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NCEA Achievement Standards in EfS: What do students learn?

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Mō tātou te Taiao ko te Atawhai
Mō tātou te taiao ko te Oranga

It is for us to care for and look after the environment to ensure its wellbeing
In doing so we ensure our own wellbeing and that of our future generations

Toiū te Ao was designed by Raukura Gillies (NEFS).

NCEA Achievement Standards

Whānau ka hōwhiriwhiri ki Mōwhiri: Hōwhiriwhiri

Code	Level	Subject
AS90810	2	English
AS90811	2	English
AS90812	2	English
AS90813	2	English
AS90814	2	English
AS90815	2	English
AS90816	2	English
AS90817	2	English
AS90818	2	English
AS90819	2	English
AS90820	2	English
AS90821	2	English
AS90822	2	English
AS90823	2	English
AS90824	2	English
AS90825	2	English
AS90826	2	English
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AS90893	2	English
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AS90895	2	English
AS90896	2	English
AS90897	2	English
AS90898	2	English
AS90899	2	English
AS90900	2	English

- Standards at Level 2 and 3
- Focus of this research AS90810
- Identify, plan, implement action
- Reflect on its efficacy

Aim and Research Design

- Explore effects of students' engagement
- Personal, families' and friends' lives
- Effective teaching strategies
- Investigate effects of teachers' engagement with AS - professional and personal
- Interviewed students (20 – 12 females, 8 males) and teachers (2)
- Collected assessment material

Reasons for Choosing 'Sus'

- 2 types – pragmatic or altruistic
- 18 responses pragmatic
 - "Interesting" and "different"
 - Good choice career-wise
 - Teacher/dean recommendation
 - Gap in timetable
- 2 responses altruistic
 - Wanting to help the environment
- 2 students gave both types of responses:
 - It sounded interesting and it got referred to me from one of our geography teachers ... if I was keen on learning more about the environment and how we can help out then this would be the subject and so I just picked it ... well it's really us, we're harming it so I guess we're the ones that should help like sustain it for future generations (John)*

Types of Actions for Sustainability Taken

- Challenging to decide
- 5 types of actions taken:
 - Waste** – improving the school's recycling system (2 groups); implementing an e-waste collection system; implementing a battery recycling system; and collecting scrap paper for re-use.
 - Saving energy** – saving electricity in a block of classrooms; monitoring use of lights in classrooms; and reducing use of heaters in classrooms.
 - Tree planting** – planting mandarin trees around school.
 - Building seating** – built benches for students to sit on instead of the rubbish bins (which usually tipped over).
 - Lunchtime games** – organised a series of games, e.g. softball, for students to play at lunchtime.

Effects on Students' Personal Lives

- 9 students reported change
- Saving energy
- Planting fruit trees
- Waste management
 - *I compost, I don't chuck food waste in the bin anymore. It's not a very good compost but ... I can just chuck it in. (Jane)*
- Purchasing fair trade products
- Change in perception of self:
 - *Students can get more ideas from students ... if they don't know what to do with power [knowledge about saving power] and all that, they can just come to me and ask for help. I can actually help teachers as well. (Katrina)*

Effects on Families

- 9 students reported change – discussions
- Purchasing fair trade products
 - *... I've talked with my mum about fair trade ... as a family we're going out to buy like fair trade stuff like coffee ... my family's really taken it on board. (Bruce)*
- Beginning/improving waste management
- Energy saving strategies
- Tree planting
- Wider effect:
 - *I decided to talk to them about what it [rubbish] does to the environment and after I did my sister ... she decided every morning before church we have to pick up rubbish ... it's next to the park ... (Skye)*
- Not all families receptive:
 - *... they don't listen so I just do my stuff and they just tell me I'm wasting my time. (Sean)*

Effects on Friends

- 9 students reported discussions with friends
- 1 reported change:
 - *... when I went to my friend's house on Monday and like the power's off and I went oh that's good and he goes I listened to what you had to say. (Katrina)*
- 2 thought peers valued their actions:
 - *They're like oh cool because when we were planting our plants like early on a Wednesday morning everyone was like you guys are good citizens ... it was pretty cool. (Tete & Christina)*
- Others found friends less receptive:
 - *It feels like talking to a brick wall ... they talk a lot of rugby and stuff ... [when they] chuck rubbish on the ground, you bring it up no don't chuck rubbish and they'd be like so what ... (John and Bruce)*
- One experienced negative feedback:
 - *I got called a tree hugger the other day ... apparently I sounded really patronising ... I guess they see me as one of those people who are trying ... to shove religion down someone ... (Jane)*
- 13 recommended course to their friends

But ...

- Changes mostly contextually related:
 - **Mila** – action involved paper re-use and effects on life: *I'm more careful like with my books and stuff like that ...*
- 4 reported actions beyond:
 - **Linda** – action involved energy saving but extrapolated learning about fair trade: *... like our food, sometimes when you buy clothing like jeans and stuff, it comes from somewhere else and we buy jeans that are not those cheap ones because we know that they come from slavery.*

Student Identification of Effective Teaching Strategies

- Teacher modelling of Fair Trade Hot Chocolate Break
- Teacher modelling of waste management
- Videos:
 - *... showed us some videos ... I didn't really enjoy it, it made me sad but I think ... I was glad I saw it ... about the dolphins and whales ... (Mila)*
- Trips e.g. Kelly Tarltons

Follow-up in Year 13

- All but one continued with 'Sus'
 - Relevance
 - Learn about environment and issues not discussed at school
 - Teaches you to look after the world
 - Favourite subject
- Most reported continuing with personal/family actions
 - Mostly involved waste management
 - More aware of palm oil – no chocolate, Nutella

Year 13 Actions

- Most actions centred around palm oil
- 1 group continued with e-waste
- 1 group continued with waste management at school
- Actions seemed to be more sophisticated:
 - Organising and writing petitions (Tip Top)
 - Presentations to staff
 - Writing a pamphlet about not using palm oil
 - Making a video about baking without palm oil
 - Using a bake sale to get signatures on petition
 - Using Facebook

Taking Action and Understandings

- All agreed that taking action helped with understanding issue
- Helps to relate understanding to action
- Hands-on component helped develop understanding
- Researching what need to know “sinks in better”
- Less motivated if no action – learn it and forget it
- Engages emotion “... if your heart’s in it, you’re going to be more passionate about it.” (Mila)

Development of Skills

- Taking action second time – improvement in action taking skills
- More confident about communicating with adults
- Better at working together as a team, e.g. assigning roles, communicating with each other
- Better at managing time – meeting checkpoints and not doing things at last minute
- Better organised
 “Because we understand more, more determined and motivated to complete our action” (Mila)

Implications for Students

- All enjoyed taking ‘Sus’
- Incorporation of practical component assisted development of understanding
- Had intergenerational effects
- Little – no effect on friends
- Need to have a ‘suite’ of courses
- Built on what learnt in previous year
- Improvement in action taking skills

Organisation of ‘Sus’

- Starting point to ‘catch’ students falling between cracks, “hands-on”, “less traditional”
- Now becoming more academic
- 1 geography teacher & 1 biology teacher
- Take turns to teach topics
- Strategies:
 - Understanding of sustainability – 4 components and making connections between them
 - Modelling taking of action
 - Class discussions
 - Videos:
 - ... kids were actually running to class ... running up the hill ... and saying put it on ... every day for a whole week ... this really surprised me. (Mr Jones)

Effects on Teachers’ Lives

- Teachers didn’t identify as activists
- Both had an interest:
 - I’m like Miss Smith. I had to do a geo degree and there’s some environmental stuff there. When I was a prefect at school I was in charge of the environmental stuff. So yes, that was pretty green. (Mr Jones)
- Affected personal lives:
 - ... I buy the butter now because it doesn’t have palm oil ... it’s like very small things but I would have had no clue about that stuff without this (EFS). (Miss Smith)
 - ... it does play a role in decisions I make but before this I didn’t give it as much weighting ... I didn’t initially go straight for the fair trade so it educated me ... (Mr Jones)

Implications for Teachers

- Not easy to teach
- Takes more work
 - No textbook
 - Not many resources
 - Pre-planning
 - Making connections
 - Lots of energy and time
 - Teach self about issues
- Really enjoy it, first on timetabling list