

Responsibility – HE and the sustainability challenge

an ecological view of the university in a volatile age

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Centre for Sustainable Futures



Educating for a sustainable society

1. Why we don't: *challenge and responsibility*
2. How we might: *worldviews, paradigm change and learning by design*

Educating for a sustainable society



Why we don't:
challenge and response-ability



‘What Good is a Rigorous Research Agenda if You Don't Have a Decent Planet to Put it On?’

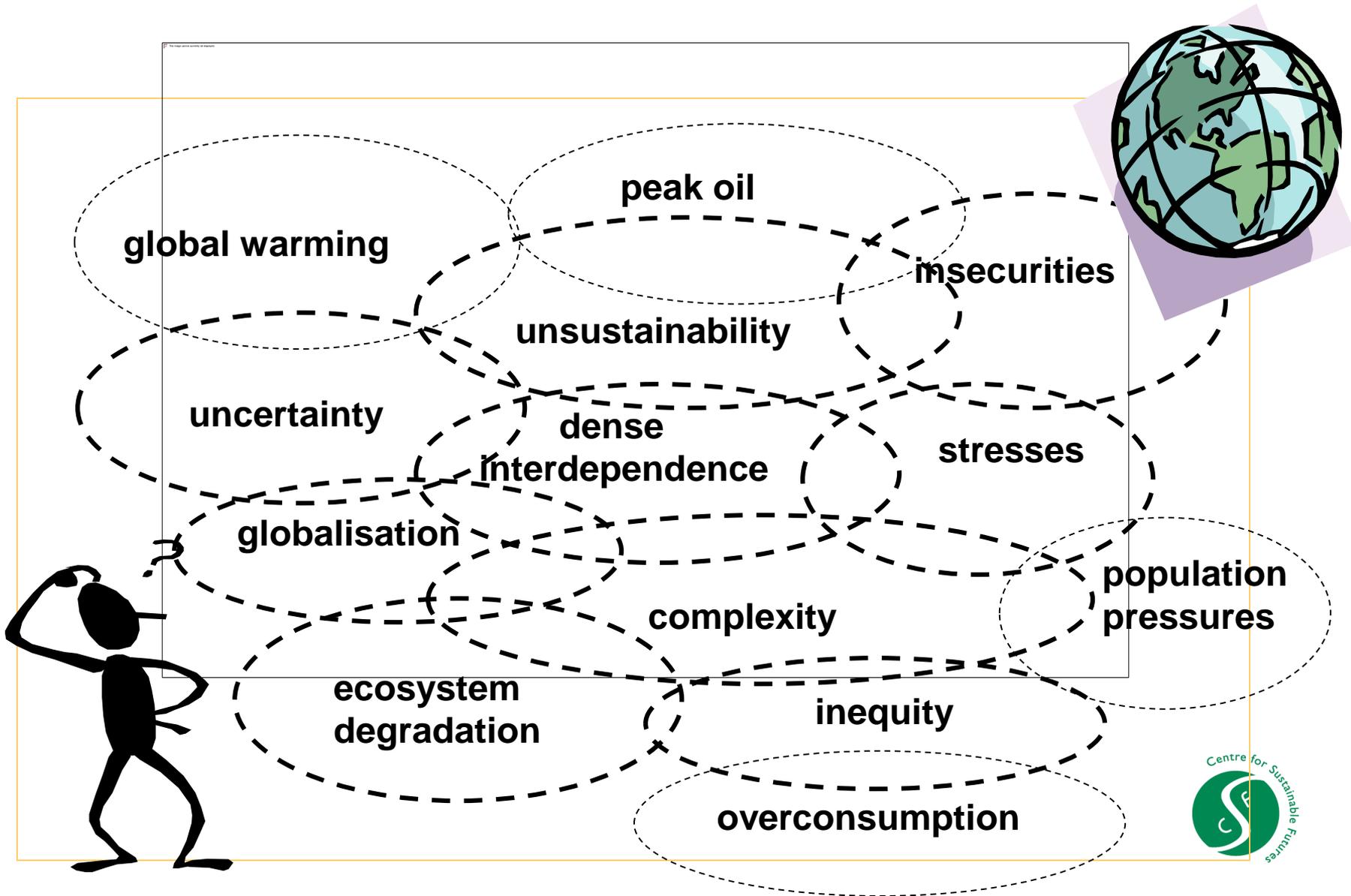
David Orr

Ecological Literacy: Education and the Transition to a Postmodern World, 1992

...and Thoreau



'The future isn't what it used to be'



Proposition i

- *The world is in a precarious and vulnerable state.*
- *Decisions taken collectively over the next 10-20 years will make a critical difference to living conditions on the Earth for future generations and to the options available to them.*

'Reinventing the university'

'...it is pre-eminently in the universities that we should be thinking hardest about the implications of this whole world-system for our common life and its future, and bringing the best of our available intelligence to bear on the necessary changes. If not there, where? If that's not the business of universities in the early twenty-first century, what on earth are they for?'

-John Foster, 2007

(review of M'Gonigle and Starke's *Planet U*)



HEFCE's view

'The greatest contribution HE can make to SD is by enabling students to acquire the skills and knowledge that allow them to make a lasting difference.'



The Higher Education Funding Council for England (2008) *Sustainable Development in Higher Education – Consultation on 2008 update to strategic statement and action plan, p14*

www.hefce.ac.uk/pubs/hefce/2005/05_28/



The call to respond



To meet the challenge of climate change, *'the world needs minds capable of creating new possibilities'*.

HE provides a *'vital platform'* for the transition to a low carbon economy, in order to *'safeguard a secure future'*

- Lord Stern, Foreword to HEFCE's current strategic statement and action plan *Sustainable Development in Higher Education* (2009)

ESD....or EUSD?

‘at present most of our universities are still leading the way in advancing the kind of thinking, teaching and research that...accelerates un-sustainability’ (Wals 2008, 31).

Wals, A (2008) (ed.) *From cosmetic reform to meaningful integration: implementing education for sustainable development in higher education institutes - the state of affairs in six European countries*, DHO, Amsterdam.



Structure of universities....

` the structure of universities remains highly specialized and is not oriented towards cooperation and conjoint inter-institutional work.....Confined to the existing structures of knowledge generation and transmission, universities find it difficult to do justice to contemporary problems'.

- Godemann (2008)

Responsibility

'HE institutions bear a profound moral responsibility to increase the awareness, knowledge, skills and values needed to create a just and sustainable future....

...why is HE so averse to risk and difficult to change? Because the change sought is a deep cultural shift....

- Anthony Cortese 2003

Proposition ii

- *We are faced with an unprecedented social learning challenge, within which formal education should play a full part.*
- *Deep problems require deep learning, in order to move from ‘reproduction’ to ‘remedy’.*

Big questions

- Do universities largely advance the kind of thinking, teaching and research that contribute to *unsustainability*, if so, why?
- What patterns of thinking lie beneath commonly occurring resistances to change?
- What kind of learning and change needs to occur within institutional policy and practice so that critical innovation and sustainability competencies, understandings and values are more likely to be fostered amongst staff and students?
- What might such qualities look like?
- How do we balance practicability with urgency?

A growing movement...

- UN Decade for ESD (2005-15)
- DIUS Sustainable Development Action Plan
- HEFCE's Strategic Review of SD in HE and SD Action Plan (2009)
- HEFCE's Carbon Reduction Target and Strategy for HE (2010)
- HE Academy ESD Project - recognised as a priority
- Sustainability CETLs and a growing number of leader HEIs
- People and Planet 'Green League'
- National NUS schemes eg Degrees Cooler
- Future Leaders Survey
- Green Gown Awards
- Rise of Regional Centres of Expertise
- Universities UK SD Group and Statement of Intent



HEFCE 'Strategic Review' of SD in HE

- 'a major challenge is the institutionalisation of (sustainable development), so that it ceases to be wholly dependent on the initiators (who may move on) and so that connections can be made across the HEI'. (xi)
- 'There is ... little evidence of generic 'successful processes' which can be used to embed sustainable development engagement within institutions' (p74).

Policy Studies Institute / CREE / PA Consulting (2007) *Sustainable Development in Higher Education in England*, Policy Studies Institute, London.



Barriers

Size of institution
Crowded curriculum
Perceived irrelevance
Limited staff awareness
and/or expertise
Limited institutional
commitment
Too demanding/time
issues
Limited support/resources
Limited commitment from
external stakeholders



Types of barriers

- **Paradigmatic/psychological**
- **Policy/purpose related**
- **Structural (governance, compartmentalisation etc)**
- **Resource/information deficiency**

Tensions: *add-on* or *transformation*?

- Technical or policy issue relating mainly to estates and resource use
- Principally an environmental issue
- Requires add-on, or reformative approach
- Involves a few key disciplines
- Is an additional agenda, easily accommodated
- Has clear goals, measurable



- Broad relevance to all aspects of HE operation and provision
- Also encompasses social relations, justice, ethics, economic viability etc
- Requires holistic and transformative approach
- Implications for most disciplinary areas and requires interdisciplinarity
- Is an overarching agenda and challenges existing policy and practice, involving organisational change
- Emerging and contested area

CSF's goal at U of Plymouth

'To develop the transformative potential of higher education at the University of Plymouth and beyond for building towards a sustainable future.'

Centre for Sustainable Futures, University of Plymouth



Educating for a sustainable society



How we might:
paradigm change and learning by design

‘The shape of the global future rests with the reflexivity of human consciousness – the capacity to think critically about why we think what we do – and then to think and act differently.’

Paul Raskin, 2006
World Lines, - Pathways, Pivots and the Global Future, Tellus Institute



Daunting agenda...exciting possibilities'

- Power civilisation by sunlight
- Grow food and fibre sustainably
- Dis-invent the concept of waste
- Preserve biodiversity
- Restore ruined ecologies
- Reduce materials, water and land use per head
- Rethink the political basis of modern societies
- Develop economies that can be sustained within nature's limits
- Distribute wealth fairly within and between generations

Nine challenges



- David Orr

Re-learning

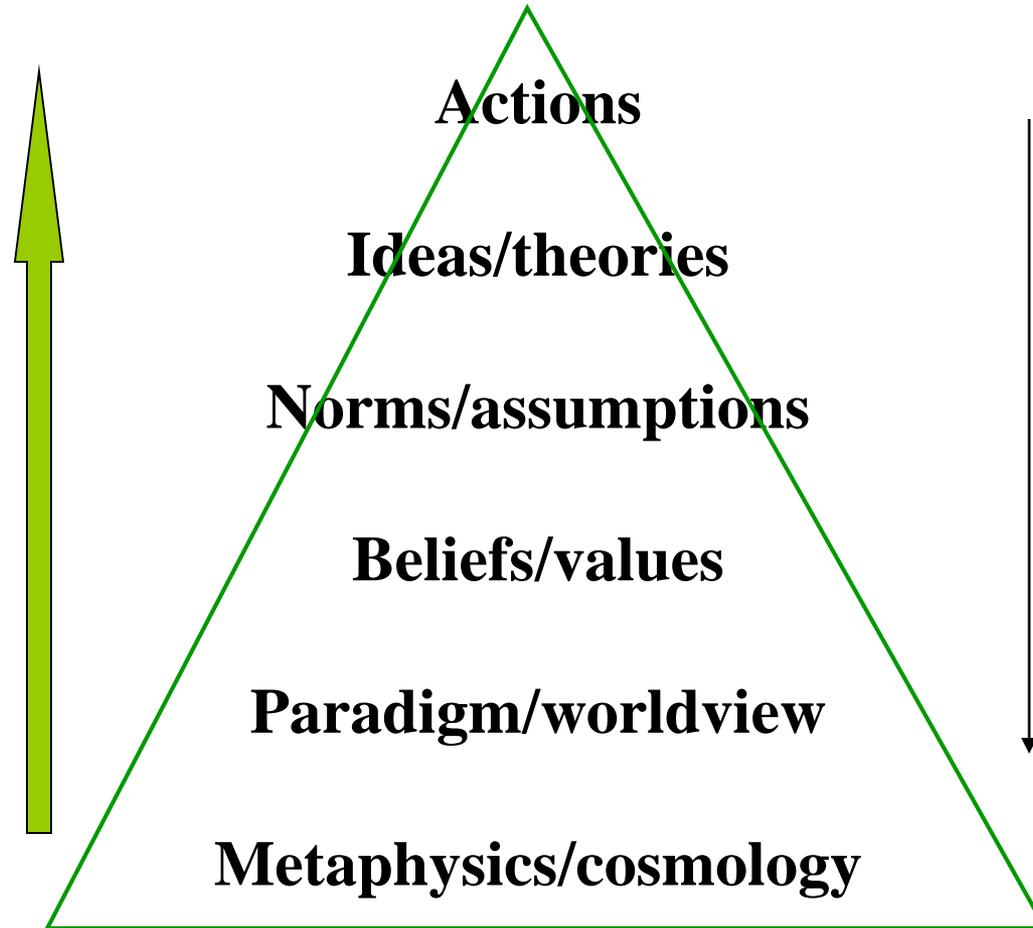
This century may well be one of relearning on a grand scale...

This learning...needs to be a core part of learning across society, necessitating a metamorphosis of many of our current education and learning constructs.

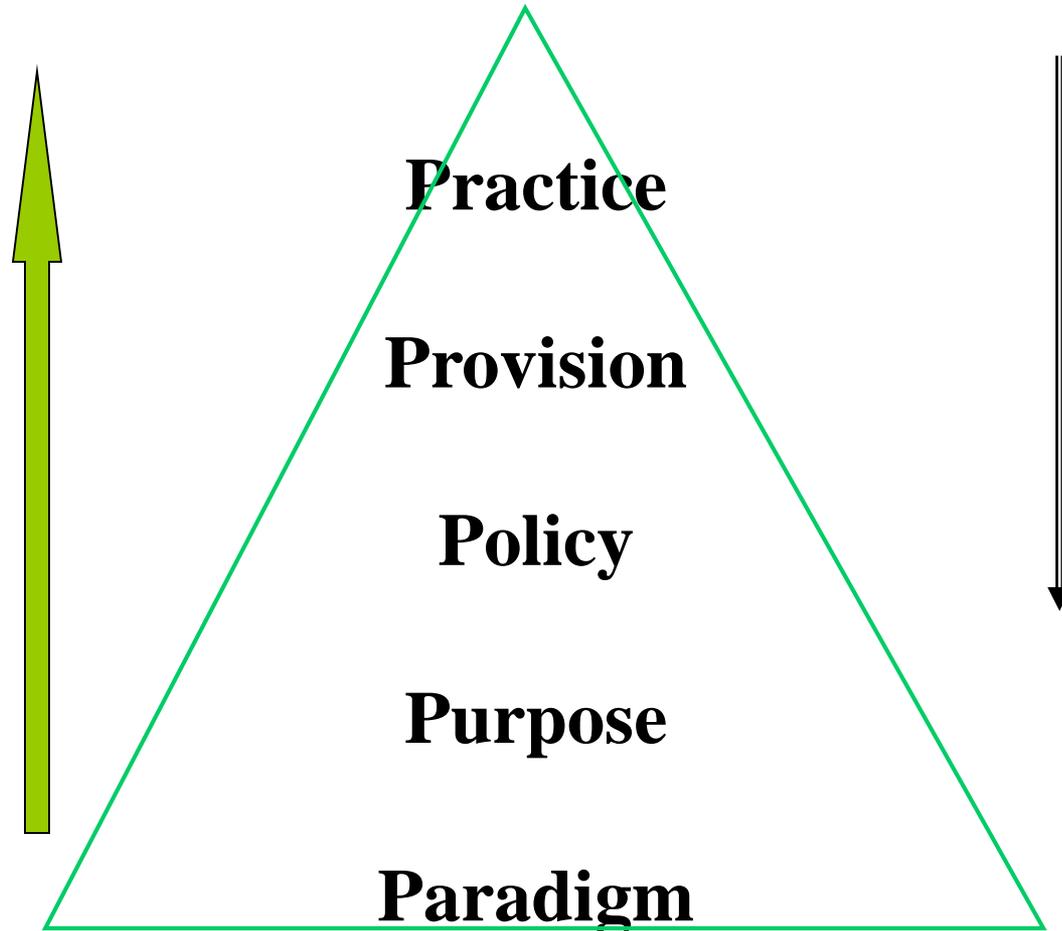
- *Sea Change – Learning and education for sustainability*, NZ Parliamentary Commission for the Environment, 2004



Levels of knowing



Levels of educational thinking and practice



Rough educational paradigm map

Educational paradigm	<i>Positivist</i>	<i>Interpretivist; Constructivist</i>	<i>Critical; radical</i>	<i>Poststructural</i>	<i>Participative</i>
Role of educator	Instruction	Facilitation	Critical pedagogy/ ‘transformative intellectual’	Deconstruct- ion	Mediation, mentoring/ ‘invitational’ leadership
Curriculum	Prescribed	Constructivist; Learner centered	Issues based	Pluralist	Indicative, emergent
Pedagogy	Delivery	Transactional	Critical pedagogy	Deconstruc - tive	Co-inquiry

Cultural worldview/metaphor

Mechanistic-modernist... ..Postmodern.... Ecological...



Key cultural worldviews

Metaphor:

Mechanism

Ecology/living systems

Epistemology:

Objectivist

Participative

Ontology:

*Reductionist,
dualistic*

*Holistic,
integrative*

Methodology:

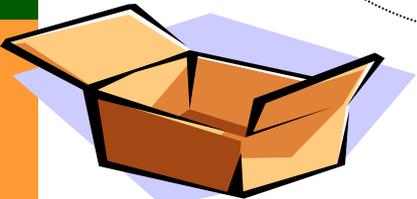
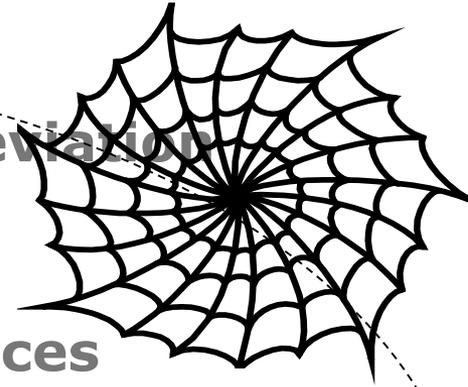
Reductive

Systemic

Two ways of thinking...

- **Problem-solving**
- **Analysis**
- **Reductionism**
- **Closed cause-effect**
- **Atomism/segregative**
- **Narrow boundaries**
- **Objectivism**
- **Dualism**
- **Rationalism**
- **Determinism**

- **Reframing /alleviation**
- **Synthesis**
- **Holism**
- **Multiple influences through time and space**
- **Integrative**
- **Extension of boundaries**
- **Critical subjectivity**
- **Pluralism / duality**
- **Rational / non-rational ways of knowing**
- **Uncertainty, tolerance of ambiguity**



Effects on educational outlook

- *Mechanistic*

view of education

- Reductionist view of knowledge

- Deficit view of learner

- Transmissive model of pedagogy

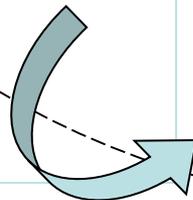
- *Ecological* (relational)

view of education

- Holistic view of knowledge

- Appreciative view of learner

- Transactional or transformative view of pedagogy



Proposition iii

*Whilst there is some evidence of a change of perception taking place amongst public and policymakers, we seem to be relying on **learning by default** (reactive learning) in the face of developing crisis, rather than **learning by design** (anticipative learning).*

Goal of UN DESD

'to integrate the values inherent in sustainable development into all aspects of learning in order to encourage changes in behaviour that allow for a more sustainable and just society for all.'

This involves learning *'the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation'*.

Proposition iv

*There is always a tendency for significant challenges (such as sustainability or education for sustainability) to be **understood and accommodated within the norms of the existing system** - rather than change the system to be congruent with the challenge.*

Proposition v

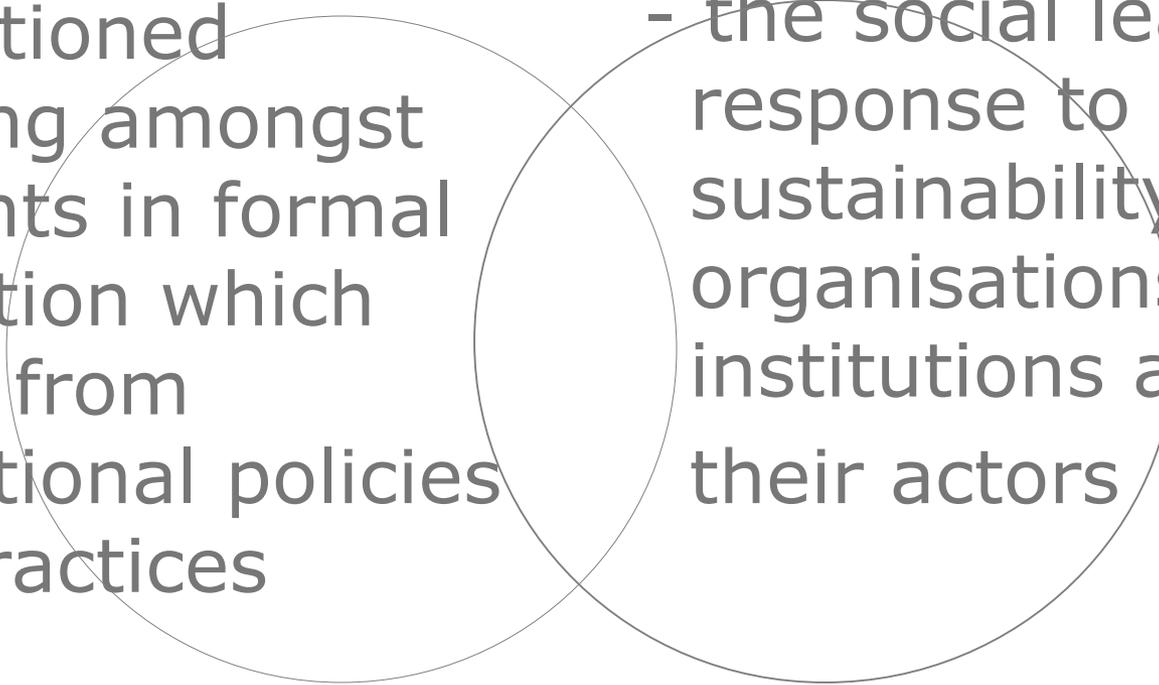
There are four levels of learning response to a deep challenge:

- *none (denial/ignorance),*
- *accommodation (1st order),*
- *reformation (2nd order),*
- *transformation (3rd order)*

Proposition vi

- *Sustainability requires at least second order learning amongst significant sections of society, and amongst institutional actors and students: this involves a fundamental questioning and reordering of assumptions*
- *Socio-economic-ecological conditions are currently such that **paradigm challenge is happening** and change is perhaps possible, particularly at the individual level.*

Double learning challenge

- *Structured learning:*
 - intentioned learning amongst students in formal education which arises from educational policies and practices
 - *Organisational learning:*
 - the social learning response to sustainability in organisations, institutions and their actors
- 
- A Venn diagram consisting of two overlapping circles. The left circle is positioned behind the text for 'Structured learning' and the right circle is positioned behind the text for 'Organisational learning'. The two circles overlap in the center, creating a shared area.

ESD has implications for.....

- Curriculum
- Hidden curriculum and learning environments
- Most (all) disciplines
- Interdisciplinarity
- Pedagogy
- Research-teaching linkages
- Student engagement
- Campus operation and management
- Procurement
- Community links
- Institutional governance
- Corporate policy and plans

Towards sustainable institutions

FROM:

- ☛ Incoherence and fragmentation
- ☛ Large scale
- ☛ Loss of connectivity
- ☛ Closed community
- ☛ Teaching organisation

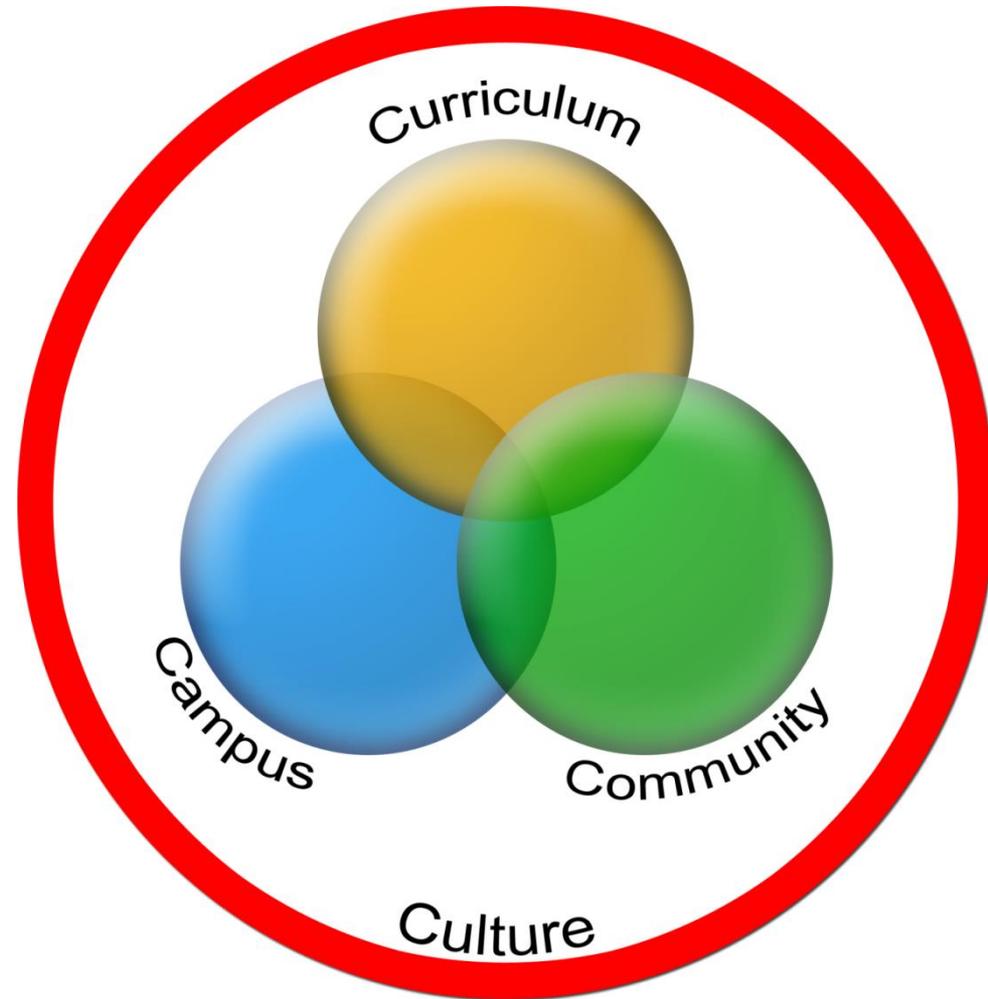
☛ *Microcosm of unsustainable society*

TOWARDS:

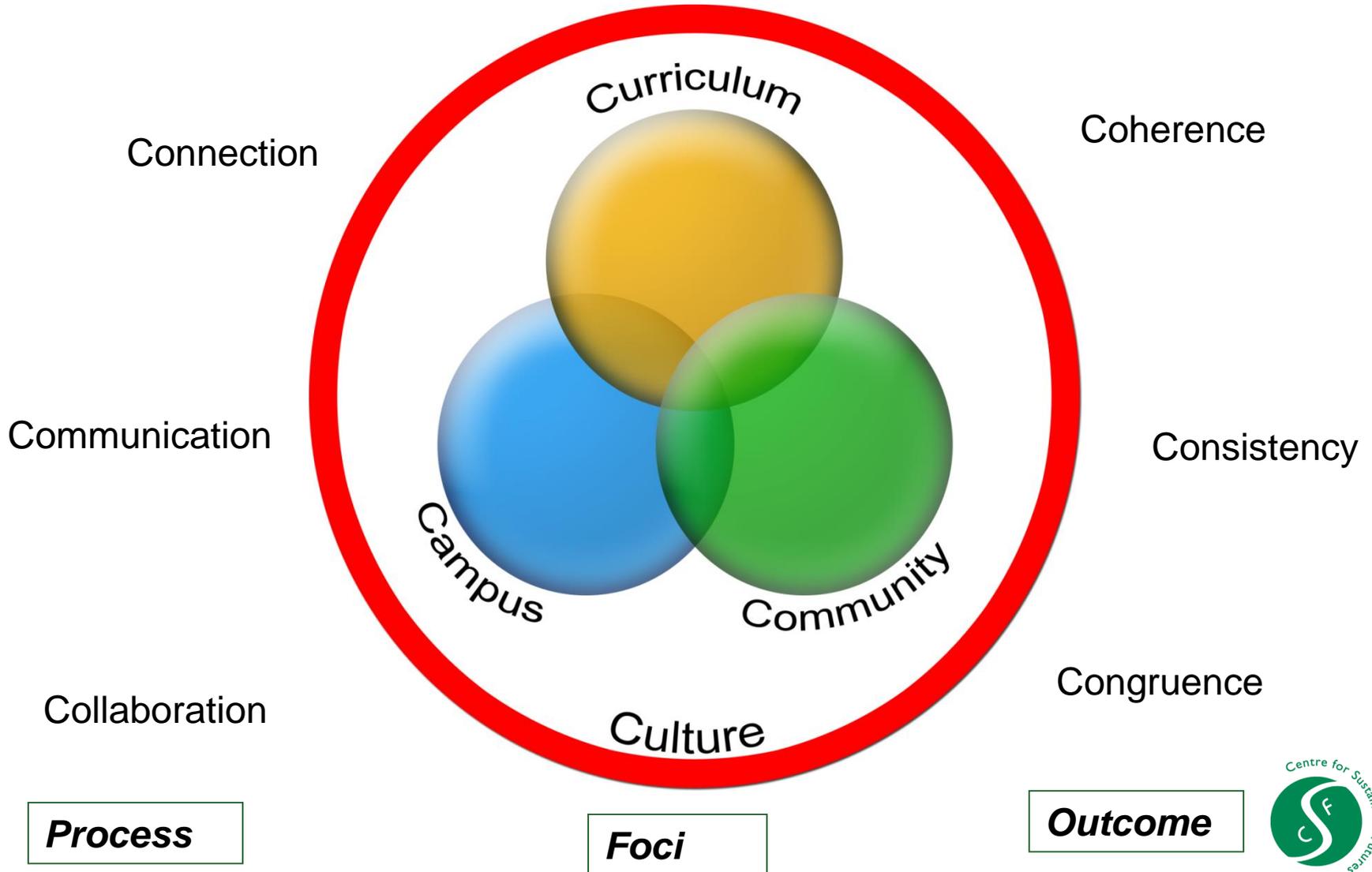
- ☛ Human scale
- ☛ High connectivity
- ☛ Open community
- ☛ Learning organisation
- ☛ Systemic coherence and synergy

Microcosm of sustainable society?

Towards holistic change - the 4C model developed by CSF at Plymouth



And some more Cs....



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 knowledge
- Inter- and transdisciplinarity
- Real world knowledge
- Participative learning
- Multiple learning styles
- Reflective/active learning

CSF's curriculum related work has included...

- UP Sustainability Policy and Action Plan
- Supporting the sustainability key theme in T&L Strategy
- Integrating sustainability into LTHE and PGCAP
- *Sowing Seeds* sustainability module guidance
- Staff 'wiki' site on ESD resources and practice
- Web-based interactive learning activities bank
- Professional Support Programme (PSP) as part of Staff Development
- Supporting Centre Fellows' innovation
- Scholarship scheme with Schumacher College
- Curriculum audit across all Schools
- Learning and teaching framework (in prep)



'Major shift'

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.



Dimensions of learning responses

A response to sustainability involves attention to three dimensions – towards greater...

‘respons-ibility’ an expanded and ethical sense of concern/engagement; (perception)

‘co-respon-dence’ a critical understanding of pattern, consequence, and connectivity and closer knowledge match with the real world; (conception)

‘respons-ability’ the ability to design and act integratively, taking wise action in context (practice)

'Universities have pretty well isolated themselves from society, through their academic detachment, and that's the way they've made themselves rather irrelevant to current issues of sustainability, which are absolutely critical.

.....university education has to go radically localised, in the sense of integrating student learning with the local community. Universities have to become dedicated in service to their community.....

.... that's something that I see emerging quite strongly now as an element, and this is going to radicalise university education, and make it relevant.'

- Academic, University of Plymouth



Some challenges for the 'sustainable university', how to...

- bring together and reconcile agendas coherently: eg.employment, internationalisation, enterprise and sustainability
- spearhead sustainable development regionally with stakeholders, and support healthy and sustainable economies and communities
- model sustainability on campus, procurement, food and resource use etc
- anticipate social, economic and ecological change, particularly related to climate change
- ensure 'sustainability literacy' of staff and students
- *get all this to be a central part of the HEI's culture*

How is UoP doing (roughly)?

- ✓ Sustainability vision – policy statement - 4
- ✓ Whole institution strategy and action plan - 3
- ✓ SEO with known responsibility for implementation – 4
- ✓ Senior executive committee -4
- ✓ Regular sustainability and environmental auditing - 4
- ✓ Sustainability applied to all aspects of campus operation - 4
- ✓ Ethical investment policy – 2.5
- ✓ Excellent internal communication – 2.5
- ✓ Excellent external communication of sustainability message - 3
- ✓ Holistic perception and management of 4 Cs – 2.5
- ✓ Embedding sustainability in formal and informal learning of students - 3
- ✓ Sustainability principles and pedagogy in L&T policy - 4
- ✓ University sustainability research centre and research strategy – 4
- ✓ Culture of organisational learning and improvement – 3.5
- ✓ Concern for wellbeing of whole community as well as achievement – 3

Transformative learning environments

"Once you experience such an educational course, you are changed forever."

- *Participant*



- reflective learning for individuals and the institution
- cooperation and shared purpose
- the enjoyment of learning
- service and creating opportunity for service
- challenge and intense stimulation
- treading lightly and living simply
- the intrinsic value of work of all kinds
- celebrating diversity
- recognising limitations
- a good experience for everyone



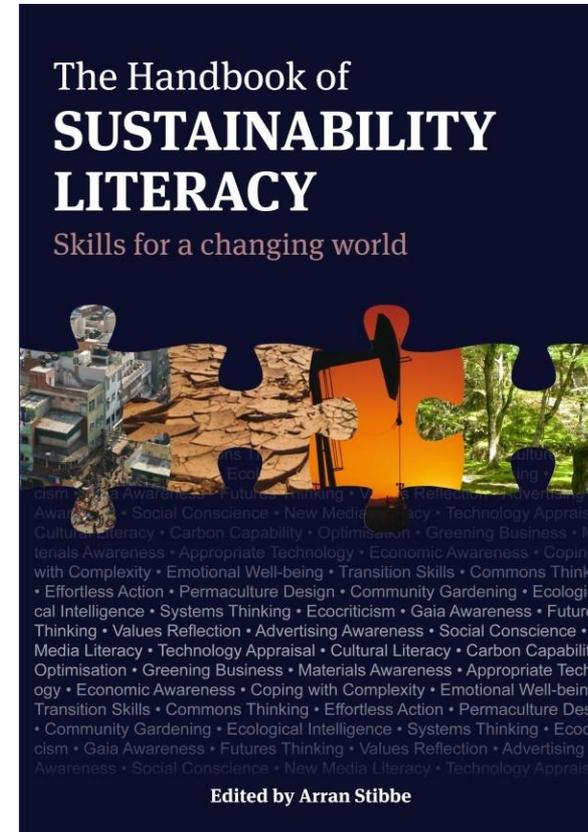
Schumacher College

Responding to sustainability

Regarding *what we do now*:

- What is of value that we need to *keep*?
- What might need *modification*?
- What, if anything, might we need to *abandon*?
- What *new ideas*, policies, concepts, principles, methodologies, working methods, pedagogies etc are needed?

Stimulating new thinking



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