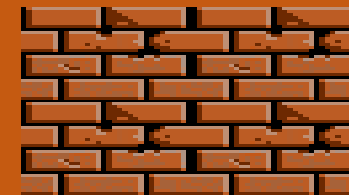
What is education _for_?

1. Socialisation Function —to replicate society and culture

2. Vocational Function —to prepare people for employment

3. Liberal Humanist Function —to develop the potential of individuals

4. Transformative Function —to facilitate change towards a better and liveable world (_socio-ecological wellbeing for all_)

S. Sterling (2002): 25

Prof Stephen Sterling University of Plymouth

The purpose of education...

- as **was** (past)

- as **is** (present)

- as ***should* be** (ideal)

- as **could be!** (practicable)

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Shifts with regard to curriculum and pedagogy

FROM:

- Curriculum as top-down 'product'
- Fixed knowledge
- Disciplinarity
- Abstract knowledge
- Teaching/instruction
- Few learning styles
- Passive learning

TOWARDS:

- Curriculum as experience/situated learning
- Provisional and contingent knowledge
- Inter- and transdisciplinarity
- Real world knowledge
- Participative learning
- Multiple learning styles
- Reflective/active learning

GreenComp consists of 12 competences organised into four areas

Embodying sustainability values

including the competences:

- valuing sustainability
- supporting fairness
- promoting nature

Embracing complexity in sustainability

including the competences:

- systems thinking
- critical thinking
- problem framing

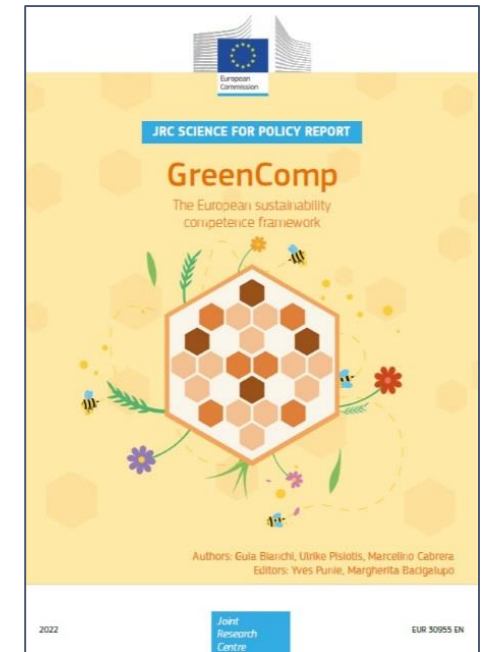## Envisioning sustainable futures

including the competences:

- futures literacy
- adaptability
- exploratory thinking

Acting for sustainability

including the competences:

- political agency
- collective action
- individual initiative

https://publications.jrc.ec.europa.eu/repository/handle/JRC128040

QUESTIONS: Opening up space for critical and systemic thinking

- *Holistic:* what is the larger context here (environmental, economic, social and political); how does this relate to pressing issues,

- *Critical:* why are things this way, in whose interests; where is this perspective coming from;

- *Appreciative:* what's good, and what already works well here;

- *Inclusive:* who/what is being heard, listened to and engaged –or should be;

- *Systemic:* what are or might be the consequences of this; where is this perspective leading to;

- *Creative:* how could this issue be thought otherwise; what innovation and new ways of doing things might be required;

- *Ethical:* what is wise action here, for us, for me; how can we work towards the inclusive wellbeing of all;

- *Power:* who decides what is right thing to be done; who or what benefits from this decision and who/what doesn't....etc

(Sterling 2009)

The 'Hawkesbury Spiral'

A nested hierarchy of systems inquiry

After Bawden, R (1985)

Re-thinking boundaries...

DEGREE OF INTEGRATION →			
DISCIPLINARY	**MULTIDISCIPLINARY**	**INTERDISCIPLINARY**	**TRANSDISCIPLINARY**
Specializing	Juxtaposing	Interacting	Transcending
Concentrating	Sequencing	Linking	Overarching
Analyzing	Coordinating	Blending	Transforming
Segmenting		Integrating	Transgressing
		Synthesizing	
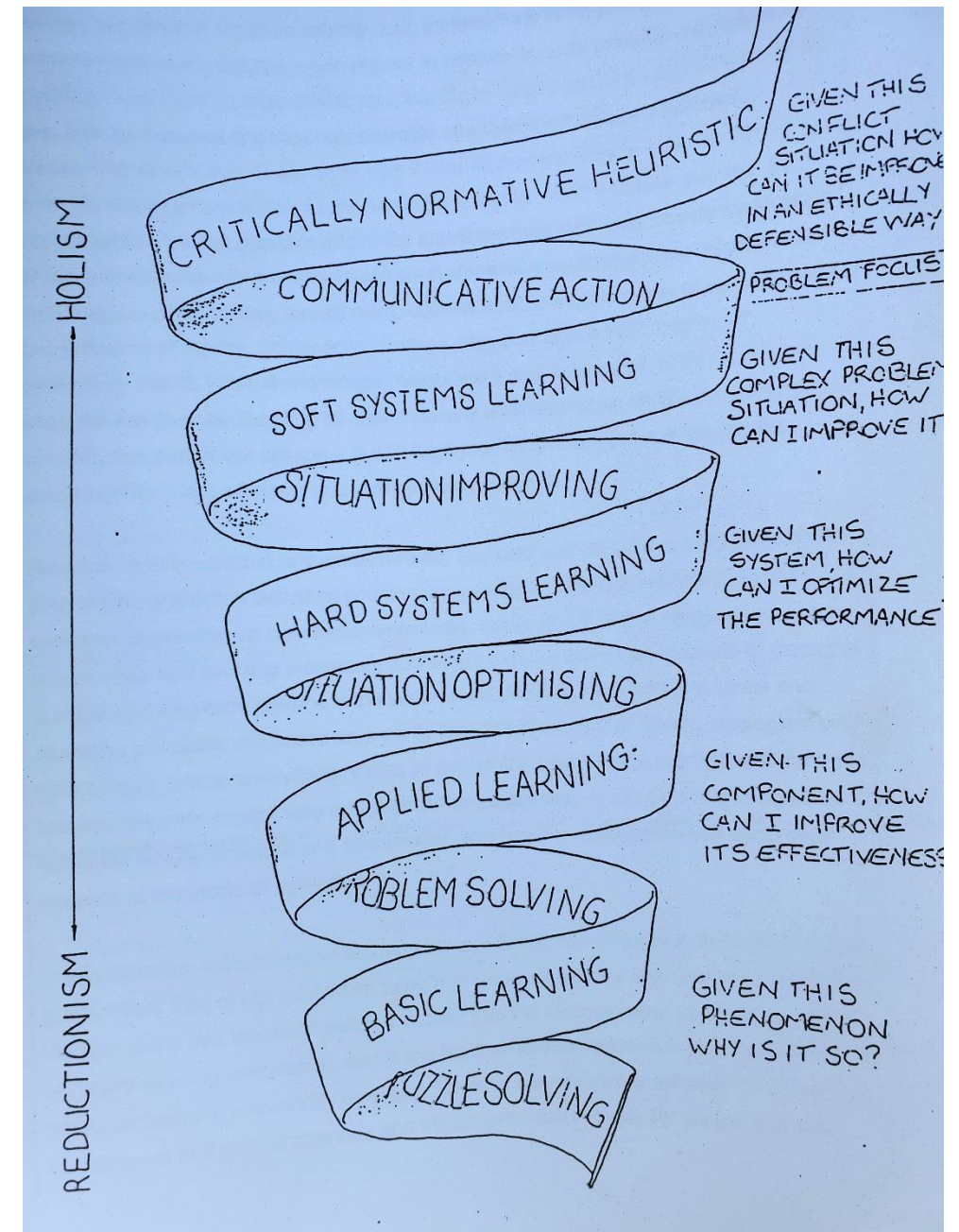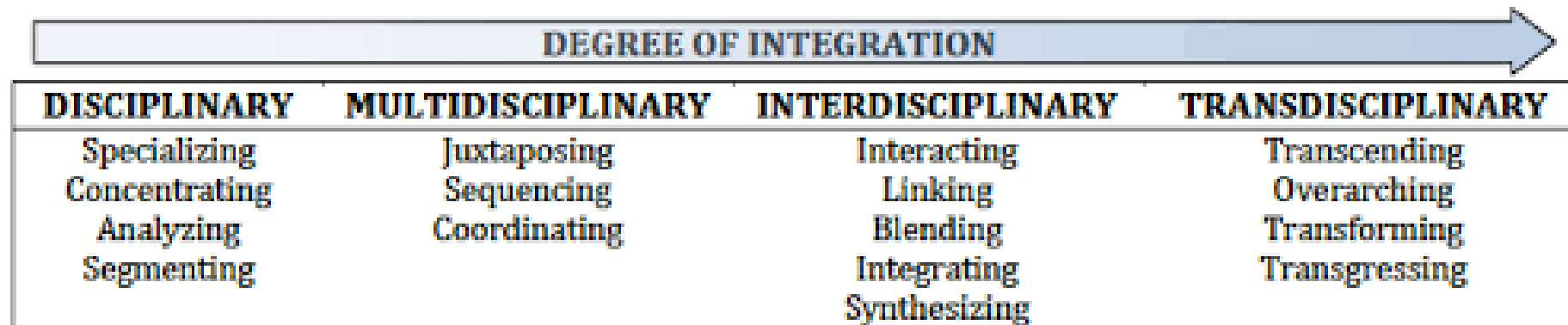
Levels of integration...
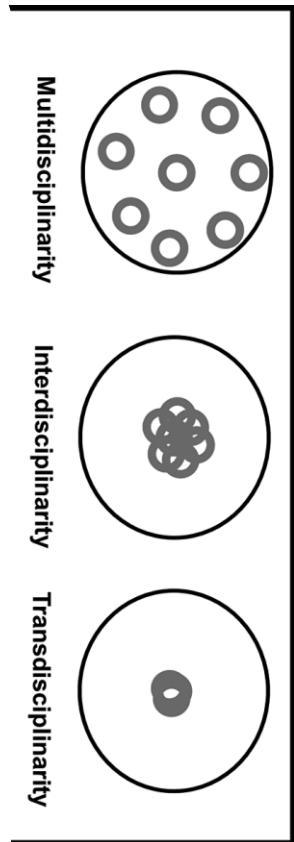
- **Multidisciplinarity** - least integrated form of interdisciplinarity, whereby disciplines might work together cooperatively but without sharing ideas, assumptions and methodologies and without being influenced by the other.'It is essentially *additive*, not *integrative*' (Klein 990, 56).

- **Interdisciplinarity** - normally understood to indicate disciplines working collaboratively, sharing their insights and methods in an attempt go beyond their own boundaries to address whatever issue or question that concerns them.

- **Trandisciplinarity** - sometimes seen as no more than a form of interdisciplinarity, but often is a term used to convey a deeper level of integration where disciplinary boundaries fall away in the attempt to present a unified approach to a problem or issue that defies any single discipline approach

https://www.facetsjournal.com/doi/
10.1139/facets-2019-0044

After Klein, J.T. (1990) Interdisciplinarity: History, Theory and Practice, Wayne State University Press, Detroit, MI

Prof Stephen Sterling University of Plymouth

Interdisciplinarity...

X Common barriers

- Staff limited conception of 'interdisciplinarity' (muddled with 'multidisciplinarity')
- Staff resistance – 'protection'/ownership of disciplines and their students; professional identity
- Financial and structural barriers, lack of resourcing
- Lack of understanding of rationale by students
- Insufficient support and understanding by senior managers
- Timetabling and logistics

✓ Success factors

- Time, energy, and commitment from sufficient staffs
- Resource support
- Supportive synergies in policy e.g. Sustainability Strategy, and T&L Strategy
- Understanding of theoretical underpinning
- Building understanding amongst staff and students
- Developing cross-institutional relationships
- Attention to curriculum and innovative pedagogy
- Demonstration of positives

Towards a transformational worldview…
(third order learning)

- **Seeing** (perception): An expanded ethical sensibility or consciousness
  *(**Values** dimension)*

- **Knowing** (conception): A critical understanding of pattern, consequence and connectivity (***Knowledge*** dimension)

- **Doing** (action): The ability to design and act relationally, integratively and wisely   (***Competencies*** dimension)

'Regenerative' education and learning…

- **Importance of context**
- **Learner centred**
- **Holistic approaches to knowledge**
- **Interdisciplinarity across most subjects**
- **Critical thinking and systemic thinking**
- **Value explicitness and ethical concerns**
- **Real world relevance**
- **Futures oriented**
- **Co-inquiry**

- **Participatory learning approaches**
- **Place based learning and experiential learning**
- **Reflexive learning**
- **Service learning**
- **Action research**
- **Local and global citizenship**
- **Collective and community learning -as well as individual**
- **Curriculum as lived experience rather than preparation for life**

…is relational

Resilient learners...

https://www.strategy-business.com/

- tolerate uncertainty
- are anticipative
- are persistent
- are informed
- learn from mistakes
- examine their own and collective assumptions
- think systemically and anticipate consequences
- are critically and ethically aware
- are resourceful, creative, innovative, adaptable
- open to new thinking and practice
- work cooperatively
- socially engaged and socially competent
- strive to model sustainable lifestyles

regenerative systems
- social, economic, ecological

https://www.pinterest.co.uk/pin/90212798771237924/
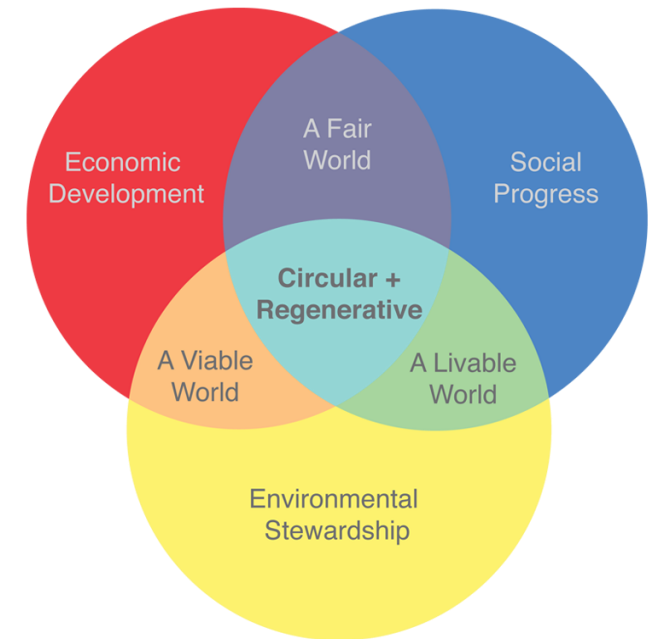
The Plymouth Compass

A framework of 'future-facing' attributes
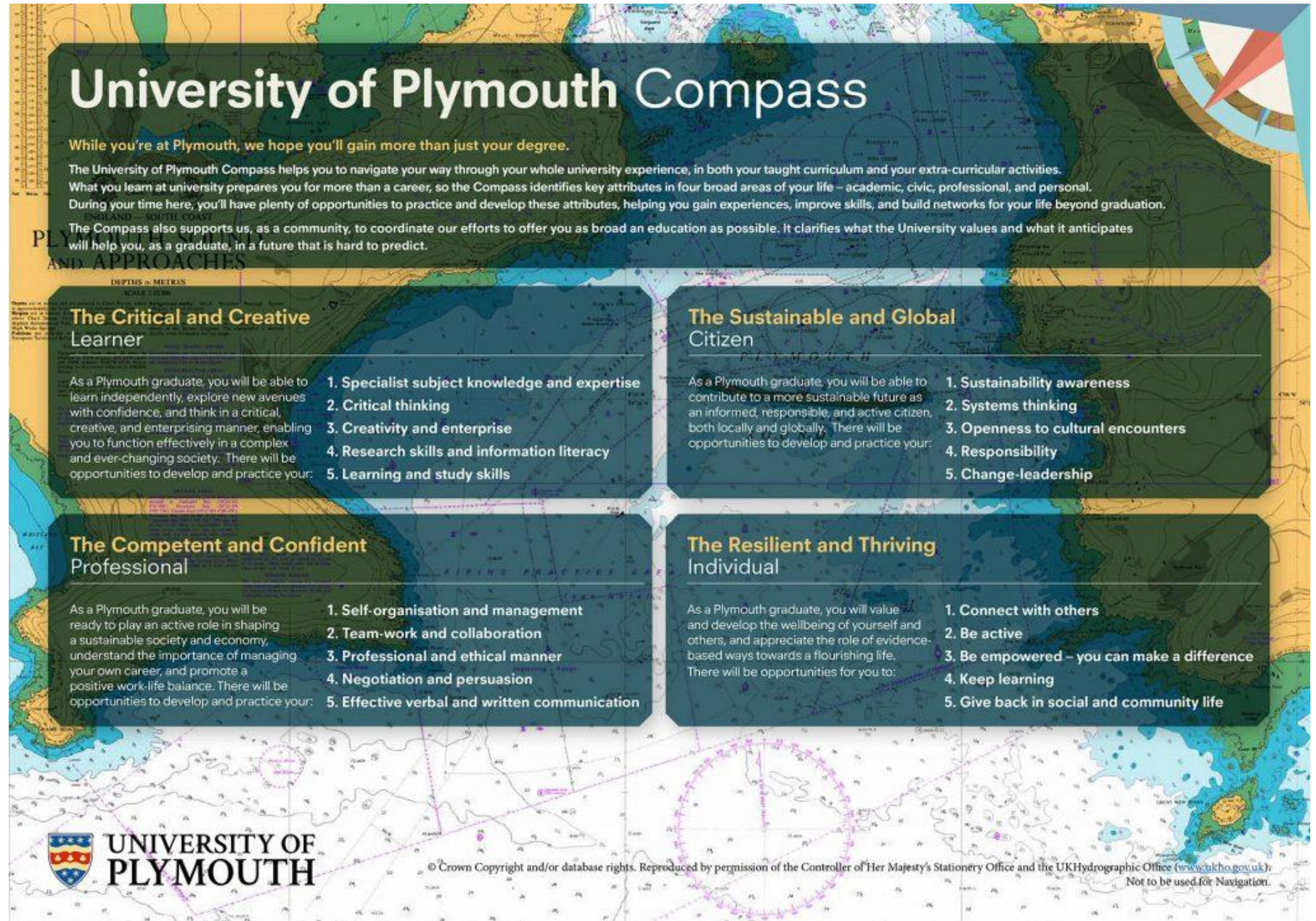
Prof Stephen Sterling University of Plymouth

Educating for the future we want

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Journeying towards institutional transformation

CONVENTIONAL RESPONSE

- Sustainability is principally seen as an environmental issue

- As a defined issue relating mainly to estates and resource use

- Requires an 'add-on', or reformative approach to curricula

- Involves a few key disciplines

- Is an additional agenda, easily accommodated

- Limited, largely transmissive pedagogy

- Does not really affect institutional purpose, policy and most practice

- Sustainability has deep relevance to all aspects of HE operation and provision

- Encompasses social and environmental justice, futures, ethics, socio-economic and ecological wellbeing and regeneration

- Requires holistic and transformative approach

- Implications for most disciplinary areas, requires interdisciplinarity and community engagement

- Experiential and participative pedagogy

- Is an overarching agenda and challenges existing purpose, policy and practice - involving systemic change and continuing organisational learning

- University becomes adaptive, dynamic, critically engaged and innovating institution

ACCOMMODATION

Learning journey

SYSTEMIC TRANSFORMATION

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Towards more sustainable institutions

FROM:

- Incoherence and fragmentation/silos
- Large scale
- Poor connectivity
- Closed community
- Teaching/research organisation
- Patchy on sustainability
- Economisitic ethos

Microcosm of unsustainable society

TOWARDS:

- Coherence
- Human scale
- High connectivity
- Open community
- Being a learning organisation first
- Sustainability and wellbeing are key guiding principles of ethos, policy & practice

Microcosm of more sustainable society?

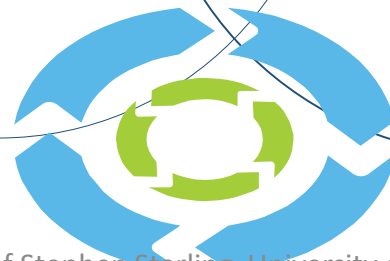Prof Stephen Sterling University of Plymouth

The double learning challenge

- *Structured learning:*

  - designed learning amongst students in formal education arising from educational policies and practices

- *Organisational learning*:

  - social learning response to sustainability in organisations, institutions and their actors

Barriers

Cited factors

- Crowded curriculum

- Perceived irrelevance or bias

- Limited staff awareness and/or expertise

- Limited institutional commitment

- Limited commitment from external stakeholders

- Too demanding
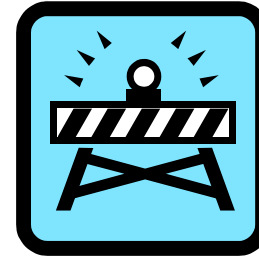
Types of barriers

- **Paradigmatic/psychological**

- **Policy/purpose related**

- **Structural (governance, compartmentalisation etc)**

- **Resource/information deficiency**

Degrees of 'response-ability' - and orders of learning

(1) no response (status quo) - global precarities are absent or barely reflected in policies and practice *(zero learning)*

(2) conformative (accommodation) – building in some light green responses in policy and practice *(first order learning – but no real change in system, more of the same)*

(3) reformative - intentional re-thinking at a policy level leading to some significant shifts of of perspective, policy and practice *(second order learning – some rethinking of assumptions)*

(4) transformation - a sustainability ethos drives purpose, policy, and practice, resulting in fundamental redesign, reflexivity, and organisational learning *(third order learning – a shifting of paradigm)*

Prof Stephen Sterling University of Plymouth

Response-ability......involves

Emotional response -   engaged...inspired....motivated....

Intellectual response - 'get it'....understand....know....

Operational response - facilitated, supported, encouraged...

....at all levels – institutional, staff, students....

# Whole institutional change – 20 ingredients

A need to work towards…

1. Shared vision and purpose
2. Shared ethos and collegiality
3. Clarity on goals and their relationship
4. Ensuring feedback
5. Reflection and self-evaluation
6. High levels of connectivity and communication
7. Building potential for synergies
8. Building resilience
9. Vertical and horizontal coherence/integration across silos and hierarchies
10. Alignment of policies towards complementarity - not conflict

11. Developing a sustainability 'collective intelligence'
12. Self-organisation and creativity within agreed frameworks
13. Inclusion
14. Building alliances with stakeholders
15. Sharing of exemplars
16. Actively supportive and dynamic leadership
17. Channels to spread innovation
18. An appreciative and collaborative culture
19. Ensuring resources/support
20. Celebration of success!

AND…? *(your ideas/experience…)*

(Truly) transformative change...

1. **Is not an option**

2. **Purpose is key**

3. **Deep change can unlock win-wins**

4. **We are all in this together**

5. **The writing is on the wall...**
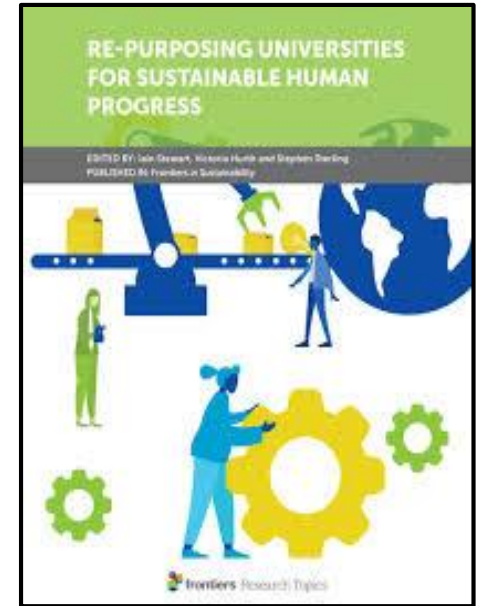
'*The question of re-imagining and re-purposing higher education for sustainable human progress is a challenge that all stakeholders—including academics, students, policymakers, and those in business and the media—need to embrace fully, if collectively we are to assure a future beyond the apocalyptic one in prospect'.* – Stewart, Hurth and Sterling (Editorial)

Re-Purposing Universities for Sustainable Human Progress, Frontiers in Sustainability, 2022

https://www.frontiersin.org/research-topics/14778/re-purposing-universities-for-sustainable-human-progress#articles

A reorientation checklist

How far does an educational policy, curriculum or pedagogy take account of:

- **Context** – does its stated purpose and boundaries of concern embrace the wider context of sustainability, urgency and threatened futures

- **Congruence** – does it recognise and reflect relationships and connectivity, reflecting the systemic nature of the real world and the current threats and opportunities this presents

- **Criticality** – does it examine and weigh dominant assumptions and values reflexively in relation to building a liveable and more sustainable future

- **Commitment** – does it engage with the ethical dimensions of issues to facilitate building an ethos of critical commitment and care

- **Contribution** – will the learners, outputs and learning outcomes of the policy or programme make a positive or negative difference to a more sustainable future

Use the four 'R's!

Regarding **what we do now**:

- What is of value that we need to *keep*?

    Retain

- What might need *modification*?
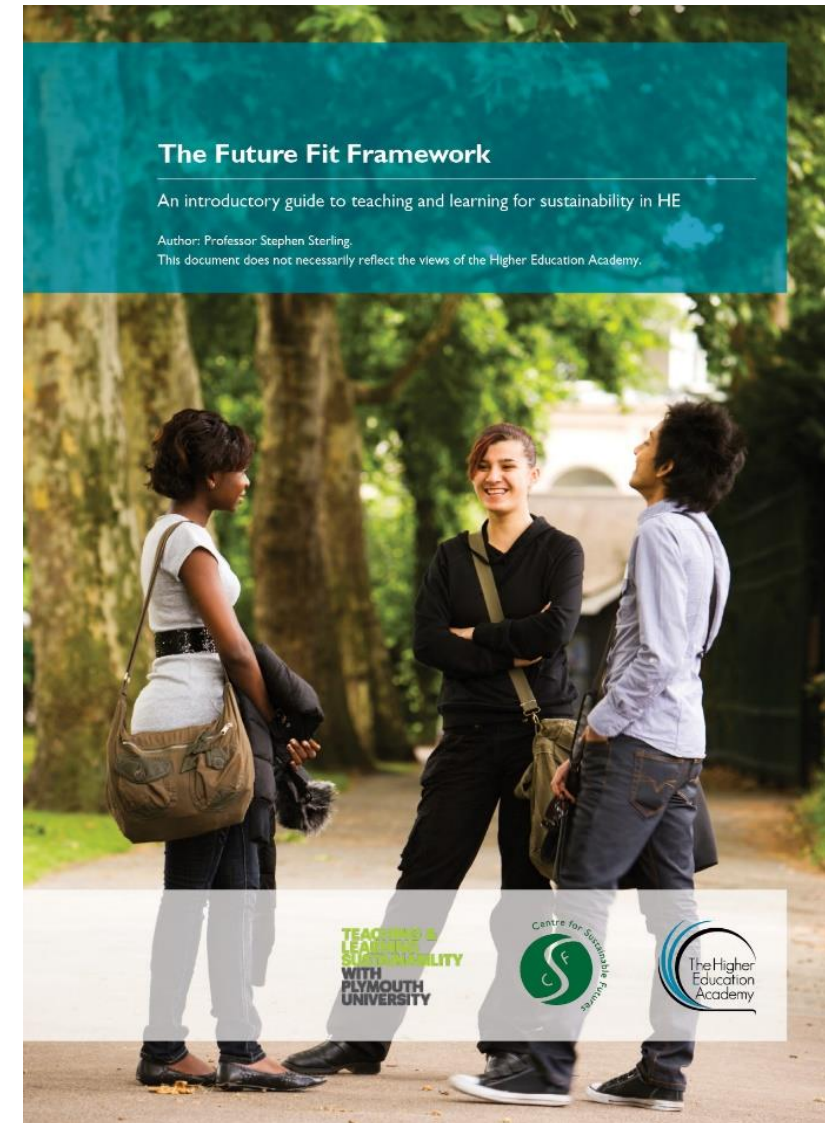
    Revise

- What might we need to *abandon*?

    Reject

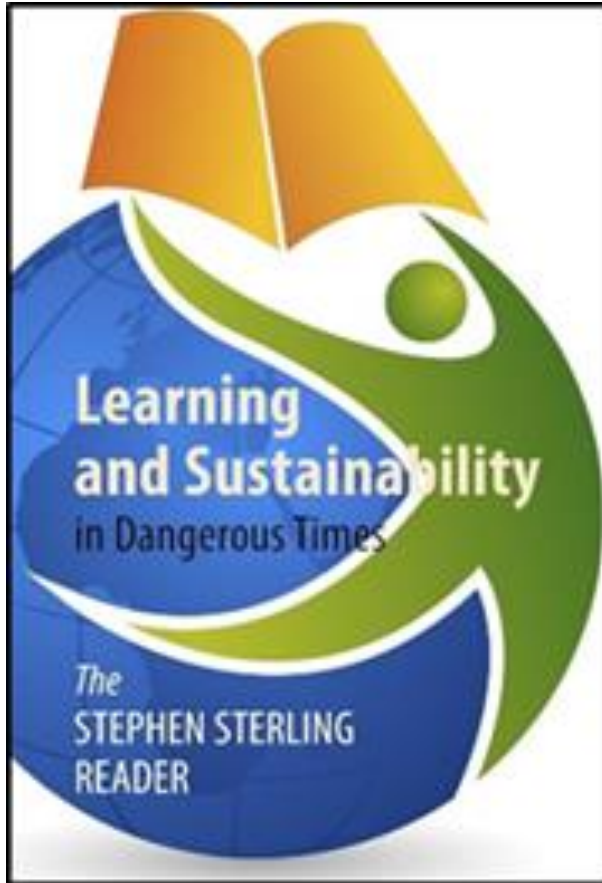- What *new ideas*, concepts, principles, methodologies, working methods, pedagogies etc are needed?

    Renew

The Future Fit Framework

An introductory guide to teaching and learning for sustainability in HE

Author: Professor Stephen Sterling.
This document does not necessarily reflect the views of the Higher Education Academy.

https://www.advance-he.ac.uk/knowledge-hub/future-fit-framework

Prof Stephen Sterling University of Plymouth

A little about my new book….

'Aims to contribute a timely and original perspective on how learning and education can make a decisive difference to securing the future in an increasingly uncertain and threatened world.'

'...as timely as any book can ever be'

- Prof David Orr

https://www.agendapub.com/page/detail/learning-and-sustainability-in-dangerous-times/?k=9781788216913

Believe in possibility!

'There are too many possibilities to be a pessimist. Of course, there are also too many crises to be an optimist. I always say, I am a 'possibilist.'

\- Jakob von Uexkull
   Founder of the Right Livelihood Award

Some key websites

INTERNATIONAL

- **Future Earth**

https://futureearth.org

- **Sustainable Development Solutions Network (SDSN)**

https://www.unsdsn.org/

- **Great Transition Initiative – Educating for the Future We Want**

https://greattransition.org/gti-forum/pedagogy-transition

- GreenComp: the European sustainability competence framework

https://joint-research-centre.ec.europa.eu/greencomp-european-sustainability-competence-framework_en

- **UN SDG competence framework**

https://UNESCO cross-cutting and specialized SDG competencies | UN SDG:Learn

- **UNESCO Green Education Partnerships**

https://www.unesco.org/en/sustainable-development/education/greening-future

- **IAU Higher Education and Research for Sustainable Development**

https://www.iau-hesd.net/ AND https://www.responsiblefutures.org.uk/international-programme

- **UN Higher Education Sustainability Initiative**

https://sdgs.un.org/HESI

UK BASED

- **Global Alliance of Tertiary Education and Student Sustainability Networks**

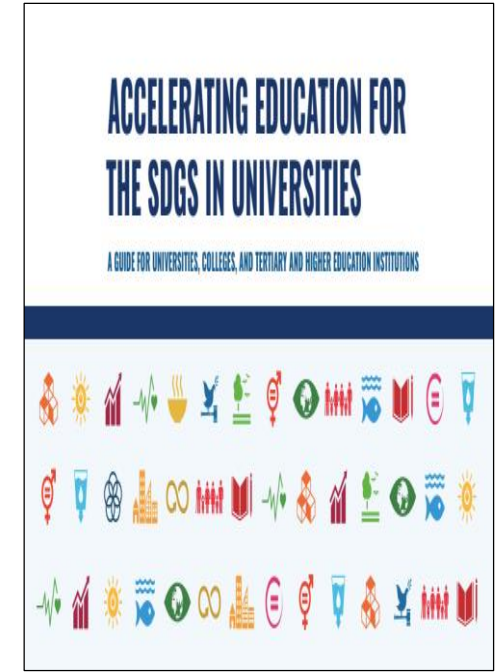https://www.eauc.org.uk/global_alliance

- **Sustainability Exchange**

https://www.sustainabilityexchange.ac.uk/home

- Faculty for a Future

https://facultyforafuture.org/

- **QAA Education for Sustainable Development (ESD) Guidance**

https://www.qaa.ac.uk/quality-code/education-for-sustainable-development

accelerating-education-for-the-sdgs-in-unis-web_zZuYLaoZRHK1L77zAd4n.pdf

Stephen Sterling:
'Re-thinking education for a more sustainable world'
https://www.sustainableeducation.co.uk/

Thoughts? Questions? Answers!?

Professor Stephen Sterling