Seasons of Change
Leadership ~ Community ~ Identity

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Children as change agents (or leaders) for sustainability

This presentation will:

- Reflect on my Doctoral studies and findings which highlights children change agents (leaders) for sustainability
- Present a new curriculum model for transformative early childhood education
- Highlight practical and ‘do-able’ ways for early childhood educators to embed sustainability into their programs
My Doctoral research questions were:

1. How might a project approach facilitate learning for sustainability?

2. How do young children learn to be social agents for change through education for sustainability?

3. What is the ‘learning journey’ of the teacher-as-researcher when co-constructivist teaching approaches are extended to include transformative early education?
Combining the fields – early childhood approaches with approaches drawn from education for sustainability … to create …

**ECEfS – Early Childhood Education for Sustainability**

**ECE**
*Early childhood education*
- Co-constructivist (Project approach)
- Facilitated learning
  - experiential
  - documentation

**EfS**
*Education for sustainability*
- Transformative (about change)
- Critical thinking
- Empowerment & agency
- Democracy
A **transformative** project approach …

- Is an adaptation of Chard’s (2011) 3 stage *project approach* – introductory, synthesising and culminating phases

- Embeds a **transformative approach** – this approach seeks to change existing practices/ rules/ traditions and understandings in order to achieve greater equity and social justice (MacNaughton, 2003)
A contemporary approach to exploring, experiencing and educating young children for the environment

A (transformative project) approach

1. Introductory Phase
   Developing curriculum
   Identifying a key interest

2. Synthesizing Phase
   Building and integrating curriculum around the central interest

3. Culminating Phase
   De-briefing and analysis of learning, conveying learning to others, planning the next step
Characteristics of a transformative teaching approach

• Empowering – gives children the power to decide/ direct their own learning … (MacNaughton, 2004)

• Educators and children creating a better world
  Early education ‘equips’ children with knowledge to recognise and confront injustice and inequity
  Challenges the ‘status quo’ ~ contributes to more just and wise society (MacNaughton, 2003)
Characteristics of a transformative teaching approach

- *Links children with real issues*
- *Involves alternative ways to view issues*
- *Involves critical thinking about real issues*
- *Involves creating change*
- *Enables children to be active participants*

(adapted from MacNaughton, 2003)
1. Introductory Phase
Developing curriculum: Identifying a key interest / Planting the ‘seed’
• The ‘seed’

An observation and work sample collected from a child was shared during a group-time and became the ‘seed’ for the following environmental/sustainability project.

The child’s words were also shared…

I did 2 frogs, they’re bouncing.

The leaves are falling.

The butterflies are flying.

There are 3 stars falling from the sky.

The vines are swinging.

We should camp in a tent in the rainforest.

You have to be careful of snakes.

Look out for spiders.

No rubbish - Don’t put rubbish in the rainforest because all the animals will die.
2. Synthesising Phase:
Children’s art about what they wanted in their playground
I am running to the stepping stones to cross the water.
We used the ‘waterfall’ picture to help us work out the shape that our waterfall needed to be. This ‘cascading’ formation was made using boxes.

“We made it this shape because it has to be a waterfall. Water goes down and then ducks swim in the pond”

“It needs to be that shape because it has rocks and the water has to come down”
The children started playing in their environment – observations of children at play revealed that they were ‘playing out’ learning related to environmental sustainability issues – camouflage, threats to wildlife, pollution, habitat destruction
The echidna’s burrow

“Its a burrow where the echidna can live. He can hide from people so they can’t kill his home or eat him. I put trees around the burrow to camouflage it. I wanted him to be safe from people”
This photo shows some boys making a construction designed to ‘clean water’ so the baby animals won’t die ~ This occurred after reading the picture book *Lester and Clyde*.
This construction was designed by a child to ‘get the pollution out of the air’ - she clearly understood that you can’t always see pollution.
“We played a game on the smart-board that taught us about recycling today. Recycling is when you put stuff in the recycling bin so we can use it again. It just goes to the dump in the garbage truck if you don’t use it again. If you use it again we can put it in the recycling bin and they make something new with it.”
“On the first page there were all sorts of things like bushes and trees and grass.
Then there were lots of houses and not many trees left.
I was thinking that the trees should grow back like the first page.
All the trees were chopped down to build the city.
The animals had to go away, some animals used to live in the trees.
The animals might have died because when they got chopped down they might have fallen on the animals”
“There were lots of trees and they cut them down.
They built new houses. The animals didn’t have any homes, they had to find a different forest.
They shouldn’t have cut the trees down.
They should have left the trees alone.
Animal houses and people houses should be together.”
"I think he’s imagining that it might look like that one day.

But I don’t think people will cut the forest down because they know about the animals.

The animals need to be alive and we need oxygen and trees give us oxygen.

They should take the animals to another safe house if they are building there."
3. Culminating Phase:

Children’s comments...

- Indicate that children have ideas about conservation and preservation of environments
- Indicate that children have questions about why things happen and how things work
- Indicate that children respect, appreciate and care for the natural environment

For example

“We need trees because we need air from the trees. Animals need trees because birds live in the trees...and possums too”
• Children transferred and adapted what they had learnt from one context (themselves as learners) to another context (themselves as teachers)
• ...by producing a book to ‘educate others’
• Children took on the role of authors and illustrators
• Children influenced the behaviours and practices of others ... for example influencing parents to change shopping practices ... influencing fathers to make / install possum boxes into the playground ... creating recycling posters that were distributed to local shops to remind ‘bakers (in particular) to recycle’
We keep the playground clean so the animals don’t eat rubbish and die... and we don’t leave broken glass because the animals might get hurt.

The animals come back when there is no rubbish... that’s why we put rubbish in the buckets with the ‘right’ picture (plastic, glass and paper recycling bins)

He is picking up the rubbish and putting it in the recycling bins.

for cans  
for bottles
Children demonstrated that they understood that resources and environments can be used, conserved and protected by valuing and applying sustainable practices e.g. reducing water and energy use; picking up litter to protect wildlife; recycling; changing everyday practices
The study demonstrated that when the co-constructivist project approach (drawn from early childhood education) was combined with transformative teaching and learning approaches (drawn from education for sustainability) early childhood education for sustainability was facilitated –

1. Children co-constructed knowledge about environmental sustainability (co-constructivism),
2. Children were able to change their own behaviours (transformative),
3. Children influenced the behaviours of others and produce educational materials (children as educators).
Evidenced throughout the study are examples of children:

- proposing solutions to environmental sustainability issues;
- demonstrating environmentally sustainable practices and actions;
- engaging in critical thinking about environmental sustainability issues;
- creating change; and,
- taking on the role of educators.

In other words, children demonstrated environmental stewardship and advocacy.
Co-constructivist learning & teaching

*Projects
*Documentation
*Co-constructed knowledge

Teacher as facilitator

Transformative learning & teaching

*Enacting change
*Thinking critically
*Being empowered and acting with agency

Transformative Project Approach

Young Children as Change Agents for Sustainability

Teacher as facilitator

Transformative learning & teaching

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Embedding education for sustainability in early childhood education

It should be a **sensory** experience … Children should be able to:

- **Smell it** – fresh air, scented gardens, fresh garden produce, native flowers, chemical free environments …
- **Taste it** – fresh food growing / self-grown produce …
- **Hear it** – birds, natural elements, books about recycling / the environment / caring for native animals and plants, Educators addressing sustainability issues …
- **Feel it** – natural textures, mud, water, sand, branches, grass, toys made from recycled or sustainable materials …
- **See it** – natural elements for play, insects in the playground, eggs being laid and not in cartons, Educators modelling sustainable practices …

... to name just a few …
Embedding education for sustainability in early childhood education

It should be participatory …

Children should be involved in:

- **Recycling** ~ using both sides of the paper, utilising charity bins for unwanted/ no longer needed items
- **Conserving** ~ turning off taps/ lights/ air-conditioning/ heating to reduce energy consumption should be embedded into daily practices
- **Reducing** ~ litter-free lunches, taking photos to remember craft that can be re-used, water and energy use
- **Re-using** ~ pre-loved items, craft materials

However, none of this is worthwhile unless children understand the value…
Embedding education for sustainability in early childhood education

It should be participatory …

Children should be involved in:

- Feeding/ caring for garden beds, chickens, compost, worm farms
- Wiping down table-tops with cloths that can be washed and used again (rather than paper towel or wipes)
- Hanging out washing to dry in the air (rather than the dryer)
- Learning alongside Educators who challenge children’s thinking, encourage children to critically analyse and consider alternatives / Educators who facilitate children’s learning and action-taking
- Creating change … suggested by themselves …