



Web Site Messages of Sustainability: Visual And Written Framing Of Sustainability In Christchurch Secondary Schools

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ABSTRACT

This research engaged with how secondary schools in Christchurch framed sustainability through web based interfaces. The key focus of the research was how schools are engaging students in sustainability through their web-site messaging. While some research has been done around whole-school approaches to sustainability, no research has been done around schools engaging students through their web-based sustainability material. This article is part of a wider project involving a series of case studies which sought to understand more about how to engage youth in sustainable practices. A qualitative case study aims to describe the topic in detail and in context (Yin, 2009). The benefit of gathering varied evidence from multiple cases, allows for cross-case comparison and greater generalisation. From these cases the team identified four key themes which underpinned sustainability: a future focus; diversity/inclusiveness; community; and environment. The findings indicated that while there was little strategic framing, a bottom-up approach which allowed staff, students and the community to initiate a range of projects was a successful model. This appears to increase the engagement and commitment in schools and allows local communities to address local problems rather than trying to adapt to a centralised or over-arching strategic plan which may be less able to respond quickly and spontaneously to local issues.

INTRODUCTION

According to Rockström et al. (2009), key planetary systems such as biological diversity, climate stability and land use that have allowed life as we know it flourish over the last 12,000 years have been compromised. The

instability and possible collapse of these systems will lead to a planet that will quickly become less habitable for humans and many other species. Calls for action in response to the now conclusive evidence of these planetary crises have included global initiatives such as the Decade of Education for Sustainable Development (UNESCO, 2004) which was a call to action directed at governments and both formal and informal education. Thus understanding and improving what is happening in our schools and tertiary institutions regarding teaching environmental and sustainability values, actions, and understandings is critical if we are to change attitudes and move toward practices which will avoid such a planetary catastrophe. According to many experts, however, (e.g., Heinberg, 2007; Parliamentary Commission for the Environment, 2004), change is happening too slowly. This is because no matter how clear and urgent the problems are, unless there is a wide-ranging support for change from organisations and governments, change is not possible. Thus, while integrating education for sustainability into schools is critical, in order for sustainability to happen requires some challenging structural, political, and organisational changes.

The New Zealand Curriculum (Ministry of Education, 2007) was developed with the aim of ensuring “that all young New Zealanders are equipped with the knowledge, competencies, and values they will need to be successful citizens in the twenty-first century” (p. 4), furthermore “our education system must respond to the needs of each student, as well as to economic, social and sustainable development needs” (2007b, p. 12). In the updated 2010 statement of intent, however, the overall focus had shifted to achievement standards, economic success, growing prosperity, and developing a productive workforce.

The lack of government support for education which addresses future sustainability issues is worrying. In Aotearoa New Zealand, the Parliamentary Commissioner for the Environment identified that education is, “essential for environmental sustainability and to sustain the social, cultural and economic well-being of people living now and in the future” (Parliamentary Commission for the Environment, 2004, p. 37). The report also highlighted a lack of strategies and policies across primary, secondary and tertiary education. This follows a study in 2002-3, which noted how environmental education (EE) and education for sustainability (EfS) were being marginalised and were struggling to gain a foothold in schools, as there was, and still is, no curriculum requirement to teach EE and/or EfS in Aotearoa New Zealand (Eames, Cowie, & Bolstad, 2008). This lack of focus on sustainability and how resources are managed is astounding given the economic and marketing value placed on the framing of the clean green image of Aotearoa New Zealand and its international commitment to reduce emissions.

Despite a lack of government initiatives to promote a sustainable future, aspects of education, traditional media, Internet data, and social media are raising awareness, resulting in a groundswell of understanding around issues such as climate change, resource depletion, and wealth inequality. Effectively communicating sustainable implications however, remains a challenge as messages are often inconsistent, patronising, or confusing. For secondary schools, communicating a consistent message is particularly difficult, as departments often have different agendas and curricula expectations.

BARRIERS TO IMPLEMENTING SUSTAINABILITY

While concepts of sustainability are present in the vision, principles, values and learning areas of the current curriculum (Ministry of Education, 2007a), EE and EfS struggle to gain momentum in some schools because they are often overlooked in favour of more traditional subject areas (Irwin, 2010; Straker, 2014). From the late 1980s, education in Aotearoa New Zealand was transformed by neo-liberal policies that promoted economic efficiency, business style competitive strategies, and centralised forms of control and accountability (Codd, 2005). Neo-liberal politics rescinded progressive forms of education, instead promoting standardised testing, individualism, self-interest, and consumerism (Kincheloe, 2007). In many schools, these changes promoted teaching and assessment strategies that led to a reliance on measurable outcomes with less attention given to the processes of thinking and learning (Codd, 2005). According to Thrupp and Easter (2013) a focus on national standards and assessments can often lead to unintended cultural responses, whereby meeting high-stakes targets, standards, or test scores become more important than authentic teaching and learning. The style and content of this increased focus on numeracy and literacy standards has further marginalised EE and EfS which value future focused and holistic learning agendas.

A number of foundations of education for sustainability lie in environmental education, but this has led to some confusion. There is a growing body of literature about distinctions between EE and EfS, with some scholars arguing that EfS is a goal of EE and has enhanced the relevance of EE (Fien, 2002), while others suggesting that EE has lost its focus by being subsumed into EfS (Ferreira, 2009; Kopnina, 2012). The key difference between EE and EfS in Aotearoa New Zealand has been the move from conservation of the natural environment (EE) toward critically thinking about social, political, and economic concerns and taking action to promote long-term ecological and social sustainability (Eames et al., 2008). While this shift in thinking from EE to EfS is becoming more accepted by academics (Ferreira, 2009; Fien, 2002; Irwin, 2010), there is still some confusion.

The term education for sustainability has also been contested by environmental educators who suggest that the proposition 'for' emphasises some undisputed concept which can mask other environmental concerns and environmental movements (Jickling & Wals, 2008; Weston, 1996). Jickling and Wals (2008) suggest that assuming there is an undisputed goal reduces "the conceptual space for self-determination, autonomy, and alternative ways of thinking" (p. 4). They argue that sustainability and especially sustainable development "strengthens the instrumental tendencies of environmental education to promote a certain kind of citizenship, particularly one that serves, or at least does not question, a neo-liberalist agenda" (2008, p. 4). This argument, if correct, would undermine the foundational principle of EfS, as promoted in Aotearoa New Zealand, which emphasises critical thinking in order to challenge inequality which is occurring because of neo-liberal agendas. Grappling with and challenging understanding around terms such as sustainability helps to reduce their hegemonic tendencies and allows for healthy debate and exploration of new and different ways to approach education.

Unfortunately, there is no simple set of instructions to help schools achieve sustainable change in either the school structure or its educational

outcomes. This requires a rethink of dominant models of educational concepts, practice, and communication in order to challenge short-term political agendas, so we can all increase our understanding of living within the constraints of planet earth.

FRAMING AN ORGANISATION AROUND SUSTAINABILITY

Organisations invest large amounts of time, energy and resources to foster their institutional and corporate identities (Porter, 2005). Such activity sees organisations actively engaged in practices related to social change on a daily basis through marketing strategies that lead to the association of products with life styles (and therefore investing in the identity of consumers). Organisations construct identities through association with particular images, discourse, and actions, and do so for many reasons. Influential authors Ashforth and Mael (1989) observed that "...in crediting a collectivity with a psychological reality beyond its membership, social identification enables the individual to conceive of, and feel loyal to, an organisation or corporate culture" (p. 26).

Alvesson, Ashcraft & Thomas also noted that the identity of an organisation is not precise, but rather a "chaotic presence of concurrent and conflicting self-images" (2008, p. 14) because different individuals gathered into different groups conceive of and hold loyalty to different aspects of the organisation. For example, a teacher engaged in education for sustainability might look to the characteristics of the organisation that act to validate his or her own identity, and the identity of their group within the school.

There is, however, a difference between producing strategic policy statements in the area of sustainability and witnessing organisations adapt to align corporate structures and functions with the intent of those statements. This article grapples with these issues, and the discussion that follows explores how schools included in this research have framed their position around sustainability, and how teachers at those same schools have associated with that framing.

A FRAMEWORK FOR ENHANCING SUSTAINABILITY

Introducing sustainability into schools can be a challenge as it is not just a curriculum issue, but pervades all aspects of school operations. EnviroSchools, which is an award-based programme combining a whole school approach with a focus on action competence, has been an influential model for promoting sustainability in schools (Eames, Roberts, Cooper, & Hipkins, 2010). The EnviroSchools programme was designed to help develop a sense of connection with environments and communities in Aotearoa New Zealand. It originated in Waikato in the 1990s, as a response to the growing awareness of the need to think and act sustainably, but now 31% of New Zealand schools are involved in some way (EnviroSchools, 2015). EnviroSchools offers a framework, which provides a structure and a set of tools to move schools toward being sustainable. It is based around five guiding principles and four key areas of school life. The guiding principles include:

1. Sustainable communities;
2. Empowered students;
3. Māori perspectives;
4. Learning for sustainability and
5. Respect for diversity of people and cultures.

The four key areas of school life that have an effect on sustainability and student learning are:

1. Place/*wahi* (physical surroundings);
2. Practices/*tikanga* (operational practices);
3. Programmes/*kaupapa ako* (living curriculum); and
4. People/*tangata* (organisational management).

The action competence framework which structures how sustainability is incorporated into the curriculum includes six elements:

- experience,
- reflection,
- knowledge,
- visions for a sustainable future,
- action taking for sustainability, and
- connectedness.

Research on the success of eco/environmental award programmes has been mixed. Boeve-de Pauw and van Petegem (2011) for example, note that while environmental award programmes demonstrate increases in teacher knowledge and more co-ordinated school structures, this does always relate to changes in students' sustainability practices. Further work by Boeve-de Pauw, Gericke, Olsson, & Berglund (2015) suggests one of the key problems has been the focus on a pluralistic delivery model. Pluralistic delivery relates to presenting multiple perspectives of an issue which, as mentioned earlier, can result in confused and mixed messages. Research on Enviroschools (Eames et al., 2010; Wilson-Hill, 2010) suggests there has been more success in achieving student learning outcomes, especially in the student's ability to take action, which links to the action competence framework which underpins it.

While the whole school approach and action competence frameworks appear to help schools move towards sustainable practices, in both the organisation of the school and supporting student learning, there are still challenges. Secondary schools struggle to work in holistic interdisciplinary ways which has resulted in a slower uptake of the whole school approach compared to the primary sector (Enviroschools, 2015). There are also issues, such as resourcing, time, leadership, staff training, and lack of academic recognition, which inhibit wide-spread implementation (Brignell-Theyer, Allen, & Taylor, 2009; Henderson & Tilbury, 2004).

RESEARCH METHODS AND METHODOLOGY

This article is part of a wider project involving a series of case studies which sought to understand more about how to engage youth in sustainable practices. This overall research is underpinned by a critical/interpretive paradigm, which recognises individuals hold different meanings whilst influenced by the social context. This approach was appropriate in exploring how educators define and promote EE and EfS in their natural settings as well as critically analysing the findings in-line with current policy. As an interpretive study it embraces the researchers, as part of the research, not as outsiders with an objective view. This stance acknowledges the intrinsically social nature of research and that there is no value free research (Patton, 1990). Any act of research is both incomplete and value-laden, involving a selection of interpretive possibilities which are neither innocent nor value-free, however a team approach can minimise these limitations. The research team's discussions allowed for different interpretations to be examined and provided opportunities for individual reflexivity. While conflicting opinions can inhibit progress, the researchers moved discussions forward by sharing tasks, writing memos, exploring both confirming and disconfirming evidence, and valuing everyone's contribution.

Within a critical/interpretive framework, this research takes the form of a series of case studies. A qualitative case study aims to describe the topic in detail and in context (Yin, 2009). Multiple cases have the benefit of gathering varied evidence, allowing for cross-case comparison and greater generalisation. One of the key aspects of a case study involves collating multiple sources of data, which combine together in order to understand the whole (2009). The larger project used semi-structured interviews and document analysis as a means to gather consistent information, but this article focuses on the critical analysis of public domain material such as school charters, strategic plans, Education Review Office (ERO) reports, newsletters, newspaper articles, and publicity material. Using multiple data sources in this way is a form of triangulation which helps to ensure that the data is rich, robust, comprehensive, and well-developed.

ETHICS

All material for this article was sourced via public domain material. The schools have not been identified by name, hence direct quotes are not cited in the article as four of them have been used in the wider project which involved a series of interviews. It was agreed with the ethics board of Ara Institute of Canterbury, who supported the research, that photos taken of the school and used in journal articles would not include recognisable faces.

DATA ANALYSIS

The research team met regularly to discuss the school data, and collaboratively developed the analytic framework which identified key themes and guided the interpretation of the data. Initially a research assistant with a

background in marketing and photography drew together key documents and evaluated the overall impact of the web-based material. Each school had a range of data sources available and a distinct way of communicating their values. Members of the research team then looked at the material for one or two schools and wrote an analytic memo. In comparing the memos, the research team identified several key themes that most schools incorporated. These themes were consolidated by further discussions which explored memo items which could be included in more than one theme. These debates and negotiations helped clearly build up four key themes: a future focus, diversity/inclusiveness, community, and environment.

FINDINGS

Future Focus

The New Zealand Curriculum (Ministry of Education, 2007a) identifies a future focus for teaching and learning by encouraging “students to look to the future by exploring such significant future-focused issues as sustainability, citizenship, enterprise, and globalisation” (p.9). Viewing a future focus through a sustainability lens means schools are preparing students to live in a world that is very different to the one we are currently familiar with.

All the schools that we have considered in this research have explicitly and implicitly illustrated through the creation of strategic goals and vision statements, and through the framing of teaching and learning activities a future focus. However, explicit and implicit framing of a future focus across the schools is variable in terms of what a future focus means.

School A has a strong vision statement of “Creating Better Futures - Hangaia te huarahi māu”¹. Students are encouraged to become tolerant of, enjoy, and even celebrate, differences. The site suggests that accepting diversity adds to the vitality of the school. While there is a focus on recognising cultural diversity, it also has a strong programme of mainstreaming ‘special needs’ students.

Newsletters in 2015 promoted difference, vitality, involving the wider community, and shared responsibility in decision making, however the first newsletter in 2016 changed focus, emphasising achievement standards, emphasising the importance of goal-setting, and promoting individual academic achievements. This is possibly in response to the ERO report² which identified that more work was required to lift academic standards. It does however, highlight a contradiction in approach between local needs and government agendas.

School D declared that innovation was at the heart of its vision to provide “learning pathways to the future” for all students. Although there is an invitation to the local community to engage in assisting the school to determine what sort of school it will be into the future, with a 40-50 year time frame specified, the key mechanism driving this vision statement appears to be the

¹ Actual website locations cannot be cited, as this would identify the schools.

² The report cannot be cited, as this would identify the school.

Ministry of Education's support for the school as a STEM (science, technology, engineering and math) school. The school's website proclaims: "This is a new approach to education that will uniquely equip our students to thrive in the modern world" and that project-based programmes are "developed around the investigation of challenges that the world faces as it moves further into the 21st Century".

For school B, the newsletter available on its website drives home the actual depth and commitment of the school to the themes relating to sustainability as key drivers (although the words sustainability or future focus do not appear in early newsletters). Given that the overall educational focus of the school is on experiential learning, it is no surprise there are examples of EfS related student action projects described in the newsletters. These increase in visibility in recent years suggesting an increasing focus on EfS within the school curriculum.

The discussion above suggests a variety of approaches to what future thinking means including developing students as leaders, a focus of curriculum on STEM, and EfS. The framing of what a future focus means is important for schools: for if issues relating to sustainability are not woven into that messaging, other discourses dominate.

Diversity/inclusiveness

Education for Sustainability recognises cultural diversity as an important element which can assist students and communities to move toward more sustainable futures. Cultural diversity offers a rich source of divergent perspectives, recognises the rights of all people, and helps in developing creative solutions. The balance of acknowledging different learning needs whilst promoting equity and efficient delivery can be a challenge for schools, but a key part of sustainability is learning to live together and maximising the potential of all people. Thus, schools must try to ensure that students retain their traditions and distinctiveness and yet fit in to the overarching school culture (Education Review Office, 2015).

All the schools had sections which promoted cultural diversity illustrating their commitment to students, teachers, and families that come from diverse socio-economic backgrounds, cultures, races and beliefs. In particular, schools A and D, appeared to be working hard to create a genuine sense of community where diversity is valued, teaching young people to be tolerant of, to enjoy and even celebrate their differences. Consulting with *whānau* and the wider community was part of the agenda of all schools and several spoke of forming close relationships with the local *rūnanga* and *marae*.

A clear sense of *whanaungatanga*³ is present in all schools, which is one where relationships, kinship and a sense of family are highly valued. It is clear that schools believe that better learning, healthier families and more resilient communities emerge from shared experiences of working together, which

³ Relationships that develop through shared experiences and collaborative work, providing people with a sense of belonging.

provides people with a sense of belonging. As such the Treaty of Waitangi⁴ is very clearly portrayed as a key element of creating this sense of belonging and being valued. Good practice examples include the wide use of Māori words on their web pages, newsletters, course overviews and photographs of multicultural and diverse events.

The inclusion of Māori values was emphasised in all schools, which is not surprising as it is a specific requirement within the educational practices of all Aotearoa New Zealand schools. ERO states that it is committed to honouring the Treaty of Waitangi and calls for schools to intensify actions which support Māori learning (2015). A key premise is that schools must develop a system that fits the student rather than forcing the student fit the system. This seems to be well established in the culture of most schools although the sections on uniform rules, and facial hair may suggest something more rigid.

Within the charters that were accessible, the Treaty of Waitangi was very clearly portrayed. However, while all schools described initiatives which supported Māori students, the ERO reports often identified that academic progress for Māori students had been problematic or that they had not met their academic achievement goals. One identified problem was the lack of skills, which limited the integration of *te reo* (Māori language) and *tikanga Māori* (customs and protocols) by teachers.

Schools convincingly illustrate that they consider students learn best when their language, culture and identity is affirmed. An outward indicator of this commitment was the use of Māori terms and concepts on their web-site, for example concepts such as *whanaungatanga*, *aroha*⁵, *ako*⁶, *te reo*⁷, *tuakana teina*⁸, and *mana*¹⁰ and *mana*¹⁰ and dignity of each student is a key element in helping each student to develop to their potential. Adopting concepts such as *ako* and *tuakana teina*, where students of all ages learn from, and support each other, were promoted as valued teaching strategies for all students. Furthermore, it appears that schools are going out of their way to personalise learning pathways within a *whānau*-school partnership. Clearly schools are recognising and nurturing the uniqueness of their students.

The schools also incorporated some multilingual signs (English, Māori and Pasifika¹¹), although that was not always consistent, with much signage just being in English. There were also images of art works which had strong Māori and Pasifika icons embedded in them.

Community

The New Zealand Curriculum (Ministry of Education, 2007a) outlines eight principles that are the foundations of curriculum decision making for

⁴ New Zealand's founding document. The treaty was signed at Waitangi in the Bay of Islands, on 6 February 1840, between Māori chiefs and the British Crown

⁵ Love.

⁶ To learn or study.

⁷ The Māori language.

⁸ Support of younger by older students.

⁹ Hospitality, kindness, generosity.

¹⁰ Prestige, authority, control, power, influence.

¹¹ The term for people originating in the South Pacific islands.

schools. These principles identify what is important and desirable in the school curriculum. Community engagement is one of the eight foundation principles and hopes to show how the curriculum has meaning for students through community engagement. Aspects of community engagement that can give the curriculum meaning to students include: connecting with the students' wider lives, engaging the support of their families, *whānau* and communities (2007a).

The four schools identified in the study have varying degrees of emphasis on community through the material on their websites and can be separated into community engagement internally and externally.

There is a plethora of examples of how the four schools make connections with the external community. The home page of the school C website has the statement, "It takes a community to raise a child..." which gives an immediate impression that the school sees community as a key partner in the educational process. Another statement supports the emphasis on community: "Communication with parents is essential to us, in maintaining the links in our community...". The message of strong links with parents is reinforced through newsletters. The development of community outside of the school does not, however, come across as strongly within schools A and D, where stated values about community links are more implicitly framed.

Other approaches were also evident: for example school A demonstrates engagement with the external community via an emphasis on career pathways through a Gateway¹² initiative and cultural events. School C has a senior-led school council who organised the "*Doing Good for others*" initiative where all students were encouraged to spend the day working in the community.

Engaging with Māori within the community comes across strongly in school C's values and evidence of this in practice is seen in school newsletter. As part of the welcome for Year 9 students, School C planned a trip to Ngāti Moki Marae, Taumutu and Lake Te Waihora. All students were formally welcomed to Ngāti Moki Marae through a *pōwhiri*¹³. The history of Ngāti Moki and the surrounding areas was then presented. This helped introduce Year 9 students to the Selwyn region this was noted as being of great significance to School C. The newsletter further noted that building links with the community is an important part of the learning that is happening in in Social Sciences.

School C's Council, which is a student-led council of senior students, has a strong presence within the newsletters and the Council's vision is "that all students feel valued and connected...hope to bring the whole student body together through encouraging participation in all aspects of school life".

School C expressed the building of an internal community through helping each other and work as a team. The term community is extensively used throughout school A's website and there are numerous examples of how

¹² The purpose of Gateway (www.tec.govt.nz/Funding/Fund-finder/Gateway/) is to enable schools to provide senior students (year 11 and above) with opportunities to access structured workplace learning that has:

- a formalised learning arrangement set in the workplace
- specified knowledge and skills that a student will attain
- specified assessment methods (workplace learning).

¹³ Māori welcoming ceremony.

the school engages the school community. The school organised a Year 11-13 Community Conference on the rebuild for the school. It was stressed that this was a very important event and there was an expectation that all students would attend. This example traces back to one of the school's five guiding principles *learning is a partnership* and one of its core values: "we develop relationships and a sense of belonging that strengthens each member of our learning community".

Peer support initiatives were observed on two of the four websites where there was an emphasis making or maintaining friendships. Developing a network of friends and how feeling valued within the school community can have a significant impact on students' social skills and achievement. Dividing the school vertically through year levels into different "House" groups was observed at one school. This gave the opportunity for students to mix and form bonds in an informal context such as fun competitions between different house groups.

Environment

When developing the components of the environmental theme the researchers identified that it included the natural environment, school grounds, and the buildings. To build sustainability into the ethos of the school, the researchers discussed the need for the school to appear to be welcoming and conscious of the environment in which it was situated.

One link to the environment was evident in the school's commitment to outdoor education. School D had changed the name of its programme to 'outdoor sustainable education', which shows a commitment to changing the focus. For example, it had done work on analysing the water quality and pollution issues of Te Waihora (Lake Ellesmere) as well as spending time tramping and paddling.

Schools C and A appeared to run more traditional outdoor activities, but the newsletter highlighted a strong focus on team and community building, supporting one another and passing on responsibilities in leading trips. The leadership function of outdoor education was also very evident in school B and school D where senior leadership students went on camps to build their skill and confidence in taking on leadership roles. The broad role Outdoor Education (OE) played in helping students establish connections with the wider natural environment and developing teamwork and leadership supports the role of OE within the goals of EfS.

Most schools included a range of images of students working outside the classroom, some visiting community events and others in green outdoor spaces. All the schools described visiting the local area to explore the history and environmental issues of the local area. School A also reported history, biology, and geography class trips designing heritage trails, evaluating the impacts of tourism, completing wetland restoration, monitoring beech tree growth, learning about local geology, and testing water quality of local streams and lakes. These trips often used external sources such as Department of Conservation rangers and outdoor centres to teach some of the content and extend learning into the community. These excursions highlighted the effectiveness of moving away from the school to learn from the wider community and engage in discovery and experiential pedagogies.

While most schools emphasised building respect by keeping the schools tidy and litter free, school C associated the broader concept of student *hauora* (well-being) with a litter-free environment. Both schools' C and A raised money for additional outdoor seating, improved appearance of gardens, and native planting to enhance the school ground. The increased pride and responsibility for caring for the school environment and having inspiring and healthy school grounds are two of the key benefits identified by Enviroschools. Using the grounds as a place to develop values is part of developing the whole school approach and shows an awareness of how all environments influence learning.

School C used the school grounds for different science projects. For example, the students completed an EcoBlitz, scouring the school grounds to identify what forms of flora and fauna which share the site with them. This survey was conducted in conjunction with Lincoln University's Ecology Department and the students learnt about biodiversity, identifying 61 different species and 655 specimens. Images of the enhanced grounds were used in marketing when stressing the values of team, community, participation, active engagement, and growing.

Three schools had established school/community gardens and the fourth school was planning one. These gardens were integrated into learning outcomes for different courses, as well as building connections to the wider community. Several photos show students, parents, and teachers caring for a vegetable greenhouse garden. School C aligned working in the gardens with the broader concept of growth. Growing not only the garden and nature, but also growing students and community together with it.

DISCUSSION

Although most schools implement some level of EfS the majority of schools involved in this study are limited in their implementation by the knowledge and understanding of sustainability. Government policies have created disablers by producing communication which is not understood by schools as the messages of viability, individual achievement, and assessment can contradict vision statements of a future focus, and wellbeing. Although the urgency of moving toward sustainable future-focussed life-styles is recognised, there is not a common shared orientation of sustainability or what makes an organisation sustainable and how to communicate those aspects in order to engage others. A limitation of this research which focussed on public domain information is that the role of web-sites is multi-faceted as they include profiling the school, celebrating successes, marketing, and general information sharing, which results in multiple and potentially conflicting messages. The researchers also recognised that most newsletters are written by non-professionals who are reporting on events, rather than driving the organisational framework of the school. Limited funds and time are also potential constraints for schools developing well-integrated web-sites which have clear and consistent messages.

Nevertheless, newsletters and web-site information did provide an important record of what has been happening in each school and what is valued. The emergence of what schools were doing through the reading and analysis of newsletters suggests a groundswell of interest, rather than a clearly

articulated strategic plan. This bottom-up approach appears to be a successful model of increasing engagement and commitment by encouraging active community participation and addressing local problems rather than trying to adapt to a centralised plan which may not be able to respond to local issues as spontaneously. These local initiatives are evident in actions such as community gardens, tree planting projects, and addressing streams of litter and recyclables. The bottom-up approach also allows for more student engagement in decision-making. In addition, many of the spontaneous projects were flexible enough to have emergent designs and the ability to re-shape their outcomes as needs require. A key driver for groundswell initiatives can potentially be found in Dan Pink's (2009) Ted Talk on motivation which identifies a key reason for engaging in some community projects is that they are rewarding and—"It's an approach built much more around intrinsic motivation, around the desire to do things because they matter, because we like it, because they're interesting, because they're part of something important". The flexible and emergent design of some of these projects was noted in the different ways of reporting on the projects, in different sections of the web-site.

What was evident and specific to Aotearoa New Zealand schools was the engagement with a Māori world view. McNeil (2016) describes this as a traditional world-view that is all encompassing and holistic, that begins with creation narratives, where the entire universe is personified and both physically and spiritually defined. This acceptance of diversity expressed by all the schools supports traditional Māori concepts such as *kaitiakitanga* (guardianship of tribal land). These traditional views appear to provide a strong foundation for developing sustainable practices.

One element of engaging with effective sustainability change appears to be switching between designing the whole to designing the parts. It is challenging to see the whole big picture of a sustainable future when it is very much described as a journey rather than a destination and, thus a top-down highly structured planned approach may end up addressing irrelevant problems which fail to capture locally important factors and where some apparent credible solutions have unintended consequences. This lack of flexibility suggests some centralised strategic plans could potentially break down when applied in practice. A bottom-up approach usually addresses smaller parts of the bigger issue which have less serious or over-arching consequences but can be implemented more spontaneously with fewer resources. At some point the top-down and bottom-up approaches could and probably should meet and become coordinated and complementary. This meeting can, however, cause tensions as it requires a level of trust and the ability to build rapport between the community, teachers, staff, students and management, which in turn requires excellent communication between all groups. For example, one principal stated that community involvement was important, providing it did not impede progress. In general, though, the web-sites indicated that there was significant support for community initiatives and that schools were responsive to their communities. There was also evidence that communities were keen to be involved in a range of projects which had observable rewards for the students.

Another potential problem with bottom-up approaches to sustainability is that changes are often small and incremental, meaning that many of the projects lacked the scope and co-ordination necessary to successfully make

effective change of the scale necessary to address the looming issues of overstepping planetary boundaries and climate change.

APPLICATIONS FOR PRACTICE

It is recommended that newsletters and web-sites receive more attention as they offer opportunities for schools to frame a clear identity which can assist in building and communicating the values of the school to potential and current students and staff.

Providing opportunities for intrinsically rewarding initiatives can support staff, community and student engagement in a range of projects, which help move the school on a trajectory towards sustainability.

Engaging students in leadership activities both in the school and in the community is effective in change processes, as it supports a level of efficacy and autonomy both of which are important in order to build future-focus capability.

While support and celebration of small initiatives is essential, wider strategic support for example through curriculum development and teaching training is required to bring these projects together and present a stronger framework to address the more urgent issue of encouraging people to adapt to live more sustainably. These wider strategic structures should not be overly prescriptive as they must still allow for spontaneous local initiatives.

CONCLUSION

While websites only present a snapshot of sustainability practices in schools, they do reveal what is valued by the school and how well the ideas are consolidated. What was evident is that many schools treat their web-sites as an afterthought, collating a range of information on them which presents a mismatch of ideas rather than a clear organisational identity. While this makes the overall web-site less powerful, it does give a sense of authenticity, as they allow for a range of ideas and practices to be shared. For example, the newsletters embedded on the web-sites offered the most revealing information about what was actually happening and how it was valued in the school and it was the newsletters that captured the many and varied practices which underpin sustainability. The second stage of this research explores sustainability practices more in-depth from the perspectives of the teachers.

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