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## Exploring Education for Sustainability in training outdoor educators

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### Abstract

This article outlines changes to the University of Canterbury, College of Education's Outdoor and Environmental Education programme that occurred as the result of a critical and strategic review of the philosophy underpinning the programme. The first part of the article describes and gives examples of the re-positioning of the programme's philosophy and practices in relation to the concept of education for sustainability. The second part of the article provides brief accounts of three practical applications within programme courses that were developed in line with this change in thinking.

**Key words:** Education for sustainability, environment, outdoor education, strategic change

### Beginnings

#### The Need for Reappraisal

The University of Canterbury, College of Education (UCCE) provides initial teacher education for students intending to work as outdoor educators at the secondary-school level through its Outdoor and Environmental Education (OEE) Curriculum Centre. The training pathway takes two forms: a Graduate Diploma of Teaching and Learning, which has, as a prerequisite, a degree in the area of outdoor education, and a Bachelor of Education (Physical Education) which includes outdoor education strands. Both programmes involve students enrolling in a range of courses including adventure based learning, environmental education, education outside the classroom, introduction to kayaking, education for sustainability, and so forth. The graduate programme, which has been running for over 20 years, draws graduates from institutions such as the Christchurch Polytechnic Institute of Technology, the University of Otago, and the Auckland University of Technology. The College of Education maintains a graduate-tracking database which when combined with anecdotal accounts and

communication, indicate that graduates of this programme take up a wide range of relevant positions throughout New Zealand and overseas including teacher-in-charge of outdoor education at schools, education for sustainability positions at local authorities, educators at outdoor centres and tertiary teaching positions at polytechnics.

In 2007, the OEE Curriculum Centre undertook its regular (five-yearly) review of its programme, courses and practices via an internal and external consultation process. The review sought comments on programme philosophy and practices from college staff, current and past students, and stakeholders in schools and the wider sector. During this process, a number of probing questions began to emerge that related to the positioning of and the emphasis on the college's Environmental Education and Education for Sustainability courses, which the college had been offering for 15 years and 5 years respectively. Among the questions asked, were these:

1. Did the centre's lecturers and students see the courses as optional extras tacked on to the rest of the outdoor and environmental education programme? If they were not seen in this way, why were they not compulsory?
2. Had these two courses been marginalised within the overall programme?
3. Did the values espoused by the courses (and, by implication, the whole programme) embrace the dominant anthropocentric paradigm or did they reflect a more eco-centric paradigm?<sup>1</sup>

At much the same time that this review was underway, students within the college's environmental education course were conducting environmental audits of the programme's adventure-based learning and kayaking courses. The students asked a range of questions in the following four areas – environmental, organisational, operational, and curriculum and used a blend of interviews with staff and students, observation and document analysis to make their conclusions. The findings of the programme review and the student audit were complementary: both agreed that the programme did not adequately prioritise issues relating to environmental sustainability and, in particular, did not have in place a clear environmental policy to guide the programme's planning, implementation, and activities. For example, when purchasing food for field activities, those involved in the programming were paying little, if any, heed to issues such as packaging,

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1 According to Pepper (1984, p. 78), "... environmental ideologies can be classified as anthropocentric (humans as rulers or stewards of nature) and eco-centric (humans as equal with other life forms)."

source of food item, and fair trade. Other areas of concern were lack of recycling of materials and the high fossil fuel use and carbon emissions associated with the fleet of college vehicles travelling large (and possibly unnecessary) distances.

With these questions and concerns in mind, the OEE Curriculum Centre initiated a strategic planning process that aimed to help staff and students rethink and refocus the philosophy and direction of its courses and overall programme. A strategy group was set up to coordinate this process which included a range of representatives from the contributors to the original consultation process were invited to join this process including current and ex-students, other sector representatives and UCCE staff. This group then conducted a range of discussions and interactions over six months with one of the outcomes of this process being that centre staff decided to undertake a comprehensive rewrite of all its courses, with that rewrite based on a consensual understanding of the programme's principles. Essentially, the intention was to design a "road map" for the next five years that would allow a slow but steady metamorphosis of the programme. Irwin's (2008, p. 56) view of education for sustainability supports this approach, "Educating for sustainability cannot be viewed as an add-on to what we usually teach ... because the idea of sustainability fundamentally challenges our reality on economic, political, spiritual, social and ecological levels."

## Developments

### *A Clearer Understanding of Education for Sustainability*

As Law (2005) points out, tertiary education providers have been slow to offer programmes and qualifications that comprehensively address education for sustainability. The strategy group was also challenged by the imperative on the part of various adherents of education for sustainability that education become part of the solution rather than part of the problem. Schumacher (1997) summed up this imperative when he wrote: "The volume of education ... continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind: an education that takes us into the depth of things" (Schumacher in Stirling, 2001, p 21). However, before the members of the strategy group considered these matters in depth, they agreed that they needed to have a clear and mutually understood concept of education for sustainability.

The Parliamentary Commission for the Environment or PCE (2004) sees sustainability as a quest that aims to improve the quality of people's lives and surroundings and to allow people to prosper without destroying

the life-supporting systems on which current and future generations of humans (and all other species on Earth) depend (p. 14). Irwin (2008) states that “educators of sustainability are faced with a myriad of definitions and differing applications of the term sustainability”, (p. 39) and estimates that there are more than 300 definitions of the term sustainability representing a wide range of perspectives.

The concept of education for sustainability has also been defined in many different ways over the last decade. For example, the PCE state;

Education for sustainability will require people and organisations to see that changes for the better can be made, and that there will need to be a transformation (a redesign of many systems and established ways of doing things) to achieve a good quality of life for people far into the future. (PCE, 2004, p. 14)

For Irwin (2008), education for sustainability is about developing critical thinkers who are empowered to challenge the beliefs and norms that underpin the realities of economically developed societies. Lugg (2007) summarises inherent problems with the term education for sustainability in that it can be seen as “promoting particular values and behaviours and therefore an educationally unjustifiable form of indoctrination” (p. 98). She also outlines the problems with another common term, education for sustainable development which is used by UNESCO (United Nations Educational, Scientific and Cultural Organisation), highlighting that the adoption of this term can lead to “simultaneously promoting the sustaining of ecological processes and of consumerism” (p. 98). Eames, Cowie & Bolstad (2008) agree and state that; “alternative perspectives on sustainability in New Zealand, particularly economic and political, have competed for dominance in the revised New Zealand curriculum” (p. 48).

The term education for sustainability is in many ways a contested term and not without its tensions, as a result care must be taken to avoid unintended consequences and outcomes. In the light of this, the priority of the strategy group was to both maintain the robustness of their definition of education for sustainability while also keeping the definition succinct and reasonably self evident in order to allow the first steps in shifts of thinking in the staff and students involved in the process. They acknowledged that this compromise would be revisited at a later stage as the process gained momentum.

The definition adopted is summarised in Figure 1 – adopted from Law (2006) which describes education for sustainability as the integration and interdependence of the following three aspects. The first is an environmental aspect (environmental literacy, ecological life support systems, climate change, biodiversity etc.). The second is a socio/cultural/

political aspect (equity and fairness, total wellbeing, cultural perspectives, social justice, respect for diversity etc), and the third is an economic aspect (sustainable enterprise, development, resources, finances). The figure suggests that education for sustainability involves the integration and interdependence of these three aspects through processes such as critical inquiry, partnerships and collaboration, cross curricular learning, reflective thinking and so forth.

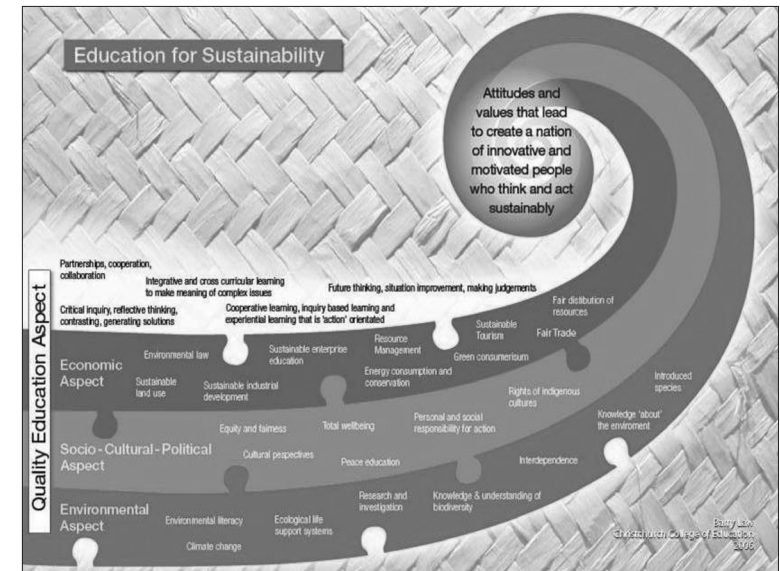


Figure 1: Aspects of education for sustainability. Source: Law (2006).

The strategy group used this framework for education for sustainability to undertake a detailed critique each of the courses offered within the OEE Curriculum Centre’s programme. This process revealed that although the programme was addressing the economic and the socio/cultural/political groups of aspects relatively effectively, there was large variance with regards to the environmental groups of aspects. The economic imperatives of the university meant that the economic sustainability of the courses was fundamental. The socio-cultural-political aspects were reasonably well covered through the social-justice and interpersonal development focus of our staff. This social and personal development focus is also a common priority in outdoor education in New Zealand (Zink & Boyes, 2006). However the environmental aspects were under-emphasised. The strategy group accordingly engaged in a course of action that led to the outcomes described in the next section.

### **A New Vision and a New Purpose**

The group continued the strategic planning by reformulating the centre's vision and its purpose, and then moved on to clarifying its collective values and guiding principles. This process allowed the group to draw up strategic objectives and then to develop strategies for each of these. The vision statement that was agreed upon was adopted with permission from the National Education for Sustainability Strategy (Ministry of Education, 2005). The vision that guides this strategy matched the emerging direction of the centre's courses, and it therefore made sense to share it. The centre's vision thus reads:

New Zealanders are innovative and motivated people who think and act sustainably.

Ko ngo iwi o Aotearoa He tangata whai tikanga kia toitu te rangi, te whenua, me te moana Kia toitu te tangata.

The purpose statement that the group developed drew on this vision;

Nurturing a vibrant community of educators with the leadership skills, knowledge and passion to educate and motivate others through outdoor and environmental education to act towards developing a sustainable environment and sustainable communities.

In line with Schumacher's (1997) comments, mentioned earlier regarding a different kind of education, the group and the centre agreed that the explicit intention and purpose the OEE curriculum centre would be to continue to develop a programme that would give graduates the understandings (in terms of both principles and practice) to adopt an education for sustainability focus in their various future professional roles. The graduates' primary focus in this regard would be on changing the thinking and actions relative to environmental sustainability of the young people they would be educating.

For reasons of space, outlines of the values, guiding principles, objectives, and strategies that the centre developed to realise this aim are not included in this article; interested readers can obtain this information from the authors. Instead, in the next section, we provide, for illustrative purposes, brief accounts of three innovations that arose out of the strategic review and planning process and were implemented within the centre's courses.

### **Outcomes**

Each of the following three examples of changes implemented as a result of this review process were designed with the intention to develop the pre-service teachers' action competence; that is, the knowledge, skills, and confidence a person needs to act sustainably and to encourage others to act in like manner (Jensen & Schnack, 1997). Action competence according to Jensen and Schnack, combines knowledge, insights, commitment, vision and action and thus, action competence provides a framework that enables students to take individual or collective action. Action competence is also referred to in the literature as sustainability literacy. Law (2005, p. 279) highlights the importance of the development of action competence in the tertiary sector, "While many universities in New Zealand provide environmental related papers, the focus of these papers is often on knowledge acquisition and awareness rather than on developing one's action competence skills".

The strategy group was highly mindful of the need for change at a praxis level. Breunig (2005) is one proponent of the need for theory and practice to be melded into well-informed and comprehensive programmes. In line with this perspective, Hill (2008) observes that those adopting a critical perspective, such as education for sustainability, in relation to outdoor education tend to be strong on criticism but weak on practical solutions and activities. He suggests the lack of praxis may be because the process of introducing education for sustainability into a traditional outdoor education context is difficult for several reasons, including the fact that outdoor education courses in New Zealand place their main emphasis on students' personal development and traditional outdoor activities.

#### **Initiative 1: Collaborative Sustainability Projects**

Students in pre-service teacher education at the UCCE can participate in a range of praxis-based education for sustainability projects implemented in collaboration with the Untouched World Charitable Trust. The trust currently has five projects around New Zealand: UCCE students are involved in the Blumine Island project, the Tiromoana project and the Rowi Kiwi Forever project. Each project involves a week-long practicum experience for up to 20 secondary school students from secondary schools in the Canterbury and Marlborough regions and three to four pre-service teachers from the University of Canterbury. The pre-service teachers work alongside staff from the Untouched World Charitable Trust, the New Zealand Department of Conservation (DOC), and other partners, as they help organise and lead the week-long programme, providing the pre-service teachers with an important opportunity to participate in a programme that combines a student-centred approach with a sustainability theme.



Each project has dual aims; 1) to contribute to a practical conservation based project, and 2) to develop action competence among the secondary students and pre-service teachers involved.

The Blumine Island Project takes its name from Blumine Island, which is situated in Queen Charlotte Sound in Marlborough and is managed by DOC. In days past, the island was extensively farmed, but has since been allowed to regenerate the native bush and DOC is now re-introducing native species back onto the island including kiwi. The school students and the pre-service teachers spend six days camping on the island and taking a large part in planning and organising the range of ongoing activities associated with DOC's plans for the island. These activities include surveying, monitoring birds, snails, and weta, mapping and maintaining tracks, and contributing to pest eradication through tracking tunnels and traps. "Students are engaged with all aspects of the island-based planning, the decision making, risk management, data management, critical thinking and reflection." (Sutherland, 2009, p. 21)

The Tiromoana Project requires students and pre-service teachers to critically examine consumerism and its implications for the environment. The students and pre-service teachers spend a week tracking the waste stream around the Christchurch area, starting at a large shopping mall and concluding at the Kate Valley landfill (situated just north of Christchurch). Participants also are introduced to a range of innovative solutions in the community and are then required to design projects that will help their communities work towards zero waste. They then present their proposed projects to a public meeting at the end of the week. "Overall this programme plants a seed for change for all; some immediately see new learning pathways and opportunities, others return to school fired up to take action while for some other the sprouting of that seed is slower and initially at a personal or household level" (Papprill, 2009, p. 16).

The Rowi Kiwi Forever project is based on the West Coast and involves contributing to the ongoing Rowi kiwi breeding and protection programme managed by the Department of Conservation and supported by Ngai Tahu.

The Untouched World Charitable Trust and OEE Curriculum Centre staff are currently collecting follow up evaluation data to help determine the extent to which these projects are supporting the school and pre-service teachers develop action competence. Anecdotal evidence from the students themselves and some of their schools suggest that the students make significant gains in respect to action competence, with many returning to their schools and implementing projects of their own in their schools, while others have been involved in the creation of the Canterbury Youth Environmental Forum (Papprill, 2009, 16). Likewise, many of the University

of Canterbury graduates who have participated in these projects are now employed in schools and other positions where they too have initiated projects with a focus on education for sustainability. The Untouched World Charitable Trust is developing an alumni website where secondary and tertiary students who have graduated from their courses can network and collaborate on action projects in their schools and communities.

### ***Initiative 2: Reconfiguring Outdoor Practicum Courses***

In 2008, UCCE designed and implemented an environmental policy to be followed by all pre-service teachers during their practicum experiences. The first application of this policy involved the OEE curriculum centre's Adventure Based Learning (ABL) course, a 20-hour course where the pre-service students learn the philosophy of ABL and then design and facilitate a range of developmental activities to be undertaken within the Craigeburn Valley area during a two-day practicum. An example of the implementation of this policy is a process where the students are given a budget for food for the practicum and then have to select two of the following sustainability criteria when purchasing the food: (i) local supplier or grower, (ii) minimal packaging, (iii) fair trade, and (iv) the producer adhering to an ethical environmental policy.

Another aspect the students have to consider while on the practicum is comprehensive waste disposal, including the recycling of plastics, cans, cardboard, and using a Bokashi system for organic waste. The students are required to develop strict human-waste, cleaning, and Leave No Trace protocols (LNT, 2009) so as to minimise impact on the areas where they camp. UCCE post course evaluations indicate that the pre-service teachers find these provisos both challenging and useful, and that they feel more confident about applying similar processes within the schools in which they will be employed.

### ***Initiative 3: Assessment task involving designing an outdoor course***

One of the major assessment tasks that students involved in the outdoor and environmental education courses are required to undertake is designing a year-long course for Years 11 to 13 students. As a result of the strategy group review, students are now required to bring a strong sustainability focus to the design of this course and to its assessment criteria. More specifically, the pre-service teachers must address the three aspects of sustainability; environmental, socio/cultural/political, and economic as discussed earlier. The students must also include content related to "in, about, and for" the environment. Thus, the course must be based in a natural environment, it must be about the environment, and it must also contain an action project for the environment. This focus accords with directives from the Ministry of Education and other agencies;

Education 'in' the environment offers learners experiences beyond the classroom, and often in the natural environment. Education 'about' the environment is concerned with knowledge about the environment and environmental issues. (Ministry of Education, 1999, p. 14)

Education 'for' the environment is the action component of environmental education, providing students with opportunities to make decisions and work towards the resolution of environmental issues. (Jensen & Schnack, 1997, p. 169)

Although Wilson-Hill (2006, p. 4) states that "extensive research acknowledges that schools rarely move from education 'in' and 'about' the environment to the student centred participative 'for' the environment aspect", the pre-service teachers who have completed this assignment have developed a range of innovative ways to address these issues. These include using local transport and developing locally based journeys, designing and implementing collaborative local action projects, adopting a bicultural focus, forming connections with place by revisiting the same areas in different seasons (summer/winter), and sustainable purchasing of food and equipment to name just a few. The students find that the "for the environment" aspect requires a total rethink of a traditional outdoor education programme and as a result they create some exciting and innovative designs. For example, one of these pre-service teachers, Chris Taylor, who has since been teaching at a secondary school in Wellington, has implemented for the last 3 years a range of innovative strategies aimed at incorporating the principles of sustainability into his classroom. He states "I am convinced that sustainability education is an important concept central to modern outdoor education...however there are still many questions to be asked and adaptations to be made to get a product that can be really useful for education in our secondary schools." (Taylor, 2010, p. 24).

## Conclusion

Over the last three years, the Outdoor and Environmental Education Curriculum Centre of the University of Canterbury, College of Education has been working to transform its programme so that it aligns with the principles and practice of education for sustainability. This process began with agreement on a new vision for the programme; "New Zealanders are innovative and motivated people who think and act sustainably"; and has led to implementation of several initiatives within the centre's programme that are designed to provide pre-service teachers with the action competence they need to impart the praxis of education for sustainability to their students. Other such initiatives are also underway within the OEE

Curriculum Centre which will be implemented gradually over the next few years. The centre is committed to taking small steps so there is time for changes to become fully integrated into courses, with the aim to be a slow but steady metamorphosis of the overall programme.

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# The sidelining of environmental care in outdoor education programmes: Why it happens, why it shouldn't and what we can do about it<sup>1</sup>

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## Abstract

The article considers barriers and enablers to including environmental care education (ECE) in secondary outdoor education programmes. Despite the wide range of factors promoting ECE in Aotearoa / New Zealand various barriers such as; cultural attitudes, training of outdoor educators, and assessment practices are impeding ECE. The theory of planned behaviour is introduced as a way to conceptualise how this situation might be turned around. The article concludes with a consideration of how outdoor education teachers can be more effective in educating for behavioural change.

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**Key words:** leave no trace, environmental education, outdoor education.

## Introduction

One of my students forgets her boots, another leaves lunch for his group on the kitchen table at home, and then one of the vans gets lost on the way. It isn't until midnight that we get into our tents at our campsite. Other events take their toll on our timetable: blisters and a sprained ankle slow our travel speed. But making the most of the situation, we concentrate on navigation and bush skills over the next few days. In the evenings we have a "bush" party, and at the end of the trip, tired, happy students and I get into the van and drive home. But nagging me, at the back of my mind, is the thought of the aspects of environmental education that we didn't get around to.

I feel disappointed by my lack of commitment to environmental education.

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<sup>1</sup> For definitions of these terms see page 47.