

# **Annual J.P. Keeves Lecture**

**SAIER - 26 March 2013**

## **Values-based Sustainability in the Australian National Curriculum**

Based on Doctoral Research published in:  
*Quality Education for Sustainable Development*

**Dr Joy de Leo**

# OVERVIEW



1. Why this subject? (2 parts)

2. About *Educating for Sustainability*

3. Method – How research was conducted (2 parts)

4. Outcomes of the research

5. Recommendations & further research

*An analysis of the extent to which the values, knowledge, skills and quality features of ESD are integrated within the first 4 learning areas of the Australian National Curriculum*

# Why the Values focus?

**Changing context** – globally & locally in all areas

**Most need** – values receive least attention in education

**Historical trend\*** – look to values in times of change

**Personal** – belief in values for positive societal change

\* Morsy, Z. ed. 1997. *Thinkers on Education (Volumes 1-4)*. Paris: Unesco Publishing, Oxford and IBH Publishing.

# Why Education for \*Sustainability?

**All-encompassing** – social, economic, cultural, environmental

Cross-curriculum (incl. equity, multicultural, Indigenous) - Demise of SOSE

**Timing** - Research coincided with UN Decades, Climate Change  
Development of Australian National Curriculum

**Need** – Current socio-economic, environmental context

*“The obvious recommendation is to shape up our value systems to something more in tune with present-day reality, more properly suited to the new powers that man now commands and the new problems we now face.” (Sperry, 1983, p. 10)*

(\*Terminology: Sustainability – Sustainable Development)

# Influences

**Cultural** – Migrant background, Multicultural, Indigenous, Asia

**International** – UNESCO (APNIEVE), Delors Report, AusAID

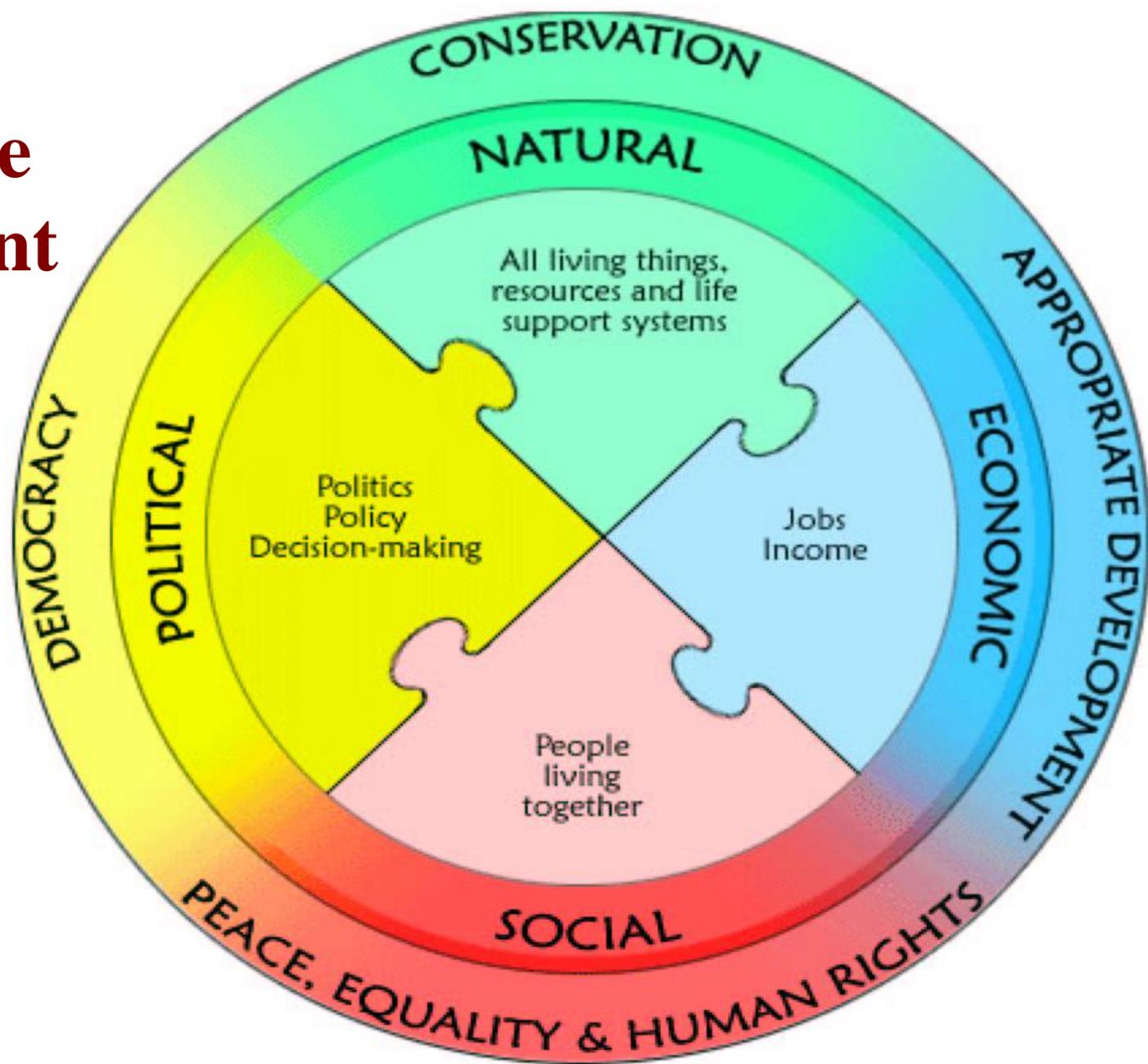
**Thinkers** – *Educators* (Beare, Bloom, Connell, Dewey, Gardner, Habermas, Halstead, Kirschenbaum, Kohlberg, Kolb, Lovat, Stirling);

*Philosophers* moral/social (Ralston-Saul); *Scientists* (Sperry, Einstein, Doidge - neural); *Psychologists* educational/moral (Haidt, Dawkins, Pugh, Pinker, Goleman); *Economists* (Hawken); *Environmentalists* (Carson); *Historians* (Armstrong).

**Experience** – of life, learning, work, teaching, parenting

# About Sustainable Development

DE-THROWN  
THE  
WORLD



Within **CULTURAL** CONTEXTS 6

# About Ed for Sustainability (EfS) & ESD\*

Evolved from **Environmental Education** last 20 years

Educating *about* the Environment



Educating *about* Sustainability



Educating *for* Sustainability (EfS)

Gradual recognition that a sustainable society requires **systemic understandings** of socio-political-economic-environmental issues for human well-being & conserving the eco-systems that support life within cultural contexts.

\*Education for Sustainable Development (ESD)

Includes socio-economic development appropriate to the cultural context

# Convergence of Values-based educational areas for EfS & ESD

## Adjectival & issues-based educations

global & development education, peace, environmental, countering racism, futures ed, civics & citizenship, multicultural & inter-faith understanding, Indigenous studies, values education, human rights education, life skills, health, nutrition & HIV/AIDS education, world heritage education etc

## Common features:

human-centred; participative & student-centred;  
locally applied global concerns; global values & interdependence;  
interdisciplinary; future-oriented & anticipatory; situational;  
stimulate critical thinking & problem solving; focused on issues &  
requiring systemic understanding.

(Hicks & Holden, 2000; Hoeppe, 2002; Shaeffer, 2007)

# Method

## Policy-oriented Text Analyses - 2 Inquiries

### **Inquiry No. 1**

What type of education is needed to contribute to creating a peaceful, just and sustainable society?

What values, knowledge, skills & quality characteristics needed?

### **Inquiry No. 2**

To what extent do the first 4 Learning areas of the Australian National Curriculum meet the purposes of ESD?

What additional features should the curriculum include?

What additional research is needed to achieve this?

# Method - Inquiry No. 1

## A comprehensive Policy, Content and Text Analysis of:

- Most common **Global Values** in 22 international agreements & UN documents relevant to ESD; collated, analysed & grouped in 16 sets, compared to Australian values & National Values Ed Framework;
- Issues relevant to all dimensions of sustainable development, in key international & Australian ESD policy documents collated and grouped to form a **Curriculum Content Framework** recognising that some content is context specific;
- Cognitive & practical **Skills** relevant to all dimensions of sustainable development, in key international & Australian ESD policy documents, collated and grouped according to UNESCO 4 pillars;
- **Characteristics of quality education** relevant to all dimensions of sustainable development, in key international & Australian education documents & scholarly research.  
(e.g. Lovat & Toomey, Adams, Pigozzi, UNESCO & UNICEF et al)

# **Outcomes of Inquiry No. 1**

**Global Values**

**Knowledge/Content**

**Skills**

**Characteristics of quality education**

Synthesised to form a comprehensive and coherent

**Framework of evaluative criteria for ESD**

used as the basis for analysing the first four learning

areas of the Australian National Curriculum:

(i.e. English, History, Science, Mathematics)

# 7 Key Features of Inquiry No. 1

1. Values key to transformation & quality learning
2. Integrating multiple EfS perspectives
3. Thinking for problem solving - critical, creative, systemic, values-based thinking to solve complex, interconnected problems
4. Developing the whole person
5. Learning to Transform - practical civic action
6. Modelling - Engaging the whole institution in EfS
7. Integrating Global perspectives applied Locally

# **1. VALUES – Key to Transformation**

**Knowledge informs**

**Skills empower to apply knowledge**

**Values motivate action & behavioural change**

## **Implications for pedagogy & modelling values**

**Extensive research shows beyond doubt that a values-rich learning environment leads to higher quality learning outcomes and more positive attitudes to learning (Lovatt & Toomey, 2007)**

# VALUES – Key to Quality learning

“Effective quality teaching is values-laden, particularly in relation to the learning climate in caring, inclusive and cohesive learning communities” Alton-Lee (2007).

**Key values present in high performing learning contexts:**

respect, care, trust, fairness, cooperation

Positive learning outcomes occur in quality learning environments that are: safe, welcoming, fair, inclusive, student-centered, participative, non-discriminatory, supportive, empowering, cooperative, rights-based & democratic, where teachers have high expectations of students for deep learning & positive attitudes towards them (UNESCO, 2005; UNICEF, 2000).

## 2. Integrating Multiple EfS Perspectives

How to teach the:

**social, cultural, economic, environmental**

aspects of sustainability to enable:

**holistic problem solving, systemic**

**thinking & ethical decision making**

taking account of **all** impacts.

This requires **cross-disciplinary** approaches to education

and training across: **subject lines, trades & professions**



# **A fundamental shift - It's all interconnected!**



**"Until recently, human activities and their effects were neatly compartmentalised within nations, within sectors (energy, agriculture, trade) and within broad areas of concern: **environmental, economic, political, social, cultural.****

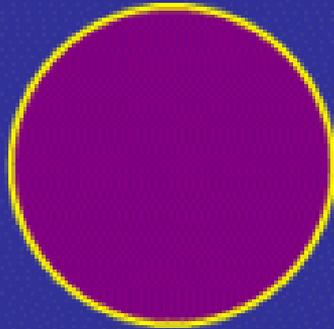
**These compartments have begun to dissolve.**

**This applies particularly to the various global crises ...**

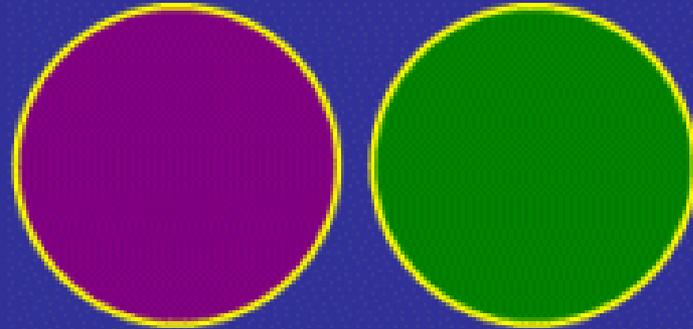
**These are no longer separate: an environmental crisis, development crisis, economic crisis, energy crisis, climate change, conflict. **They are all one.**"**

*Our Common Future*, World Commission on Environment and Development 1987

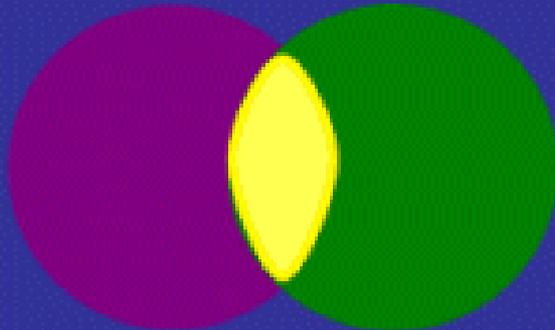
# Transdisciplinary Learning (HENT, 2005)



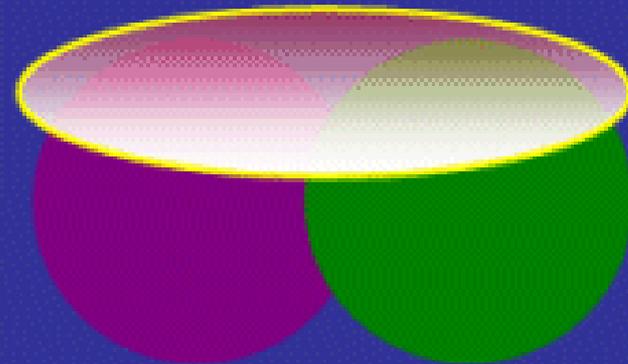
Disciplinary



Multidisciplinary



Interdisciplinary



Transdisciplinary

# IMPLICATIONS FOR CURRICULA & PEDAGOGY

Cross-curriculum themes/perspectives

Integrated systems thinking

Problem or solution-based learning

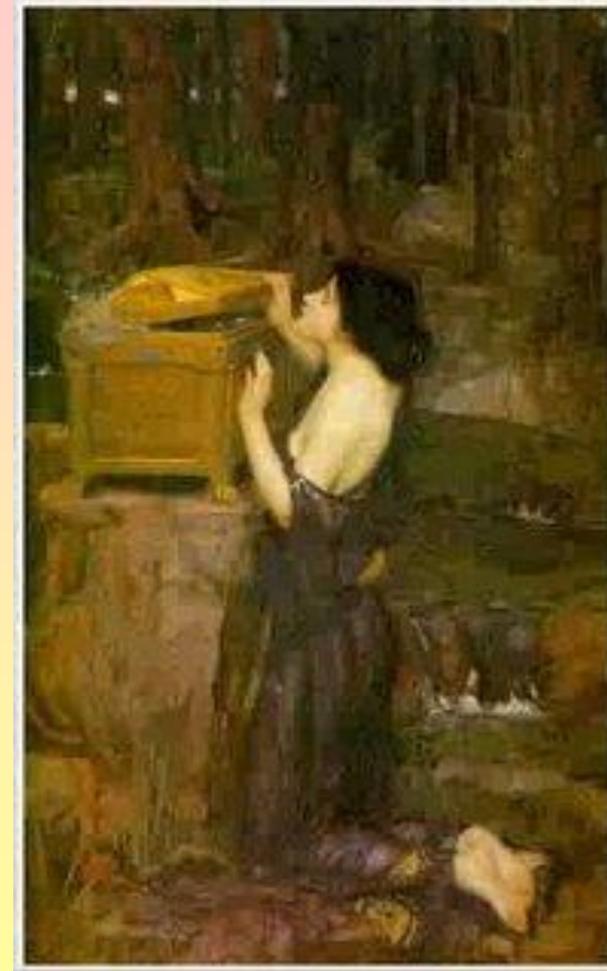
Real and hypothetical case studies

Dialogical approaches

Holistic systems thinking

Compulsory unit/module:

Integrative studies?

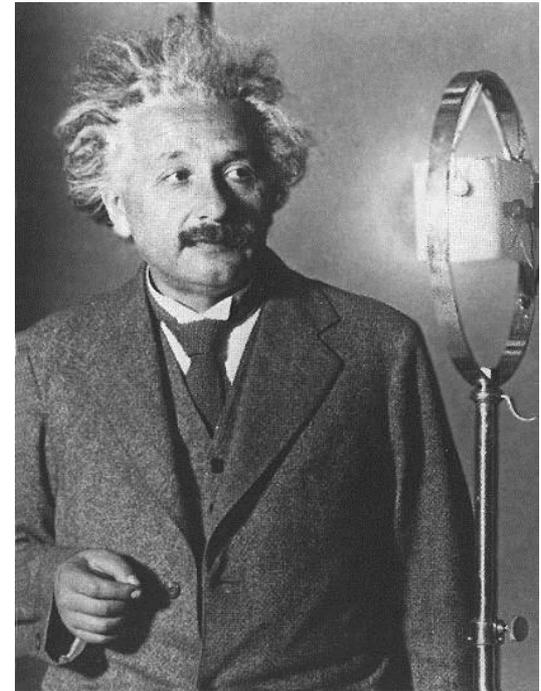


*Opening Pandora's Box!*

# 3. Learning to think differently

Problems can no longer be solved by old ways of thinking so our view of reality must change and the ways we perceive, think about & value the world.

We must create a new paradigm to solve the insolvable problems of the old paradigm ... with new assumptions and expectations to transform our theories, traditions, rules & standards



*No problem can be solved from the same system of thinking that created it. We need to learn to see the world anew.*

**Albert Einstein**

# 4. **Balanced development of whole person**

physical, cognitive, emotional, spiritual

**UNESCO's Report on Education for the 21<sup>st</sup> Century**

**Four pillars of learning:**

**Learning to Know** – cognitive, thinking, acquiring knowledge

**Learning to Do** – practical application, skill development

**Learning to Be** – values, resilience, self-management, spiritual

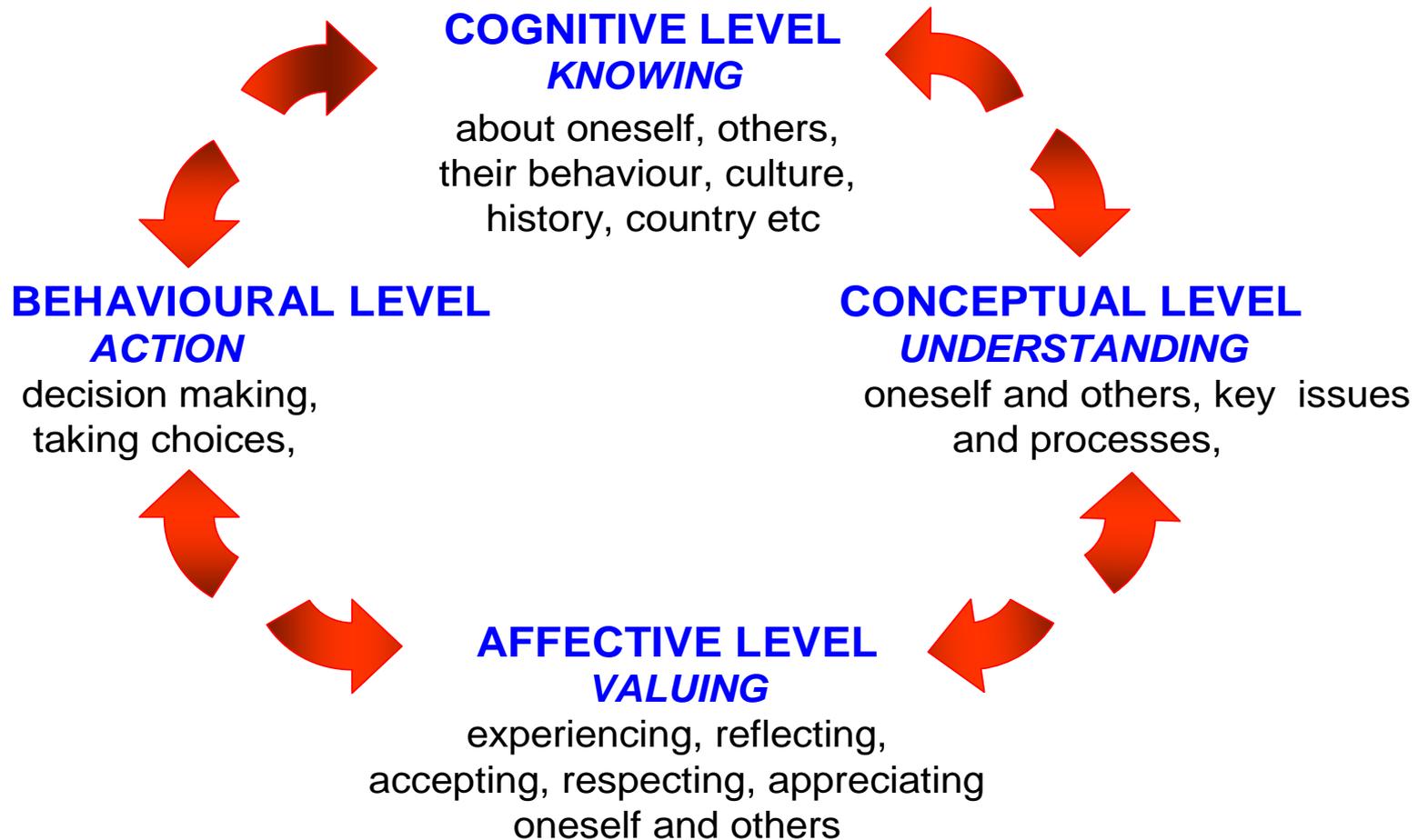
**Learning to Live Together** – social cohesion, respect diversity

(Delors, J., 1996)

# IMPLICATIONS FOR PEDAGOGY

## APNIEVE

### TEACHING AND LEARNING CYCLE



# COMPREHENSIVE VALUES EDUCATION

Kirschenbaum (1992); (Halstead, 1996 - *'Eclectic'*)

Comprehensive in content, methods and location,  
taking place in the school and in community,  
combining traditional and progressive approaches.

## **Modelling**

## **Learning Environment**

**Values clarification** (Raths, Harmin, 1966)

**Affective**

**Moral reasoning, critical thinking**

**Cognitive**

**Service learning, civic contribution**

**Practical**

## 5. LEARNING TO TRANSFORM

**EfS requires a 5<sup>th</sup> pillar:**

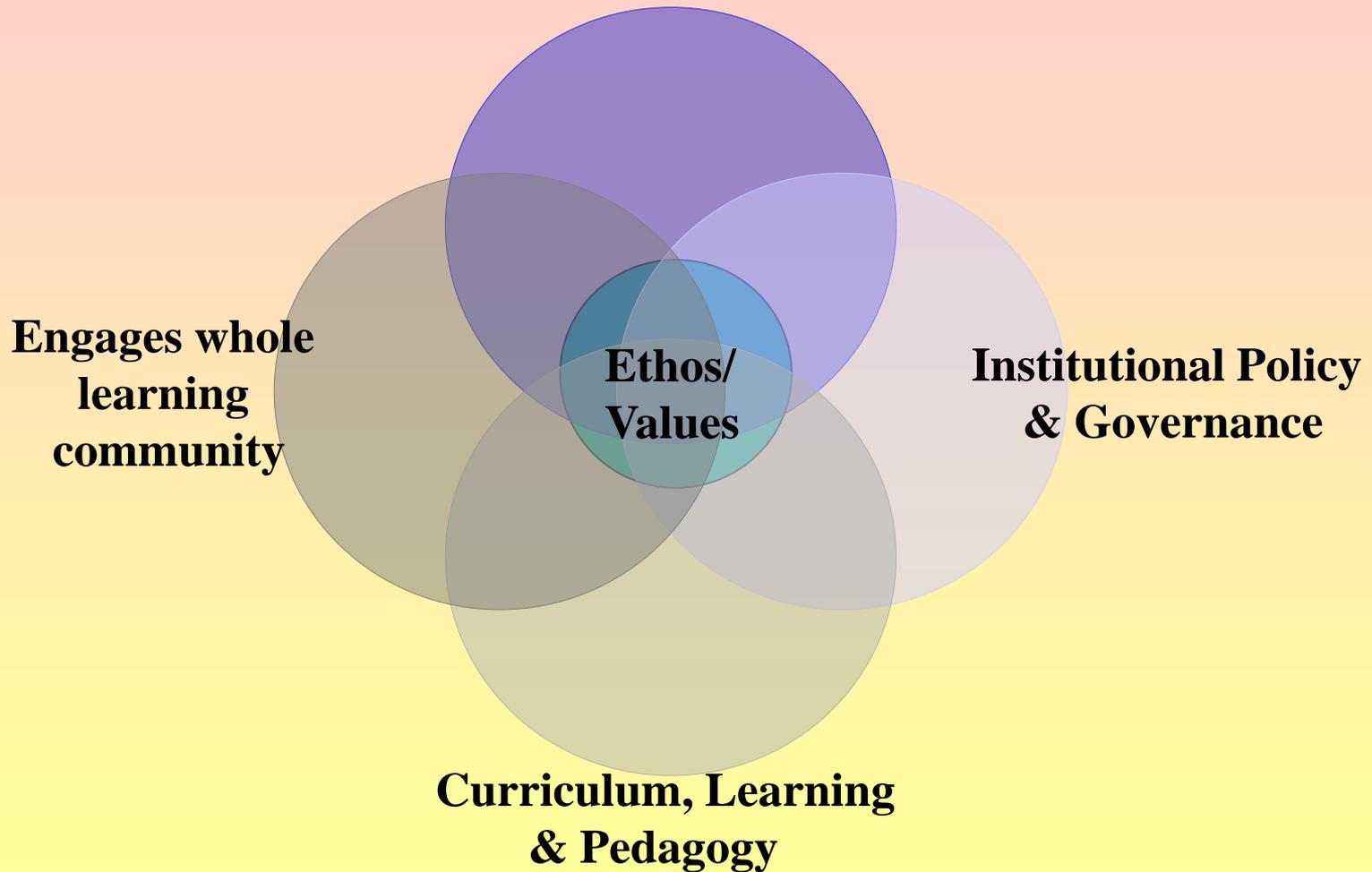
**Learning *how* to adapt to and bring about change  
and to transform personal and work environments**  
(Shaeffer, 2006)

**EfS involves four levels of change:**

- 1. Individual** for both educators and learners
- 2. Systemic** in educational institutions & systems
- 3. Collective** community and societal
- 4. National** and eventually global

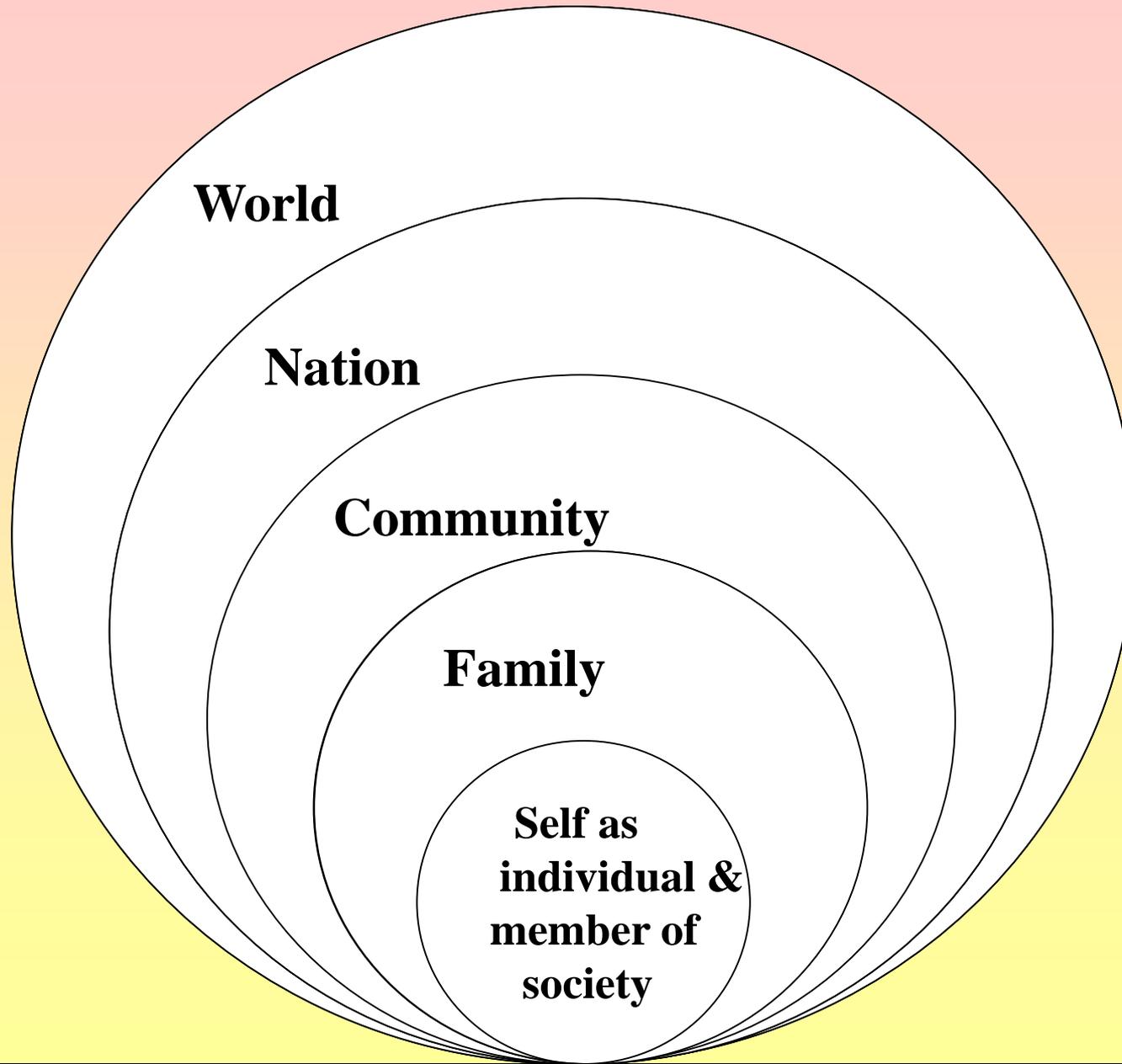
# 6. Whole Institutional Approach to EfS

Learning environment models EfS



(Sterling, S. 2001, Education **as** sustainability)

# 7. Link local & global perspectives



**Learner as  
Local,  
National  
and  
Global  
citizen**

# Method - Inquiry No. 2

- Comprehensive content & text analyses of first four learning areas in Australian National Curriculum, compared against the values, knowledge, skills and quality characteristics in the Framework of Evaluative Criteria for ESD.
- Involved a frequency count and tabulation of every value, skill, feature and relevant content area in the curriculum documents compared to those in the Framework.
- Comparisons revealed strengths, weaknesses and gaps in the cross-curriculum integration of sustainability, also compared to the Curriculum Guiding document: *Melbourne Declaration of Educational Goals for Young Australians*, MCEECDYA, 2008.
- Lead to proposals for additional research and potential enhancements to the curriculum.

# Outcomes of Inquiry No. 2

**Three cross-curriculum priorities:** (ACARA, 2010, p. 20)

Aboriginal & Torres Strait Islander histories & cultures

Asia and Australia's engagement with Asia

Sustainability

The first two cross-curriculum priorities relate to the **socio-cultural dimension of ESD** & are **more prevalent** in curriculum than is the **'sustainability'** cross-curriculum priority but are learning **'about'** rather than deep intercultural understanding.

**The socio-cultural and environmental aspects of sustainability are not connected to each other for systemic understanding**

# Outcomes of Inquiry No. 2

## Definition of Sustainability cross-curriculum priority:

- (a) the capacity of the Earth to maintain life;
- (b) reducing ecological footprints;
- (c) supporting quality of life and livability;
- (d) sustainable patterns of living without compromising the ability of future generations to meet their own needs; and
- (e) contributing to a sustainable future of environmental integrity, economic viability, a just society for present & future generations.

References to these rarely found in content descriptions/elaborations, except for one reference to environmental ‘footprints’ in Year 10 Science, one intergenerational reference in Year 10 History, but no references to ‘quality of life’, ‘economic viability’, ‘just society’ or ‘environmental integrity’. (ACARA, 2010)

**Sustainability is defined mostly in environmental terms - but limited in scope**

# Outcomes of Inquiry No. 2

## Seven General Capabilities

- (a) literacy and numeracy
- (b) Information Communication Technology
- (c) critical & creative thinking
- (d) ethical behaviour,
- (e) personal & social competence
- (f) intercultural understanding (*a comparative strength*)

### **All of the above are relevant to ESD**

The other capabilities essential for ESD are not included:

innovative problem solving (*but covered in Maths, Science*)  
systems thinking  
trans-disciplinary understanding

**Neither the *general capabilities* nor the *cross-curriculum priorities* are integrated equally across the curriculum.**

# Outcomes of Inquiry No. 2

## Definition of Quality in the National Curriculum

Quality of learning was defined in the curriculum in terms of outcomes and achievement standards, as the:

*“extent of knowledge, depth of understanding  
and sophistication of skills  
described through achievement standards”*

measured by quality assurance processes of monitoring, review, evaluation and validation (ACARA, 2010a pp. 16-26).

**Neither values nor other quality characteristics of ESD from Inquiry No. 1 were included in the definition. Values also omitted from the Assessment Standards.**

# Outcomes of Inquiry No. 2

## VALUES

**Ethical behaviour** general capability defined as: (ACARA, 2010, p. 19)

*Understanding the role of ethical principles, values and virtues in human life; acting with moral integrity; acting with regard for others; and having a desire and capacity to work for the common good.*

However, these are very few examples of learning ethical behaviour, acting with moral integrity or working for the “common good”  
- relating to the natural world rather than to society.

Fostering awareness of difference a strength but lacking depth

**No reference to National Framework for Values Education**

# Outcomes of Inquiry No. 2

## Most frequent VALUES

‘sharing’ & ‘exchange’ of thoughts and ideas

‘accurate’ and ‘correct’

‘collaboration’ and ‘cooperation’

participation

diversity

freedom

safety

conserving, protecting, preserving heritage

**Total values references 631 = 7% of the 8,038 Skills references**

# Outcomes of Inquiry No. 2

## VALUES (DEST, 2005)

Values from the *National Framework for Values Education* are not evident or are very infrequent:

**compassion; doing your best; trustworthiness;**

**honesty; integrity(1); fair go (fairness - 3)**

**tolerance(2); \*respect(3); inclusion(3); responsibility(6);**

**care(7); empathy(15); freedom (19 - History)**

**\*Respect is central to ESD and is highlighted**

**in the Melbourne Declaration**

# Outcomes of Inquiry No. 2

## VALUES (MCEECDYA, 2008)

Values in the Curriculum-guiding *Document*:

*Melbourne Declaration of Educational Goals for Young Australians*

are not evident or are very infrequent:

**honesty; resilience; healthy, satisfying lives;**

**justice(1); respect(3); equality(7);**

**democracy(12); empathy(15)**

**However, the context and meanings are not substantial**

**The meanings of values not explored**

# Outcomes of Inquiry No. 2

## GLOBAL VALUES (83/631=14%)

are either not evident or are very infrequent:

**solidarity; harmony; dignity; unity; equity**

**integrity(1); justice(1); security(1);**

**tolerance(2); respect(3); fairness(3); peace(4 - History);**

**responsibility(6); equality(7);**

**Few values relating to environmental sustainability (24):**

**conservation, protection, preservation - 15**

**interdependence, interconnectedness - 5**

Values relating to **cultural diversity strong** but **biodiversity (5)**

**The values contexts and meanings are mostly insubstantial.**

# Outcomes of Inquiry No. 2

## SKILLS (8,038 references to 241 skills)

Most frequent skill groupings in curriculum are:

- (a) 'thinking' (3,635 references)
- (b) 'communicating' (2,512 references)
- (c) 'inquiring' (1,145 references);
- (d) 'calculating' (746 references) involving numeracy skills

**Cognitive** (much more frequent)

**Functional** (only 13% despite importance of action for ESD).

**ESD skills** not emphasised:

Higher-order problem solving & futures thinking; working for the common good; understanding & managing complexity, uncertainty, risk & disaster management; integrated systemic & critical thinking and cross-disciplinary learning; advocating for and creating change; life skills.

**Only 1% of skills with direct or explicit links to ESD**

# Outcomes of Inquiry No. 2

## KNOWLEDGE

Environmental and cultural dimensions of sustainability dominate but are not connected to each other.

Very few references to economic sustainability.

Global perspectives very limited (25) but only relating to environmental sustainability & only in Years 9 & 10

Many opportunities for learners to understand issues from diverse perspectives, albeit not global (History 36; English 25).

101 references to environmental issues of which only 43% relate to sustainability and mostly in Science

Climate change & History of environmental movement treated more comprehensively than other issues

Sustainability content does not appear to be mapped in a coherent framework, across learning areas & year levels,

# Strengths against ESD criteria

- setting sustainability as a cross-curriculum priority
- inter-cultural understanding general capability & 2 cross-curriculum priorities - able to explore, compare, contrast diverse perspectives
- environmental content substantial but not comprehensive/systematic
- some socio-emotional learning activities - communication, interaction cooperation, aesthetic understanding, expressing thoughts, feelings
- awareness and understanding of diverse attitudes and perspectives
- many opportunities for learners to participate in cooperative group learning & inquiry, to express thoughts & opinions & use ICT
- many learning activities involving personally relevant and locally contextualised issues relevant to the Australian context
- some opportunities to investigate/analyse hypothetical/real-life issues

# Gaps and areas for enhancement

- low values frequency and values are not assessed
- no systematic approach/scaffolding for progressive values acquisition
- no whole school modelling of values or sustainable practices
- whole person learning limited - primary focus is cognition
- limited practical application of ESD knowledge & skills
- no skills for creating change, civic responsibility, social contribution
- sustainability dimensions not all addressed & not interconnected
- no opportunities for systemic thinking or inter-disciplinary learning
- minimal global perspective
- few opportunities for long-term futures thinking, resolving conflict
- limited opportunities for creative, innovative thinking
- no evidence of systematic/comprehensive approach to sustainability

# 4 Key Recommendations

- 1 Global values for ESD be integrated systematically & explicitly based on scaffolded values framework for age-appropriate development at each year level - include in assessment standards;
- 2 All sustainability dimensions be addressed relatively equally, linked holistically to reflect interconnected society & environment, in both local/global contexts. Facilitates cross-disciplinary investigation and problem solving of complex interdependent sustainability issues;
- 3 Opportunities for learners to engage in experiential learning as active, responsible citizens taking practical action for positive societal and environmental change, by initiating or contributing to projects in the local community or linked to global concerns;
- 4 Modelling of values-based sustainable practices across whole school, so learning occurs within a sustainability ethos in which values are common place.

# Opportunities for other learning areas

**Geography** - interaction between society & environment, how we use the landscape, how landscape shapes lifestyles, natural disaster.

**Economics and Business** - address socio-economic dimension of sustainability, sustainable, responsible, accountable, equitable socio-economic development.

**Health and Physical Education** - preventing spread of disease, risk management, preparedness for natural disasters.

**Design and Technology** - critical thinking, creativity and innovation in addressing sustainability problems through design

**Civics and Citizenship** - foster responsible national and global citizenship, civic action for positive societal/environmental change

# Areas for Further Research

- **Teaching of values** - pedagogy and coherent framework for progression appropriate to age level. *Linked to scaffolding psychosocial & emotional development, including service-learning, life skills, resilience and developing personal qualities.*
- **Assessment of values** - according to coherent framework;
- **Integrated & trans-disciplinary** educational approaches for connecting the multiple dimensions of sustainability to foster systemic thinking & problem solving

*Implications for Teacher Education of recommendations*

**The research presented is published in:**

**Quality Education  
for Sustainable Development**

(Includes 79 Appendixes)

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