

New Zealand Communities Forever: Integrating Sustainability, Education and the Treaty of Waitangi

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To sustain the natural and social capital in New Zealand it is essential to integrate sustainability, education and the Treaty of Waitangi. The Treaty, the core of New Zealand governance was signed in 1840 between Māori and the Crown. The Treaty recognises the unique relationship of Māori with their environment and promises Māori full rangatiratanga (chieftainship) of their lands and taonga (treasures). The concept of managing New Zealand's natural and social capital is underlined by the Treaty which plays a central role in sustainability education. The Māori concepts of hauora (total well-being and balance with nature) and rāhui tapu (conservation) are significant reflections of sustainability. The Treaty itself is a fundamental theme in New Zealand's resource management legislation - the Resource Management Act 1991, whose main objective is to support and maintain sustainable management of natural and physical resources. Unitec, New Zealand is a tertiary institute that incorporates its commitment to the Treaty of Waitangi and its partnership with Māori through an agreement: "Te Noho Kotahitanga". The Unitec Applied Technology Institute (UATI) offers a Sustainable Technologies course where students are required to design sustainable technological solutions in authentic settings. The compulsory requirement to integrate the Treaty into sustainable technology issues ensures that students learn to appreciate the cultural and social importance of the environment to Māori. This paper through a case study attempts to illustrate how these elements have been incorporated effectively into the learning and teaching context at Unitec Applied Technology Institute (UATI) both within this course and into the wider degree programme.

Introduction

Sustainability is a means of meeting the needs of the present without compromising the ability of future generations to meet their own needs. Education and awareness is essential in order for communities to plan for a sustainable future. In New Zealand, to achieve a sustainable future the integration of technology and traditional Māori values into environmental legislation and education is crucial for the development and management of natural resources. This paper attempts to demonstrate how this integration is possible and can be replicated by other global communities. It must be emphasized from the start that the Māori terminology used in this paper has several connotations with regional variations. To clarify the meaning of Māori terminology used by the authors a glossary is included.

Why education for sustainability?

Education is a sociological phenomenon focused on what educators do to facilitate learning in others. It is a very powerful medium through which information can be transferred and improved practice can be effectuated. Education can initiate a change in mind-set, attitudes and habits. Learning generally takes place within social contexts though it can be argued that individuals can learn independently. Education for sustainability directs people in society to live in sustainable ways. Environmental education, the precursor to education for sustainability, concentrated on conservation and protection rather than effective ways to reduce environmental degradation. Education for sustainability takes a more proactive approach. Instead of merely cleaning up the symptoms of environmental problems it aims to do things differently in the same place through social indoctrination.

The Earth Summit in 1992 highlighted the importance of education for sustainability. The United Nations called on all countries to develop strategies for its implementation. The Earth Summit defined education for sustainability as:

“...critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision making (UNCED, 1992).”

Education for sustainability was first prioritized by the New Zealand Parliamentary Commissioner for the Environment in 1997. The awareness of education for sustainability has been slow therefore New Zealand has reaffirmed its commitment by declaring the Decade of Education for Sustainable Development from 2005 to 2014 (PCE, 2004: 37). Changes had to be made so that people could live in sustainable ways.

Education for sustainability necessitates people to critically reflect on their own values and surroundings for community well-being. It aims to create an integrated approach whereby people and institutions can share their ideas and use their expertise to make sustainability a reality. More than a mere immediate social awareness, the ultimate objective is changing social beliefs that inculcate in an individual and in the community the practice of sustainability.

Tertiary education is vital in influencing New Zealand society and community. Conventionally the acquisition of knowledge at tertiary level was restricted to the specialisations undertaken. Specialist students have difficulty developing knowledge of issues from different perspectives including sustainability. Many students graduate without the knowledge of sustainability and are unable to apply the concept in practice. Education today needs to focus on integrating principles of sustainability within all courses so that not only environmental graduates but graduates from all disciplines become sustainable practitioners.

The New Zealand education environment is unique as compared to those of other countries. To encourage sustainability in New Zealand special attention needs to be paid to the political and social aspects that directly and indirectly influence education. In bi-cultural New Zealand society, the Treaty of Waitangi and the Resource Management Act 1991, encourages dialogue between Māori (*tangata whenua*) and Non-Māori. This dialogue enhances the implementation of education for sustainability in locally relevant and culturally appropriate ways.

The Treaty of Waitangi

The Treaty of Waitangi signed on 6 February 1840, is the founding document of present day New Zealand and the closest thing this country has to a written constitution. The Treaty recognises the unique relationship of Māori with their environment and promises Māori full *rangatiratanga* (chieftainship) of their lands and *taonga* (treasures). The Treaty ensures that Māori were able to preserve and uphold their way of life yet were able to draw on the positive aspects of European culture, technology, skills and material wealth.

Rangatiratanga is the key term in the Treaty. In essence it is the working out of a moral contract between a leader, his people and his god. According to the Ngawha Geothermal Resource Report it is a dynamic not static concept, emphasising the reciprocity between the human, material and non material worlds. Realistically, it means the wise administration of all the assets possessed by a group for that group's benefit: in a word, trusteeship (Waitangi Tribunal, 1993: 5).

Rangatiratanga is a birthright, the exclusive control of *taonga* for the benefit of the tribe: those living and those yet to be born. Without this crucial authority the tribal base is threatened socially, culturally, economically and spiritually. This entails stewardship to maintain the tribal base for succeeding generations. The Treaty ensures that Māori retain the right to protect and guard the natural environment. They have a strong tie with the land and have *mana whenua* (power and authority) to produce a livelihood from the land and its natural resources. Māori protect the land from despoliation by careless exploitation and ensure that sustainability is always maintained (Mutu, 2004: 166)

NZ Resource Management Act 1991

The Treaty is the central theme of the Resource Management Act (RMA) 1991 which was designed to promote sustainable management of New Zealand's natural and physical resources. This Act provides a legal framework for making decisions about the use, development and protection of renewable and non-renewable resources. Section 5(2) of the act defines this as:

“managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety; while sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and safeguarding the life-supporting capacity of air, water, soil and ecosystems; and avoiding, remedying or mitigating any adverse effects on the environment” (Statistics NZ, 2004: 288).

To achieve sustainability, the Act obliges persons with authority and power to consider *kaitiakitanga* (the ethic of stewardship), the appropriate development of natural and physical resources, the protection of heritage, the maintenance and the enhancement of environmental quality by proper management of finite resources (BIZ, 2004).

Consultation with the *iwi* (tribe) is the core of the Treaty signed in 1840 and the Resource Management Act 1991 legalises this consultation making it relevant for the present. Therefore liable authorities such as the local councils have to

consult *tangata whenua* (people of the land) wherever Māori are directly affected by a proposal concerning the natural resources and the environment. The Resource Management Act 1991 requires resource consents to be granted for any development and these take the form of specific approvals through submissions made by affected parties to the local councils.

Traditional environmental knowledge is important in environmental management hence the incorporation of the traditional values of the Treaty finds current application through the Resource Management Act. Immaculate understanding of their environment has supported Māori efforts to maintain and sustain their families and communities for many centuries. The Resource Management Act recognizes Māori as being *kaitiaki* (caretakers or guardians) and responsible for maintaining and preserving the life sustaining environment. The Māori concepts of *hauora* (total well-being and balance with nature) and *rāhui tapu* (conservation) are significant reflections of sustainability. Māori have been great believers in a lifestyle that preserves their natural resources so that the sea and earth would not be harmed. They have *mana whenua* (authority) to produce a livelihood for family and tribe from the land and its natural resources (Mutu, 2003: 167).

In Māoridom, all the elements are the world's natural resources- the *taonga*- that are greatly treasured and respected. If *taonga* is violated *mana* (power) is removed and power to sustain life is lost (Mutu, 2003: 167). Preserving the life force of *taonga* ensures that the life essence is healthy and strong. The judicious use of *taonga* guarantees healthier communities and a sustainable lifestyle. Māori have always practised sustainable environmental management and this traditional knowledge is vital in future resource management in New Zealand.

UNITEC New Zealand and Te Noho Kotahitanga: The Partnership

UNITEC's mission is to inspire students to discover and apply their intellectual and creative potential and contribute responsibly to their societies and cultures (UNITEC, 1994: 11). UNITEC as a tertiary institute accepts the responsibility to educate New Zealanders and acknowledges the fact that all New Zealanders need to be informed about the Treaty of Waitangi. UNITEC believes that only from an informed and educated understanding of each party's history, culture, values and beliefs that everyone can begin to fully appreciate and value the cultural richness of New Zealand and each other's uniqueness and sameness (UNITEC, 1994: 17). "*Te Noho Kotahitanga*", a partnership document of 2001, expresses UNITEC's commitment to this uniqueness and to the Treaty of Waitangi. This commitment is implemented through the integration of the Treaty in most courses, to empower the students with an appreciation of the bi-cultural richness of Aotearoa.

UNITEC's Applied Technology Institute (UATI) offers wide range of industry-related education and training programmes designed for tradesman and technologists who help shape the future. In all aspects of society the training and education of tradesman and technologists is important so they can apply knowledge and skills to solve practical problems and help make the world a better place to live.

UATI's Bachelor of Applied Technology (BAT) programme is a generic degree for the technologists of tomorrow. UATI recognizes the important role tech-

nologists play in developing society. With proper training students not only specialize in their disciplines but also on wider issues such as sustainability. The BAT programme incorporates the principle of sustainability within its applied technology courses for students to comprehend the principle and apply it within their own trades and make a difference tomorrow.

UATI's Sustainable Technologies course enables students to investigate global and local aspects of sustainable technologies and to integrate this knowledge within their trade. Students articulate the rationale of sustainable technologies. They design creative solutions for sustainable practices in individual, community and workplace settings. This course aims at teaching the principle of sustainability to students so that they can make a difference to the environment by taking a step closer to making their trade more sustainable. In designing sustainable solutions, students have to integrate the implications of the Treaty of Waitangi into their trade areas. The real world scenario given below provides a typical classroom example of the application of the Treaty as incorporated within the delivery of the Bachelor of Electrotechnology programme.

“Your project team is working on the feasibility of a geothermal power station in central North Island. The design has been developed and submitted to the local council for resource consent. You have now been contacted by the council officials who require evidence of consultation with the local iwi (tribe) to ensure that the principles of the Treaty of Waitangi have been addressed”.

Students are given a time limit to research and come up with relevant solutions to the above problem. During this process students will deem it necessary to study the implications of the Treaty of Waitangi and the effect it will have on the local *iwi* and the environment. Each group then presents their findings at the appointed time and a discussion of the various issues create a forum of learning about sustainable practice in New Zealand.

Educating ‘tomorrow’s sustainable technologists’ today!

Technologists play a significant decisive role in advancing and transforming our society. Tomorrow’s developments are in the hands of today’s technologists therefore it is imperative that today’s technologists are educated about sustainability. This ensures that every New Zealander can enjoy the same resources in the future as we have today. Technologies act as a double-edged sword and regularly contribute to further pressures on sustainability that may have been unforeseen (PCE, 2004: 42). These unforeseen pressures can be minimised by educating technologists about sustainability. The Sustainable Technologies course at UATI seeks to achieve this goal by educating the technologists of tomorrow today so that they have a better understanding of sustainability and can help make the future more liveable.

Integration of sustainability, education and the treaty

The integration of the Treaty of Waitangi in the Sustainable Technologies course ensures that students comprehend the critical link between the technical environment and the natural environment. All technologies impact the environment in one form or another which in turn impacts on society. Therefore students are encouraged to appreciate the link between technology and the Treaty to ensure that the correlation is maintained to achieve sustainability. This appreciation will inevitably inculcate sustainable practice in the individual and result in educating the communities and the wider society.

Once again it is vital to emphasize that education for sustainability is critical for realising environmental and ethical awareness. Values and attitudes, skills and behaviour consistent with sustainable development are essential for effective public participation in decision making to foster social change. Learning is multi-layered and inter-generational. By incorporating the Treaty of Waitangi, UATI's Sustainable Technologies course aims at successfully educating the whole person rather than specifically equipping students for a career. New Zealand is unique in that traditional Māori values are intrinsic with current principles of sustainable practice. Boyer's (1990) *scholarship of integration* advocates making connections across disciplines, and placing the specialities in larger contexts. Sustainability fits into all learning areas as a cross-curricula theme. Education that endorses this integration, consciously and unconsciously creates in the individual the awareness and sensitivity to the environment and related issues. Knowledge and understanding of the environment and its impact on people, takes on practical stances that reflect in the attitudes, values and feelings in individuals that in turn permeate into the community.

A sense of community responsibility develops through participation and action as individuals or members of groups (*whanau* or *iwi*) address environmental issues. With knowledge of their heritage, their language and their culture together with tertiary education, New Zealand communities can handle the world at large with confidence and self-determination and be assured of a sustainable future for succeeding generations establishing New Zealand communities forever.

As in the case of New Zealand further investigation into the integration history, culture, society and education in other countries could lead to further insightful research. Such heuristic research can indoctrinate various communities creating sustainable global communities making the world a better place in the future. The fusion of new technologies with traditional practices can build a sustainable future with global tangible long-term benefits. Specific behaviours that support a healthy, humane, and environmentally friendly world would become globally coherent and compelling. By living in ways that are deeply fulfilling and at the same time socially and environmentally responsible, global sustainability can become a changing social reality.

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Glossary

Hauora- total well-being and balance with nature

Iwi- group of hapu tribal groupings

Kaitiaki- spiritual minders of the elements of the natural worlds; group with responsibilities of *kaitiakitanga*

Kaitiakitanga- the responsibilities and *kaupapa* passes down from the ancestors for *tangata whenua* to take care of the places, natural resources and other *taonga* in their *rohe* and the *Mauri* of those places, resources and *taonga*.

Kaupapa- fundamental principles, plan, tactics, strategies and methods.

Mana- power, authority, ownership, status, influence, dignity and respect derived from the gods.

Mana whenua- power of the people

Mauri- essential life force, spiritual power and distinctiveness that enables each thing to exist as itself.

Rāhui tapu- conservation

Rangatiratanga- chieftainship including sovereignty, rights of self-determination, self government, the authority and power of *iwi* or *hapu*, to make decisions and to own and control resources.

Rohe- geographical territories of a tribe

Tangata whenua- people of the land

Taonga- valued resources, assets, prized possessions both material and non-material

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