Communicating environmental sustainability within New Zealand news media and Wellington educational institutions

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Abstract

As a country, New Zealand produces only about 0.17 percent of the world's total greenhouse gas emissions. Yet, per person, New Zealand is the fourth-highest emissions contributor globally (Sims, 2015). With the growing need to change lifestyle habits in order to lower emissions and reduce future costs involved with adapting to climate change impacts, it seems essential the public be well-informed and resourced in order to face the future. In order to meet the New Zealand Government's environmentally-driven goal to cut greenhouse gas emissions by 30 per cent below the 2005 levels by 2030, the overall population needs to practise environmentally sustainable lifestyles around the country.

This research aimed to explore how environmental sustainability is communicated by key influencers in New Zealand, educational institutions and news media. This is illustrated through a long-form journalism article on how educational institutions in Wellington are helping young people develop environmentally sustainable life-practices crucial to their future resilience and survival. This study is informed by interviews to help understand how a select number of educational institutions of various levels integrate environmental sustainability in their classroom; how this topic is communicated to students; and how New Zealand government agencies and local authorities support such efforts in educational institutions. Through interviews with New Zealand environment reporters and a critical analysis of environment reporting, this research discusses the power the media has in terms of climate change action and how journalists in New Zealand have coped with the challenge of covering environment in the context of a restructuring news industry. Without a strong presence of information-sharing through the education system and news media, New Zealand may not be ready to face the impacts of climate change.

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Acknowledgments

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Introduction

Few would deny that the world is at a crucial stage in its existence. It is a time when people around the world need to adjust to an environmentally sustainable way of living and a time for countries to prepare for future climate change challenges. In recognition of this, New Zealand met with other countries last year in Paris to establish new international climate change goals at the United Nations Framework Convention on Climate Change. In April of 2016, New Zealand signed the Paris Agreement alongside 170 other nations, stating that New Zealand's post-2020 climate change target is to reduce greenhouse gas emissions to 30 per cent below 2005 levels by 2030 (Science Alert: Experts Respond, 2015). Recent reports have shown the country's greenhouse gas emissions are at their highest since 1990 (Ministry for the Environment, 2016).

Although the Paris summit brought about aspirational goals, it is unclear how the Government plans to meet them. Climate change has never received the crisis treatment from national or global leaders, despite the fact it carries the risk of destroying lives on a vastly greater scale than collapsed banks or collapsed buildings (Klein, 2014). New Zealand is not treating climate change as a crisis, as evidenced by the Government's greenhouse gas emissions target for 2030. Experts have called New Zealand's target weak and stated that if other countries followed New Zealand's lead, the world would be in for catastrophic damages and very significant climate change impacts (Science Alert: Experts Respond, 2015).

This study was undertaken because of the increasing need for a collaborative effort in New Zealand and around the world to take action to address climate change. Although New Zealand may be considered one of the safer countries to live in when considering immediate climate change risks, work needs to be done on a global level. New Zealand needs to be a participatory country in cutting greenhouse gas emissions. There seems to be a misconception that New Zealand is a clean, green country. However, environmental sustainability is far from a top priority in this nation. Whether or not catastrophic weather events occur in New Zealand, the country will likely be influenced by other countries that experience more immediate and devastating climate change impacts. Climate change action is not just a goal for New Zealand, but for nations around the world that are taking steps to create an environmentally sustainable future.

The basis of this study was to investigate how key influencers communicate and engage with their audiences about environmentally sustainable practices and climate change. These key influencers were Wellington educational institutions and New Zealand's news media. The long-form journalism looks directly at the role Wellington's educational institutions take in communicating environmental sustainability to the future leaders of this country who will be up against some of the largest challenges of climate change. The article includes case studies at primary, secondary and university level educational institutions throughout Wellington. It looks at the type of engagement present in educational institutions and what motivates its existence. The article also investigates what sort of support New Zealand national and local authorities provide to educational institutions to encourage more education and engagement around environmental sustainability. The literature review analyses the literature on environment sustainability and climate change; environmental sustainability in educational institutions; the importance of environment reporting; and the current state of environment reporting in New Zealand. The discussion critical reflects on the process of producing the long-form journalism article on environment issues, and the interviews with some of New

Zealand's environment reporters. The conclusion summarises the major findings of the study and gives direction for possible further study in this area.

Literature review

Introduction

This literature review discusses the significant subject areas for this study. It analyses what has been written about both educating and reporting on environmental sustainability and climate change. It looks at how educational institutions engage with and communicate about environmental sustainability with their students. It also reviews journalism coverage on the environment and climate change. It looks at the importance of environment reporting and outlines challenges New Zealand's environment reporters face when reporting on the climate crisis amidst a crisis in the journalism industry, and when reporting on risk and uncertainty. It addresses difficulties journalists have when covering environment and climate change, which make for unconventional news stories. It discusses the demands on journalists today, the newsworthiness of environment reporting, and the difficulties journalists have with engaging their readers in a positive way. Finally, it discusses the future of environment reporting in New Zealand. To put the literature review in context, the methodology for the long-form journalism is discussed.

Methodology

This section describes the areas of relevant literature reviewed for this project and the methods used in undertaking the long-form journalism article. Before embarking on the feature article, it was crucial to have a clear understanding of environmental sustainability and what this means in a New Zealand context, which is provided later in this study. The literature review provides a foundation of information around environmental sustainability.

A predominant aspect of this research included looking at previous literature on environmental sustainability engagement at educational institutions around the world and in New Zealand. This research provided a foundation of angles already covered, questions left unanswered and resources valuable to the writing process. This review served as a rationale for the long-form journalism and approach to the entire study.

Although the long-form journalism dealt with subjects on environment and education, it had a dominant environmental theme. Therefore, it was essential to thoroughly research environment reporting. In reading, it was clear that environment reporting had a great influence on the public's knowledge of the environment. This also influenced the level of engagement at educational institutions. Therefore, the literature review discusses the importance of environment reporting to support the subject of my article, and provides context around the research regarding environment reporting in New Zealand.

In order to critically reflect upon the writing process of the long-form journalism, it was helpful to analyse environment reporting in New Zealand's media. This research was informed by interviews with environmental journalists in both mainstream and alternative news media throughout the country. Through the experience of undertaking the long-form journalism and the analysis of New Zealand's environmental journalism, several challenges were identified. The literature review discusses the main areas of difficulty in environment reporting: reporting on the climate crisis amidst a crisis within the journalism industry and reporting on risk and uncertainty. Lastly, the literature review addresses the future of environment reporting in New Zealand.

Environmental sustainability

Environmental sustainability is crucial to facing climate change challenges and mitigating climate change predictions. With new goals set by the Government to lower greenhouse gas emissions, it is essential for citizens to have a good understanding of environmental sustainability. Generating sufficient political drive to resolve the world's climate crisis requires recognition that environmental sustainability has both a high moral and economic value (Ekins, 2011). Until this is achieved, it is possible that ecosystems will be eroded to the extent that they can no longer perform the environmental functions needed for large human populations to survive in the long term (Ekins, 2011).

For this study, it is helpful to have a clear understanding of environmental sustainability. To distinguish from a misused and often misunderstood term of sustainability, environmental sustainability is used in this study. Although environmental sustainability is a frequently used term, it lacks a standard consensus on its exact meaning (Filho, 2000). Sustainability and environmental issues are often complex and defined in many ways (Du Pisani, 2006). This research clarified a working meaning of environmental sustainability by drawing on a definition used by New Zealand's Ministry for the Environment: "A healthy environment, based on healthy functioning ecosystems that provides for the wellbeing of society now and in the future". The ecosystems referred to in this definition include natural and human-altered ecosystems (Environment, Ministry for the Environment, 2008). Today, the term sustainability is used in various ways and in numerous contexts. Most often, people refer to sustainability and assume it is being used in an environmental context. However, sustainability has an evolving definition that can apply to more than just the physical environment. It is a holistic term that often includes the economy, society and environment (Bauermeister & Diefenbacher, 2015). Without environmentally sustainable practices, humans deprive themselves of what is now considered a societal value. It is generally accepted today that everyone is entitled to clean air, clean land, and clean water (Schwartz, 2006). It is also important to understand what climate change is. As defined by the United Nations Framework on Climate Change, climate change refers to "a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods" (United Nations Framework Convention on Climate Change, 2011, p. 2).

In 2009, Sustainable Aotearoa New Zealand Inc (SANZ) published a paper on principles and scenarios required for strong sustainability to exist in New Zealand. The text specifically addressed *strong* sustainability, which looked directly at the preservation of the integrity of all ecological systems in the biosphere. One way strong sustainability differs from the common understanding of sustainability is that it requires humans to respond interdependently, rather than as individuals, to the interacting ecosystems in which they are embedded. When the report was written in 2009, it viewed the current New Zealand law and policy relating to resource management, environmental protection and management, and mitigation of climate change as in the category of weak sustainability (Sustainable Aotearoa New Zealand Inc., 2009).

Environmental sustainability in educational institutions

Numerous studies have looked at how environmental sustainability is integrated at educational institutions to best prepare students for a sustainable future. Schendler described the scale of the climate problem as being so great, that for many people it was

incomprehensible (Schendler, 2009). He emphasised the importance of understanding how individual actions, such as changing light bulbs, are necessary but inadequate. He encouraged people to reach beyond changing lightbulbs towards meaningful action with policy changes at the highest levels. This could mean looking at how to ensure everyone on the planet changed their lightbulbs (Schendler, 2009).

In 1999, the Ministry of Education in New Zealand published *Guidelines for Environmental Education* and established an in-service professional development programme which ran for ten years (Ministry of Education, 1999). At the same time the Government was providing direction on environmental education, the programme Enviroschools was launched, which brought facilitators into early childcare-centres, primary, and secondary schools to work with teachers and students. In 2009, the Ministry of Education withdrew its funding to Enviroschools because the programme did not meet the Government's educational goals (Foy, 2009). The programme is now entirely supported by local and regional councils (Burgess, 2016). The Ministry of Education continues to provide environmental education resources to educators. However, the ministry still presents the same guidelines published 17 years ago (Ministry of Education, 1999).

There are many drivers for a focus on environmental sustainability in educational institutions. On an international level, this initiative was led by the United Nations' Decade of Education for Sustainable Development (DESD) from 2005 to 2014. On a national level this focus was signalled in New Zealand's Tertiary Education Strategy (Mann S. , 2011). Not only was there influence over the last couple of decades on the international and national level to incorporate environmental sustainability engagement at educational institutions, but Mann believed that the most important part was that it was the right thing to do (Mann S. , 2011). The UN declared 2005 to 2014 "as a life-wide and lifelong endeavour which challenges individuals, institutions and societies to view tomorrow as a day that belong to all of us, or it will not belong to anyone" (United Nations Educational, Scientific and Cultural Organization, 2006).

A study regarding New Zealand's educational contribution to the DESD was published in 2006. It reflected upon whether or not the country's educational institutions were in a position to respond to the UN initiative (Chapman, Flaws, & Le Heron, 2006). They concluded that by 2004, the gains could at best only be described as "partial, limited and marginal, and certainly not transformational" (Chapman, Flaws, & Le Heron, 2006, p. 281). The paper then looked at the first year of the DESD activity within New Zealand and found that the efforts were minimal and the impacts negligible. They concluded that progress and involvement would not be made until there was a greater understanding of the constraints around the existing framework to remove institutional obstacles in order to create a sustainable mind-set (Chapman, Flaws, & Le Heron, 2006). One of the most meaningful conclusions from this 2006 study was how easy it was to assume all was well in regards to incorporating environment education and Education for Sustainability (EfS) in the New Zealand curriculum. Although statements relating to the environment and sustainability were present throughout the curriculum, actual funded programmes in educational institutions around the country were minimal (Chapman, Flaws, & Le Heron, 2006).

In 2007, Ivan Snook, Professor Emeritus of Massey University, identified the lack of attention to sustainability as one of the major gaps of the current New Zealand curriculum established by the Ministry of Education (Snook, 2007). In effort to integrate environment and sustainability into education, Sasha Matthewman, at the University of Auckland, looked at specific ways to make New Zealand a 'greener' place by turning to the English curriculum

as a platform. Matthewman said that pressures of climate change, the energy crisis and widespread concerns about environmental challenges had not been significantly represented within the national curricula of either the UK or New Zealand. She suggested there was space for teachers to challenge the dominant, neoliberal values within their teaching, especially in areas such as English that had loose curriculum guidelines (Matthewman, 2014).

In the 2009 paper from SANZ cited previously, public education was listed as a key enabling condition in order to achieve strong sustainability throughout the country. The paper stressed the necessity for New Zealanders to be broadly and deeply eco-literate and to have strong human-Earth relationships. It stated that through education, New Zealanders would know that people are a part of nature and ecosystems, and would therefore understand how their actions towards nature also impact themselves (Sustainable Aotearoa New Zealand Inc., 2009). A future shift towards strong sustainability would mean the role of education would focus much more on preparing people to anticipate and cope with major changes in their living and working environments with hope and satisfaction (Sustainable Aotearoa New Zealand Inc., 2009). This future educational model would be such a radical transition because it emphasised the understanding of a new future, rather than relying on past projections, and the strong requirement for personal development, life skills and interpersonal behaviours (Sustainable Aotearoa New Zealand Inc., 2009).

One of the country's leading educational institutions for integrated sustainability throughout academic programmes is Otago Polytechnic. In 2007, Otago Polytechnic set itself the goal that "every graduate may think and act as a sustainable practitioner" (Mann S. , 2011, p. 19). It set out to develop sustainability competencies in each student, regardless of discipline. Mann, a leader of this initiative, posed sustainability as not an optional extra or something for a few experts or heroes, but something integrated into every programme (Mann S. , 2011). One of the existing barriers Mann identified when incorporating environmental sustainability at educational institutions was that although leaders recognised sustainability was important and that Education for Sustainability should be integrated into their teaching, they simply were not doing so (Mann S. , 2011). Rather than viewing this mission towards sustainability as a hard, qualifying goal, Mann felt it was important to view this simply as a journey for Otago Polytechnic. Its approach to integrating environmental sustainability was based on the idea that sustainability should be a part of all activities of daily life, therefore it should be a part of tertiary training. Although sustainability integration at educational institutions has been an uphill battle in New Zealand, Mann remained positive that although current education systems might be the problem, future education could be the solution (Mann S. , 2011).

What makes Otago Polytechnic's journey so distinct, is its goal to have each and every graduate understand the concepts of social, environmental and economic sustainability. The institution recognised the global outreach their students of various disciplines would have when they entered the workforce. It is taking the time to ensure that no matter their discipline, students may think and act as a sustainable practitioner (Mann S. , 2011). Similarly, Bartels and Parker stated that integration of sustainability in education begins when an educator can ask a simple question: "In the coming decades, as humanity faces unprecedented challenges in terms of resources and climate change, what can my discipline or area of research contribute toward a better understanding of these issues?" (Bartels & Parker, 2011, p. 20).

Lautensach noted that a large number of well-educated people continued to make decisions that were blatantly counterproductive to the present situation, which indicated that merely

being informed about the climate crisis did not by itself position a person toward responsible behaviour (Lautensach, 2004). Not only does the climate crisis have a history of climate change deniers, but it is a crisis often assumed to be too large and out of control for one person to do any good. Climate change evokes a sense of apathy as many feel there is no more time for the required transformation since the crisis is just too pressing and the clock is ticking (Klein, 2014).

Bartels and Parker said that it was important for individuals preparing to enter the teaching profession and current teachers to remember that their students were of a generation that would face uncertain economies, environmental degradation, and cultural inequities throughout their lifetime (Bartels & Parker, 2011). Educators who guide children and shape their values need to be aware of the current issues; know how to frame learning to practice collaboration; consider multiple perspectives; generate solutions; and empower youth to take action in the face of injustice (Bauermeister & Diefenbacher, 2015). Birdsall challenged the relationship between science education and education for sustainability and stated that a restructure was needed in order to facilitate the type of learning needed by young people who live in a world where an understanding of complex environmental issues was necessary (Birdsall, 2014).

McKeown noted that educational institutions often found that they lack the financial resources or time to properly incorporate environmentally sustainable initiatives and education (McKeown, 2013). As universities face the pressures of accountability, shrinking budgets, and curricular demands, many teacher preparation programmes, while they recognise and support the idea of sustainability, do little to include it in their curricula (McKeown, 2013). A common barrier for educational institutions is that they simply don't have enough time to incorporate environmentally sustainable initiatives and engagement within the curriculum. Mann believed it would be a mistake to attempt to try and teach every aspect of sustainability (Mann S. , 2011). With today's approach to education, there is no room in programmes to do so, and the goalposts for sustainability keep moving as the issues change. It's more appropriate, and sustainable in itself, to transform the approach and teach to a framework so that detailed skills learned in one area can be transferred to another (Mann S. , 2011). Mann also identified educational resources as being lacking. Sustainability issues were covered in some textbooks, such as environmental law, ecology, and building science, yet the written resources on sustainability across disciplines remained silent (Mann S. , 2011).

Journalism on environmental sustainability in educational institutions

The mainstream news media have occasionally covered stories about environmentally sustainable engagement in New Zealand schools, with highlights of the annual Environmental Champions, winners of funding for sustainable projects, and other stand-out events (Jackman, 2016; Wilkie, 2015; Scoop, 2011). These articles often featured one-off successes involving educational institutions soaring beyond expectations (BusinessDesk, 2014; Thomas, Stuff, 2015). They did not, however, look at entire towns or cities, and analyse what was happening at a range of educational institutions and at a range of academic levels.

The Guardian hosted a Teacher Network Hub on its website which featured an entire section devoted to "green schools" (The Guardian). A wave of campaigns to "green" schools swept educational institutions in England in 2010 when they realised schools were contributing to 9.4 million tonnes of CO_2 (Ecologist, 2010). Some of the main initiatives at the English educational institutions were energy efficient school buildings, carbon reduction, food usage,

waste awareness, and identifying how the school curriculum should support a connection to the environment (Ecologist, 2010). The success stories throughout the country proved that in many cases, one or two dedicated teachers, parents or students had driven the positive action (Ecologist, 2010). In 2008, a Hatfield, England primary school was considered the most eco-friendly building in the country. The school became an educational resource for the students, to whom environmental concerns were second-nature (Walker, 2008). In 2009, Bhutan began the Green Schools for Green Bhutan initiative, which focused on sustainable food programmes, conservation of natural resources, and climate change and the dangers of deforestation and pollution (Kelly, 2013). Green School Bali, hailed as the greenest school on earth, was built to adapt to climate change and reinforce the message of sustainability in the classroom (Jenkin, 2015).

Importance of environment reporting

"Conservationists need words because what they are trying to do is to enlighten and inform: to change fundamental attitudes, not because they say so, but because they have the facts that will command such change on the part of any reasonable man [or woman]."

- Paul Brooks in *The Pursuit of Wilderness* (Frome, 1998, p. 21).

Although educational institutions have a unique opportunity to educate future generations on environmental sustainability, another key influencer and educator of environmental sustainability are the news media. The research for this section and following sections incorporates information gathered during interviews with environmental journalists Adrien Taylor, Rachel Thomas, Kate Gudsell and academic Robert Hackett. Media have an important role to play in terms of environmental sustainability and global action to mitigate climate change effects (Blewitt, 2009). Studies showed that new and traditional media were where people get a great deal of their understanding on the environment. Blewitt wrote, "It is imperative that any notion of sustainability literacy is connected with ongoing work on media literacy" (Blewitt, 2009, p. 111).

One of the world's biggest environment stories is climate change, and for journalists today, it may be the toughest (Ward, 2008). World-renowned environmentalist and author Bill McKibben made the point that people would undoubtedly survive on the planet if carbon dioxide levels continue to increase in the atmosphere, but those who did would be so preoccupied, coping with the endless unintended consequences of an overheated planet, that civilisation may not (McKibben, 2008). A study showed that most world citizens did not learn about climate change research directly from science journalist, but rather from mass media (Allan, Adam, & Cynthia, 2000). In *The Reporter's Environmental Handbook*, the quality of reporting was said to often influence public perception which led to public policies (Sandman, West, & Greenberg, 1995). Kolandai-Matchett's study found that the public was dependent on the media for information about sustainability and the environment (Kolandai-Matchett, 2009). Media has the ability to enhance awareness, change values and encourage actions. With such power comes the need for media to cover such issues in a responsible manner (Kolandai-Matchett, 2009).

Frome argued that environmental journalism differed from traditional journalism because it played by a set of rules based on a consciousness differing from the dominant in modern society. He viewed environmental journalism as more than simply reporting and writing: it was a way of living, of looking at the world, and at oneself. "It starts with a concept of social service, gives voice to struggle and demand, and comes across with honesty, credibility, and

purpose. It almost always involves somehow, somewhere, risk and sacrifice" (Frome, 1998, p. 21). Although he wrote specifically from an American context, this could arguably be understood on a global context. Some argued that reporting on environmental issues was a moral obligation to the public-sphere, especially when reporting on climate change (Taylor, 2016). Although environment stories may not be the most exciting of stories or what people want to hear about, media have an obligation to tell those stories - even commercially driven media organisations (Taylor, 2016). Such social disorder is identified as an enduring value of news (Gans, 1979). Disorder stories fall into four major categories: natural, technological, social and moral. When published, disorder stories are typically just as concerned with the restoration of order as with the occurrence of disorder (Gans, 1979). Moral disorder stories live within the concern for social cohesion and are often based on the idea that the activities of public officials, agencies and corporations should derive from the same moral and ethical values (Gans, 1979). Environmental journalist Adrien Taylor said journalists were incredibly fortunate to be able to tell people about climate change and make a real difference (Taylor, 2016). Taylor thought about his future children and grandchildren who he believed would be confused and surprised if more wasn't done to educate the public when there was still a chance to at least mitigate some of the worst predictions of climate change.

Environment reporting in New Zealand

"It's not great," Taylor said of environment reporting in New Zealand today (Taylor, 2016). His comments mirror the thoughts of other reporters, journalism educators and environment thought-leaders. Oosterman's study found that 14 climate action communicators in New Zealand felt mainstream media were not doing a good job at communicating environmental issues. However, they did recognise the large role media could play (Oosterman, 2016). In Hackett's research on what kind of journalisms were needed for the climate crisis, he explained that there was no single type of journalism that was adequate to face climate change. It needed to be a collaborative effort (Hackett, 2016). Taylor felt that the climate crisis was not reflected in the social consciousness because the media were either not doing their job in reporting on climate change, or people were switching off when journalists did try and report on it (Taylor, 2016).

During Taylor's years as a full-time reporter on the environment round at TV3, he felt he had great support from his editors and colleagues. He would try to do at least one or two stories on climate change each week, which he believed not many New Zealand news organisations were doing (Taylor, 2016). Although Taylor no longer works for a mainstream news organisation in New Zealand, he is still an active environmental journalist and communicator. In June, he and a few colleagues released a documentary, *Thirty Million*, filmed with the United Nations in Bangladesh, about the number of people in the country expected to be displaced due to sea level rise by the end of the century (Taylor, 2016). A reality of climate change reporting in New Zealand is that the country is not going to experience the worst of its impacts in the immediate future. In countries like Bangladesh, Taylor found climate change was already affecting people on a day-to-day basis (Taylor, 2016). Taylor hoped the micro-perspective documentary on Bangladesh would provide a macro-context on climate change for viewers in New Zealand and around the world, for whom climate change may be a distant worry for the future (Taylor, 2016).

At the *Dominion Post*, a younger, online audience is narrowing the environment round, according to environment reporter Rachel Thomas, who said she found it an uphill battle for environment stories to hold their ground as people increasingly engaged with other topics

before clicking on an environment story (Thomas, 2016). She believed this audience had a huge amount of influence over the type of journalism being produced by the newspaper and New Zealand's most-visited website, Stuff.co.nz. Research showed there was a clearer understanding of what content audiences were likely to click on as digital tracking tools helped online news editors understand the popularity of news items (Lee, Lewis, & Powers, 2014). With an increase of such tools, editors of online newsrooms were more aware and responsive to these desires of their audience (Lee, Lewis, & Powers, 2014).

In November of 2015, *The New Zealand Herald's* monthly sustainable business and lifestyle magazine ran its last-ever issue after four and a half years (Russell, 2016). With just under 100,000 readers, the magazine was a casualty of dropping advertising revenue. James Russell, the former editor of the magazine, *Element*, had hoped for a bright future for the publication amidst the Paris Climate Summit energy (Russell, 2016). The magazine covered content from businesses, social enterprises and conservation groups that were largely ignored in mainstream media. Although Russell identified vast improvements to New Zealand's environmental and social journalism within the dozens of publishing platforms in existence today, *Element* was unable to continue publishing. The magazine reached an audience that may not have organically searched for an environmentally sustainable story on their own. *Element's* newspaper platform reached what Russell called the "outdoorsy-but-not-greenie" readers to take better care of the planet and its people (Russell, 2016). For readers who have an interest in the environment, it is likely they are turning to alternative forms of media who cover environment is a serious way (Russell, 2016).

Hackett found alternative media were often where quality environment reporting was done (Hackett, 2016). Although mainstream media organisations typically had the tools to cover such influential topics and reach a large audience, this was not as commonly seen (Hackett, 2016). Taylor cited Pure Advantage, a not-for-profit that investigated and promoted opportunities for green growth, as doing positive work in building stories about climate change that were relevant to people (Taylor, 2016). It links business, people and innovation with climate change in a way that mainstream news does not (Taylor, 2016). Despite downfalls of some of the coverage from New Zealand's mainstream media, Russell identified various other platforms where environmental publishing was thriving. Instead of 100,000 people reading one publication for environment news, it is now 500,000 people reading 50 different websites (Russell, 2016). "Environmental and social journalism is undoubtedly in good hands – it's just not the hands we've become used to" (Russell, 2016, p. 1).

Climate crisis amidst journalism crisis

For the last couple of decades, the journalism industry has experienced growing instability and fluidity (Hackett, 2016). As news media organisations struggle to balance their publications with their online presence, their financial situations lack consistency. Since the appearance of the internet, newspapers' traditional business models have come under pressure, which reflects declining advertising revenues and shrinking subscriptions (Brandstetter & Schmalhofer, 2014). This means new sources of income, from publishing online, are either lacking or are often not profitable enough to break even (Brandstetter & Schmalhofer, 2014). When three U.S. newspapers from Gannett Company, an international media company, introduced paywalls Chiou found that the introduction of a paywall showed a drop in visits and a far larger drop in younger readers. Given the mass amounts of free content available online, news media organisations face new challenges over how to manage access to and the pricing of their content (Chiou, 2013). Both of New Zealand's two major

publishing companies, Fairfax Media and NZME, did not have a paywall for their online content. Hackett found that mainstream news media today was more likely to unabashedly pursue audiences or ratings to gather data to sell to third parties than focus on quality journalism (Hackett, 2016). There is an increasing effort by media organisations to grab audiences as quickly as possible, or in some cases, to appeal to target markets, rather than offer a public-sphere-oriented kind of journalism (Hackett, 2016). This is not an issue that one individual working in isolation can change within the system. In order for the priority to shift from grabbing at audiences towards engaging in quality journalism with audiences, there has to be a more organised effort of change within the journalism industry (Hackett, 2016).

Demands on journalists

Reporters working in today's journalism industry are faced with the challenge of taking on large portfolios that may consist of several different rounds or beats. For Thomas at the *Dominion Post*, this meant she covered not only environment, but science, technology and general news events (Thomas, 2016). Although she generally focused on these areas of writing, the shift work required of a journalist in today's 24/7 mainstream newsrooms introduced her to new rounds and topics she may or may not have be familiar with. With more portfolios for each journalist, Thomas said it meant there was less time to dedicate to one topic. This meant she only had a chance to skim through reports on climate change to determine whether or not it would make for a good story. Sometimes, she even felt it was hard to find time to brainstorm story pitches or develop new approaches to localising a story on climate change which could help get her stories published (Thomas, 2016). Bayles, as quoted in Schwartz's book *Writing Green*, talked about how environment reporters were often tasked to cover other stories or beats because "many environment stories can wait" (Schwartz, 2006, p. 30). With this shift in the industry, there has been a decline of specialised journalism in many Western countries. The relationship between environment or science specialists and journalists has become even more difficult to manage. Painter argued that it is a worrying trend that most journalists are now generalists, yet they have to cover highly specialised areas of risk in the environment (Painter, 2013).

Willman, as quoted by Schwartz, identified two strong realities of the environment beat. The first is the breadth of knowledge needed for environment reporting (Schwartz, 2006). Although an educational background in science or environment would be hugely helpful to environment reporters, many say they were able to become well-versed in the subject on the job (Thomas, 2016; Taylor, 2016; Gudsell, 2016). Whether a journalist has an educational background to support the environment round or not, it can be argued that a level of passion needs to exist around environmental issues for a reporter to be successful on the round (Taylor, 2016; Gudsell, 2016). Watkins, a professor quoted by Frome, warned: "Do not attempt to enter this field unless and until you feel it in your bones. If you do not care deeply for the fate of the non-human world, no craft or gimmickry can make up for what you will lack" (Frome, 1998, p. 32).

The second reality Willman identified, which is likely even more true with today's 24/7 news cycle, was that many environment stories were slow to develop. In a day that demands immediate news coverage to generate the highest audience response, or most clicks, mainstream journalists in New Zealand often look for stories to help fulfil that goal. Quite often, these types of stories don't have the depth or scope for the audience to gain a real understanding of the topic. These stories allow the reader to simply glance through as they move along to read something else (Schwartz, 2006).

Newsworthiness

Although environment reporting is fundamentally important to public health and global sustainability, environment stories do not always fit well within conventional news today. Often times, the newsworthiness of environment stories is not as clear as stories on the police or politics rounds. Environment spans a great number of areas, crossing over into everything from politics and economy to business, lifestyle, food and agriculture (Hackett, 2016). Reporting on the climate crisis can be an even greater challenge for journalists today, as the journalism industry itself works to pull itself out of its own crisis (Hackett, 2016).

Climate change is abstract. It simply does not fit well within conventional news values, which makes it challenging to write about. Furthermore, climate change is not a single event and its consequences are often distant geographically and are likely to take place far in the future (Hackett, 2016). Climate change is a difficult story to recreate for a daily news budget, while a short-term story on drought, or any other weather event, is much easier to visualise and portray (Allan, Adam, & Cynthia, 2000). Taylor agreed that climate change simply lacked the 'new' in news. The only elements helping climate change meet the 'new' qualification were the worsening of climate change predictions, which posed a challenge for coming up with fresh angles on the stories (Taylor, 2016). Kate Gudsell, environment and conservation reporter for Radio New Zealand, found that although there was no shortage of stories on the environment, it was challenging to make sure the stories had the newsworthiness to run (Gudsell, 2016). Galtung and Ruge argued that events that take place over a longer time-span go unrecorded, unless it reached some kind of dramatic climax (Galtung & Ruge, 1965). News also needs to be meaningful to the audience, which is more likely to pick up on news that is culturally familiar (Galtung & Ruge, 1965). Other news values include the national interest of a story, the impact the story has on large numbers of people, and the significance of the past and future (Gans, 1979). Research argued the possibility of damage by environmental risk did not possess any news value (Allan, Adam, & Cynthia, 2000). It entered news only when coupled with newsworthy events such as natural disasters; conflict over policy by stakeholders; or the activities of celebrities (Allan, Adam, & Cynthia, 2000).

Taylor understood many of the stories he pitched to his news editors were not always the "sexiest" news stories, but he would argue it was their duty to cover stories on climate change to continuously remind the public how big of an issue it really is (Taylor, 2016). As a relatively new member to the *Dominion Post* team, Thomas was still adjusting to a new audience base, which she said is much younger now and predominantly online. A reality for her as a journalist is, "if people aren't going to click on it, then it's not going to amount to a story" (Thomas, 2016). When pitching stories to her news editors, she found most success in environment stories with weird and quirky angles, such as "weird animals or something gross" (Thomas, 2016). These were not only easy to pitch, but quick to turnaround. Some of the latest environment stories featured on Stuff.co.nz were about pesty parakeets (Smallman, 2016) and a weird looking fish (Wilkinson, 2016). Galtung and Ruge supported this trend that news that was unexpected or rare had an even higher chance of being included in the news than something that was meaningful or expected (Galtung & Ruge, 1965).

Thomas recognised climate change was the biggest issue of her generation, and said she would love to write more about it, but knew the newsroom did not. If the *Dominion Post* covered one story on climate change over the last few months, the news editors wrote that off as one that did not need to be covered again in the immediate future. If Thomas was unable to come up with the 'new' angle, then the pitch failed. To gauge the success of a story Thomas

wrote, she simply looked up at a big television in the newsroom to see all the top trending stories with a timestamp of how long people were spending on that story. If people were spending over 40 seconds on an online story, that was considered really good (Thomas, 2016).

Engaging with audiences

A common theme when discussing environment reporting is the importance of making the story relevant for the audience. This is particularly important when writing on climate change, a subject that often feels to out of touch for New Zealander's (Gudsell, 2016; Taylor, 2016; Thomas, 2016). Relevance to a New Zealand audience is especially challenging given the debate of global equity around climate change. Global warming is caused by the accumulation of greenhouse gases in the atmosphere over two centuries. This means that the countries who lead the world in industrialisation, have done a great deal more emitting than most others. However, many of the countries that have emitted least are getting hit by the impacts of climate change first and worst (Klein, 2014). Klein said this was simply a result of geographical bad luck (Klein, 2014). With climate change impacts in the far-off future, it is difficult to engage with audiences in countries such as New Zealand who have a have time before climate change dominates their everyday life (Taylor, 2016).

Pekow, as quoted by Schwartz, said "you have to humanise the stories, make them readable by talking about specific cases. That makes them interesting to read" (Schwartz, 2006, p. 106). He believed reports on the environment could sell just as easily as any other story as long as they were made relevant to the audience (Schwartz, 2006). Although Taylor found environment stories, particularly on climate change, difficult to humanise and make relevant to the New Zealand audience, he knew it was essential to conquer that challenge. He found that there were "a thousand of different ways to frame an environment story" and get the audience to not only relate, but care (Taylor, 2016). Thomas faced similar challenges in bringing content to her audience. Although she knew there was a lot of great work happening in the environment world to report on, she said it "won't see the light of day" unless it related directly to New Zealand or surprised the audience (Thomas, 2016). Willman acknowledged the importance of presenting the story through the eyes of someone affected by the circumstances, in order to best hook the reader. This helped him move the public to feel the story and be a part of it so they felt compelled to do something (Schwartz, 2006). Frome suggested making the writing an adventure for both the journalist and the reader by humanising the writing. This helped capture the reader's attention in the opening paragraph and hold it all the way to the conclusion (Frome, 1998).

A great deal of reporting on climate change is not fun news to read about. It is an overwhelming topic and the weight of the climate crisis is a lot to ask audiences to digest (Hackett, 2016). Hackett found that media could make people feel powerless to do anything about climate change. In an effort to change this, he encouraged journalism on climate change to move away from the conflict-framed stories and more towards action-framed pieces that empowered and mobilised the audience (Hackett, 2016). Not only is climate change an overwhelming topic for the audience to digest, but it can take its toll on the journalist reporting on climate change. Taylor chose to do the environment round at TV3 because he was passionate about the topic. Although his passion ran deep, he admitted that climate change could be a pretty depressing topic to cover. Taylor was still shocked by how many people either refute the science of climate change or simply don't appreciate the seriousness of climate change. "That's probably the most frustrating thing," he said (Taylor,

2016). Taylor often received feedback that climate change seemed like such a big issue and was too hard to deal with. He sometimes felt the same way and therefore believed it was important to find a balance in reporting on climate change. He would try to give people tangible solutions as to what they could do to make some sort of positive difference, but would refrain from sugar-coating the situation. "It's a huge issue. It is terrifying and you do have to find that balance of giving people hope, but the bottom line is, if we do continue at the rate we're going, it is going to be catastrophic. It's terrifying and it is truly a serious issue and that makes it a really difficult line to toe" (Taylor, 2016). Oosterman said news coverage on climate change needed to strike a balance between fear and hope, and treat these not as opposites, but features that could be held together (Oosterman, 2016). Gudsell faced a similar challenge in reporting on environment because people don't always want to hear about climate change and the usual "doom and gloom" that go with it. She was always trying to think about new ways to position the climate change story and get around the negativity of it (Gudsell, 2016). It is important for communicators to be positive, to sell sustainability as a life choice that enhances the quality of life, as opposed to focusing on the negative actions of people who are not being eco-friendly in their lives (Harre, 2012).

Gudsell also found that many people were rather indifferent about climate change. At the time of our interview, there were an abnormally large number of key reports published. Climate Change Minister Paula Bennett had just signed the Paris Climate Change Agreement, the Morgan Foundation came out with a report on New Zealand carbon credits and the Royal Society of New Zealand reported on sea level rise threats to New Zealand's coasts. All of these reports warranted being covered, but they didn't present much new information. Gudsell found that with such concentrated amounts of coverage on climate change, future climate change story-pitches were difficult to sell (Gudsell, 2016). In an effort to bring something new to the story, Gudsell often looked to speak with new and different people. These new opinions often helped give the story the leverage it needed to run (Gudsell, 2016).

Reporting risk and uncertainty

Environment stories are some of the most complicated and pressing stories of our time. They involve abstract science, complex laws, politicians, speculative economies and the complex interplay of individuals and societies (Stocking & Leonard, 1990). Stocking and Leonard argued that environment stories concern the future of life on this planet and that these stories need careful, "longer-than-bite-sized" reporting and analysis, now (Stocking & Leonard, 1990, p. 42). The story of climate change is essentially one of uncertainty, but with potentially extremely harmful impacts (Painter, 2013). Scientific uncertainty is often misunderstood, particular by the general public, and misinterpreted as ignorance on the subject (Painter, 2013). People fail to realise there is a difference between 'school science,' which are solid facts with reliable understanding, and 'research science' where uncertainty is engrained. This makes reporting on 'research science' quite difficult, but also puts a lot of responsibility into the hands of journalists framing stories on climate change, which often include language around uncertainty and risk (Painter, 2013). In Ward's research based on workshops with journalists and scientists in the United States, he found that uncertainty was often a strength of the best science (Ward, 2008). He stressed the importance of helping audiences understand and appreciate the role of uncertainty in science and the idea that some scientific uncertainties would never be resolved (Ward, 2008).

Researchers argued that stressing the 'risks' posed by climate change rather than the 'uncertainties' created a more helpful context for policy makers and a stronger response from

the public. Literature suggested language of explicit risk, which was more narrow and technical, could be a good, or at least a less bad, way of communicating climate change to the general public (McGaurr , Lester, & Painter, 2013). The ‘bad news’ story compared with a more positive story of opportunity is a powerful shaper of the dominant narrative that the audience receives (McGaurr , Lester, & Painter, 2013). Painter's study, which examined around 350 articles from three newspapers in six countries, found that the dominant message readers received were ones of disaster or uncertainty. The disaster frame, which often stresses negative impacts of climate change, is seen as an extreme obstacle to public engagement on the issue. The language of risk or opportunity, which highlights a more positive outlook, was much less prevalent in the study that reached a combined circulation of at least 15 million people (Painter, 2013). Painter went on to show that less than two percent of articles studied included a mention of the opportunities available when transforming to a low-carbon economy (Painter, 2013). Journalists often faced pressures from editors who wanted to change words like ‘might’ to ‘will,’ in headlines such as ‘climate change “will kill 100 million people by 2030’ rather than ‘might’. In addition, Painter found that journalists did not have enough space to explain where such uncertainties existed (Painter, 2013).

Painter emphasised the importance of journalists being able to work well with numbers and probabilities. He argued that journalists needed to be better not just at understanding data, but at understanding and presenting the numbers around risk and uncertainty (Painter, 2013). Only when the journalist has a clear understanding of this, can they communicate the information effectively. To accurately write a story, one must be sensitive to the language or risk and hazard (Sandman, West, & Greenberg, 1995). At the conclusion of Painter’s study, he recommended several courses of action which included: more training for journalists on numbers and probabilities, more discussion about uncertainty within website articles that have more scope for explanation, and using risk language as a way to relate to common areas of life (Painter, 2013).

Future of environment reporting

At a time when societies around the world already face resource limitations, increasing populations, shrinking food supplies and climate change with its many environmental and health impacts, more and better environmental coverage could help play a role in seeking solutions to meet future challenges (Cox & Hansen, 2015). Environmental journalists around the world are bound to face many challenges in the years that lie ahead. Responsible reporting which employs a variety of media methods and adapts to change is one to help improve the public’s understanding of complex environmental issues, such as climate change (Cox & Hansen, 2015).

For journalism going forward, Hackett said it was crucial for the entire newsroom to keep a close eye on the implications of climate change, which was bound to impact everything from national investment and local jobs to personal consumption and holiday destinations (Hackett, 2016). This drew on the idea that every individual, no matter the discipline or the beat they write about, should be critically engaged with a sustainable mind-set (Hackett, 2016). Meersman, as quoted by Schwartz, said, “Environment is more a theme than a beat. It crosses many beats” (Schwartz, 2006, p. 83). The infrastructure of society has its roots in the environment and environmental considerations are often brought to bear on decisions made (Schwartz, 2006). Pekow, as quoted by Schwartz, recognised the environment was usually not the big story for mainstream news media, unless it was paired with another beat, such as politics or war. He said, “Unfortunately, I don’t know that that’s going to change. In the

mainstream press now, I see a smaller quantity of reporting on the environment" (Schwartz, 2006, p. 106).

Long-form journalism: Planting the seed

From tiny hands playing in compost to young adults leading organic food co-ops, Wellington students are preparing for a sustainable and innovative future in the face of climate change. ***Audrey Seaman*** *reports.*

Alex Cattanach says his grandad doesn't believe in global warming. But he will never need to. The drastic effects of global warming won't be a part of his grandad's lifetime. But they will be a dominant part of Alex's every day. That's why Alex, 13, is taking a course on sustainable action at Wellington High School.

"Global warming isn't something we can stop, and eventually, unless we make some super drastic changes, which it doesn't look like it's going to happen, we need to invest in Kepler," he says, referring to a planet beyond our own solar system.

While Alex hunts for another habitable planet, his year-9 classmate Molly Henry, 13, stresses how important it is for her generation to learn about environmental sustainability at school.

"I don't think the older generations know as much about global warming because it wasn't taken as seriously. It's getting more serious now," she says.

That's why New Zealand and 170 other nations signed the Paris Agreement in April of this year. It commits New Zealand to a reduction of greenhouse gas emissions to 30 percent below 2005 levels by 2030.

By then, Alex and Molly will be in their late twenties, full of energy as they branch out into their professional careers. Regardless of whether or not New Zealand reaches this target, their futures will see dramatic change.

Although it wasn't in their grandparent's textbooks, teaching and learning on environmental sustainability is a growing part of today's educational journey. Young people will bear the brunt of climate change effects and they deserve to be given the tools to do so.

There is a bit of a buzz around environmental sustainability throughout Wellington city's educational institutions.

Maybe it's the growing number of beehives dwelling just outside primary and secondary playgrounds. Or maybe, the city's educational institutions are actually trying to grab hold of their 100% pure New Zealand.

Just above the central business district and within earshot of the constant rumble from State Highway 1, rests a small white building with a gleaming roof.

This is Clifton Terrace Model School. The stairwell to the main office is lined with multi-coloured hand cut-outs, each one painted by a Clifton Terrace student. The word "sustainability" crosses the wall in large, green letters. The hands symbolise their commitment to being eco-friendly and energy efficient.

As she cracks open her reusable container filled with raw nuts, co-principal Brigid Conaglen chats about the school's environmental journey which has brought it 24 solar panels powering the school and a student-body full of environmental leaders.

Although Clifton Terrace has always had strong links with the environment, many of their efforts were made possible with the support of two New Zealand programmes: Schoolgen and Enviroschools.

Schoolgen, a Genesis Energy initiative, brings solar energy efficiency to life for children. Enviroschools is a network of schools and communities that works to make a positive difference to the environment.

In 2009, Clifton Terrace became one of the first schools in the country to be part of the Schoolgen programme, which saw its first installation of solar panels.

Co-principal Jenny Austin says that with both Schoolgen and Enviroschools, educational institutions are able to work towards unique levels of expertise.

"That's quite flexible because every school is different, but you do have criteria that you have to meet for both the Enviroschools and the Schoolgen programme," she says.

With a quick flip open of her laptop, Schoolgen facilitator and teacher Maggie Clink can see how many kilowatts of energy their solar panels generated in the last 30 minutes.

Under Clink's guidance, the school is working towards a Schoolgen Gold Award, which focuses on informing, empowering, educating and taking action. They have been busy conducting energy audits to learn where the most energy is being used and writing their own newspaper, *The CTMS Striking Sun*. They have made windows and doors airtight, changed to energy efficient LED lights and put the staff-room's hot-water machine on a timer.

The Gold Award achievement also encourages the school to reach out to their neighbours. For Jenny Austin, going back into the community with the thinking learned at Clifton Terrace is really important.

"The children have done the learning and the inquiry around sustainability and then the key is actually going back home to their parents and feeding that into their own home environment. Then we look at the wider community and how can we communicate that to our neighbours," Austin says.

Victoria Faafia, 11, says she is happy to learn about environmental sustainability at school so she can share information with her family.

"We can go and tell our parents and teach them to recycle. And then, when we're older, we will know what we have to do."

Victoria comes from a big family and she has made it a goal to reduce the amount of rubbish they go through each day.

Tommy Athfield, 7, sits quietly in his seat, his toes reaching for the ground, as he thinks about New Zealand's environment.

“I think New Zealand is really clean and a world that people want to live on,” Tommy, a Clifton Terrace year-3 student, says in his soft shy voice.

He knows he has to help keep New Zealand that way. “If we tidied up, we would get more animals and more plants. If we don’t have any plants and animals, we could die.”

His sustainable actions at school make him feel happy and he wants others to do the same so the trees and animals can stay healthy.

“If you were buying a can of peaches, you could just buy a piece of fruit, just not in the can. Then it would be easier for the world. We would just put the fruit in the compost, but with a can, you would still have to put it in the recycling bin.”

Tommy is extra conscious of his waste because the Clifton Terrace school community lives by a zero-waste lunch policy, meaning nothing brought in for lunch ends up in the landfill.

After switching to zero-waste lunches, a waste audit found rubbish to the landfill reduced by 50 percent.

Co-principal Brigid Conaglen says the switch to zero-waste lunches can be tricky for families used to packing “muesli bars and chippies”, so they provide an information packet outlining the school’s commitments.

With the information booklet and shared knowledge from students like Edie Apperley, 8, families are quick to jump on board. “I am trying to persuade my parents to bake more of their own products instead of buying stuff. That way you’re not spending so much money and there will be less waste from the plastic wrappers that might go to the incinerator and create more carbon dioxide,” Edie explains, as if she’s been doing this her whole life.

With no solar panels on the roof of the brutalist, aged concrete building, Wellington High School doesn’t seem to be a place where students think about the environment.

But at Wellington High, looks can be deceiving. On a sunny April morning, a few dozen year-9 students dive into their latest projects on sustainable action.

Teacher Bob Naylor, in his worn cargo pants, leads this five-week option course for the first time at Wellington High.

The students whip out their tablets and laptops to get straight to work. In the far corner, two girls are typing away nearly as fast as their teenage hands can text. One is looking at sustainable cosmetic products which she learned she can find at most cosmetic stores in Wellington. The other is researching how fabrics used in the fashion industry can be more sustainable, although she admits to wearing a polyester shirt.

Another student’s project has a hidden agenda. Not only will it suffice for the class, but he hopes it will convince his parents to get rid of their third car.

Wellington High has a recycling programme, a vegetable and herb garden, and everyone’s encouraged to turn off the lights in classrooms when they leave.

Josh Bluck, 13, comes from a scouting family and says being kind to the environment is habit now. “All the little things do help, even if they seem pointless.”

These small, tangible efforts motivate Anya Maule, Victoria University of Wellington Students’ Association’s wellbeing and sustainability officer.

“Environmentalism comes in all shapes and sizes, but for me, it’s always been about the things you can do on a daily basis that make me personally feel better.”

She bought an electric bike just the day before. “Now I won’t even have to take the bus.”

Maule helps lead the university produce market, a food co-op which provides affordable, organic products, and a compost bin.

Just down the hill from Victoria University, a group of year-5 and 6 Te Aro School students are kneeling on the ground, huddled together, intent on cutting little holes into each of the used teabags that lay in rows in the baking pan in front of them.

Each teabag gets one seed each. If tiny spinach and bok choy plants begin to sprout from the teabags in just over a week, this experiment will be a success.

With a quick walk around Te Aro School, it’s clear environment is on the mind.

Every spare centimetre of the inner-city school has a purpose.

In the recess play area, the kickball games work around the bee and monarch-friendly flowers and insect hotels.

Students playing tag, dodge around the native garden. The sunny side of the school is lined with garden beds still producing tomatoes, potatoes and silver beet.

Marah Johnstone-Lee, 10, brushes dirt off her knees after a bit of teabag planting as she describes how taking care of a garden is one way to be kind to the environment.

“Silver beet is my absolute favourite,” Marah says, as lunchtime looms closer. “I like being outside because it’s fresher air. We do rubbish pick-ups, have a worm farm, a skink garden and our bee areas are just over there,” she says with a gesture.

The school has two beehives which it bought in 2014.

One is active and each week a handful of students jump in their white bee suits, search for the queen and make sure the bees are well.

Just inside, a group of year-6 students work in small groups on various activities about composting. One student, who has no interest in touching the compost itself, finds an alternative way to participate by creating a PowerPoint presentation on what should go in the compost.

At another table, Talluhlah Adam, 10, and a few other classmates are writing a poem called "Compost Stew".

Talluhlah says she loves looking after the environment because it makes her feel free. "Just having a few people doing it can make a big difference."

From composts and worm gardens to zero-waste and solar energy, Wellington's educational institutions are demonstrating viable, positive alternatives for their students and staff.

Professor Samuel Mann, of Otago Polytechnic, says such environmental initiatives alone won't get the environment where it needs to be. "Little things don't add up, but they do multiply."

Mann finds that the real value is when students and staff can share their knowledge with a larger community. "If it prompts students to go home and they are talking about where food comes from, and enough of them do that, maybe it will make a difference. We hope that it is having those sorts of changes. We want to get to a stage where people are empowered to do more than easy things."

At Otago Polytechinc, Mann led the development of education for sustainability where they aimed to have "every graduate thinking and acting as a sustainable practitioner" by integrating sustainability into each discipline.

Even at a young age, many students recognise how their actions impact the future environment.

Isla Athfield, 10, a year-6 student from Clifton Terrace says she feels good when she helps the environment. "There is a lot of global warming going on and that's pretty bad because it's killing a lot of the Arctic animals."

Although Isla and her classmates agree in a group discussion that New Zealand's current environment is clean, green and beautiful, they were unsure what coming years would bring.

Classmate Victoria Faafia thinks New Zealand won't be so green. "Maybe some of New Zealand will have sunk because Antarctic ice would melt and come up to New Zealand," she says.

Back at Te Aro School, Marah Johnstone-Lee says New Zealanders should be a bit more careful where they put their rubbish.

"It [New Zealand] could use a little cleaning up around the place, like the seas. Sometimes when I swim in the sea, I find bits of rubbish just floating around. It's so gross," she says, with the flick of a wrist as she pushes imaginary rubbish away with her hand.

If these predictions of rising sea levels become a reality, Clifton Terrace year-6 student Audrey McConnell, 12, wants to be prepared. "I think it's good we learn this at school because we need to know what to do if global warming gets worse. Global warming is sometimes how you throw out your rubbish and it might go to an incinerator and rubbish is burned. That releases carbon dioxide into the atmosphere which effects global warming," Audrey explains.

Thea Matthews, 10, says she wants to learn as much about environmental sustainability as she can. “If we know, then we can tell other people and we will be better at everything.”

Tucked away just behind the National War Memorial sits Massey University’s Wellington campus, where 23-year-old Chelsea McLaughlin studies journalism.

McLaughlin, who is in her fourth year of study at Massey, says she isn’t aware of many environmentally sustainable opportunities on campus. “I haven’t noticed much university-wide, more just individuals taking different action.”

The recycling options seem to be as dated as the 1980s modular, utilitarian buildings that make up the campus.

Although the library and most classrooms are equipped with paper recycling, the plastic, can and glass recycling receptacles are few and far between. If you search for a while, two multi-use recycling receptacles, worn with age but not use, can be found in far, out-of-the-way places.

With a quick glance at the rubbish bins around every corner overflowing with energy-drink cans, empty plastic sandwich containers and last term’s notes, it’s clear recycling is not made easy.

In May, Allanah Ryan stepped into the new part-time positon of director sustainability at Massey University to provide strategic leadership around sustainability-related goals.

Although only two weeks into the job at the time of the interview, Ryan says she has ambitions to promote multi-disciplinary work. “Environmental topics are interdisciplinary by their nature. In terms of sustainability, I think it [multi-disciplinary work] is critical.”

One of her other goals is to help people understand that climate change challenges can also be opportunities.

As a student, McLaughlin says she understands the importance of learning about environmental sustainability at school. “With the way the world is now, we can’t really keep going the way we are in terms of not being sustainable. It’s important to at least make kids aware, and if they are learning about this in school, they will hopefully bring that home and get more people on board.”

For Maule at Victoria University, the opportunities to improve campus sustainability are what motivated her to take on her leadership position. “We have [recycling] bins in the hub, which were just introduced, but there is no glass. I find that quite troublesome.”

“Considering New Zealand has that clean, green pure image, I think there is a lot more to be done. More people are getting on board and are getting concerned and want to change, so I am hopeful,” she says.

In 2006, Andrew Wilks saw an opportunity to use his building science education to help Victoria University focus its environmentally sustainable efforts.

As the university's environmental manager, he has driven a range of projects from energy management and sustainable transport to the integration of new recycling bins and campus biodiversity.

Wilks says educational institutions have a role to play in preparing for future environmental challenges. "The world is facing serious challenges and as an organisation, universities are meant to act as a social conscience for society. From that angle, I think it's our responsibility to prepare our students. It's the outreach and engagement to the wider community as well."

From his perspective, tertiary education is one of the best times for people to latch on to the sustainability mind-set. "There is so much change going on that it's an opportunity to create that behaviour-change because so much is in flux. It's a golden opportunity to get them on the sustainability bandwagon."

Te Aro School principal Sue Clement agrees schools have a unique role to play in terms of environmental sustainability.

In 2013, the school participated in a University of Otago study which aimed to find out what nature experiences children have in their local neighbourhood. Te Aro School learned it had the most 'experience-deprived' students in the study due to their CBD home location and limited contact with the outdoors.

Clement says the research emphasises how important a provider the school is in terms of contact with nature. "Some students wouldn't have the opportunity to be outside if we didn't do it here at school. For some families environmental education is very important, but for others, it's not so much. Many students are from apartments in the city or from immigrant families that focus on the core part of the curriculum and are used to the traditional subjects."

Back at Massey, Allanah Ryan says she feels universities are responsible for educating students on environmental sustainability and climate change.

"It [climate change] is one of the critical challenges facing the world. I think universities do have a responsibility to raise the challenges which are often quite difficult and quite political," Ryan says.

This responsibility is also felt by Sustainability Trust, a not-for-profit tucked away in a Wellington lane that provides advice, services and resources on sustainability.

As a sustainability educator for the organisation, Michelle Whale says it's incredibly important for environmental sustainability to be taught in schools.

"We teach kids about how to be healthy physically, but often neglect looking after our earth too and I think that's pretty important. If we confront students when they are younger with the harsh realities of landfill and waste and our destroyed waterways, then that will stay with them when they are older," Whale says.

Karyn Burgess, the Wellington regional co-ordinator for Enviroschools, says that integration is key to environmental sustainability at educational institutions.

Many schools these days encourage literacy and numeracy often in isolation, Burgess says. “We would encourage taking an environmental issue, like how to reduce the amount of waste that goes to the landfill, and we would look at it in maths, writing, social studies and science. We encourage integrating that across all areas of the curriculum, opposed to those as all separate,” she says.

Sometimes Burgess visits an Enviroschool and finds educators covering the traditional studies and then working on Enviroschools.

“We would encourage gardening at lunch time, for example, although you’re not going to be able to be successful at making environmental change that way.

“If students don’t know why they are doing things and can’t articulate that or see it as being important, it’s not good enough. It needs to be part of the learning and should be talked about as well as part of the practices, not just one or the other.”

For Clifton Terrace Model School, a whole-school approach to environmental education from five-year-olds to 13-year olds has been the most successful, co-principal Jenny Austin says.

“I think building sustainability into other areas of the curriculum is a real strength of our school,” she says.

Just recently, they mixed art with environment and created an art exhibition with recyclable materials at a downtown gallery.

Austin finds that the integration of environmental sustainability across all disciplines gives students with different strengths a chance to shine through other learning areas.

That’s when educators start to see the strong passion students have for the environment. “I think you’ll see some students coming out of Clifton Terrace being drivers, politicians probably,” Austin says.

Her co-principal Brigid Conaglen says she has also noticed their students are becoming empowered to take action. “They are starting to think of something that is a concern and then about how they can resolve it.”

Speaking from his experience at Otago Polytechnic, Mann says many educational institutions have a business-as-usual approach for education, with sustainability tacked on at the end. However, if an integrated approach is taken, “you have to continually work to keep it there”.

Although environmental sustainability is a little part of every day at Clifton Terrace, over at Te Aro School, a large portion of Wednesday is dedicated to Enviro Day - a day when getting your hands dirty is not only acceptable, but encouraged.

Principal Sue Clement walks the school campus observing Enviro Day activities, she stresses the importance of maintaining balance in the curriculum. “We don’t want to over-focus on just one thing.”

As she enters the back garden area, she greets a group of year-6 boys by name and redirects them back to their weeding in the raised beds.

“Environmental education is growing in our curriculum and its part of our key competencies,” she says. “We struggle with the continuity of the programme.”

The sustainability of the environmental programme itself is a challenge because the staff need to have certain skills in order to lead it, Clement says.

That’s why a focus on environment one day a week works best for them administratively.

It’s the day their part-time gardening teacher can juggle the dozens of helping hands while working to keep the garden growing. It’s also when the beekeeper can come by to calmly advise students on how to lift the heavy, honey-filled beehive trays to see how they are faring.

Environmental education competes with all other aspects of Te Aro School’s curriculum for its portion of the annual budget, Clement says.

Everything from the raised beds and greenhouse to the skink garden and insect hotel were started by enthusiastic staff over the years at Te Aro.

But when those devoted educators and passionate environmentalists leave the school, the environmental education programme and projects suffer.

Clement says she is ready to buy supplies for their orchard pipe-dream, but she won’t do so until people are invested in it. “I need the buy-in from both staff and students,” she says.

“The key is to have staff enthusiasm. The entire community needs to get on board and we need someone to drive it.”

Back at Clifton Terrace, co-principal Jenny Austin says they know sustainability in terms of staff is a real struggle for a lot of schools.

“Environmental education is built right into our charter, so that puts environmental education right up there in terms of our staff’s commitment for resourcing. You may have a really strong leader who is driving the programme and then they move on and you have to rebuild that knowledge-base with the staff,” she says.

Karyn Burgess, from Enviroschools, recommends a team of leaders driving environmentally sustainable efforts at schools.

“With one person on their own, it’s very easy to do rather than lead. You need strong leadership skills and a strong leader in the principal as well.”

As a former educator herself, Burgess understands how challenging it can be to find time to fit everything into a day of learning. “Schools are very busy places and teachers are under constant pressure to address all of society’s issues,” she says.

Meanwhile, at Victoria University, a team of strong leaders is emerging to enhance the university’s status as a champion of the environment.

In June, the university appointed a new assistant vice-chancellor (sustainability) to help drive the university's sustainability efforts.

Andrew Wilks is relieved to be gaining additional support for his nearly 10-year stint as a one-man environmental team. "We have the ducks quite nicely lined up in terms of sustainability. The idea is that we'll create this sustainability office and work with both academic and operations sides. Hopefully the future will be looking glorious."

This may help them conquer their growing challenge of engaging with the student body, Wilks says.

With only three or four years to reach a population of over 16,000 students stressed with studies and finances, a university-wide approach to environmental sustainability is difficult.

"It would be lovely to say every teaching programme needs to have a sustainability concept in it. But I don't think we'll be able to achieve that one. The academics taking the programmes may not have any expertise in sustainability themselves," Wilks says.

As a student leader, Maule works to spread information on sustainability out to as many students as possible.

"The key is to get people engaged. University students tend to be apathetic and think, 'why should I care'?"

Earlier this year, Maule spoke with a 100-level environmental class about sustainability initiatives on campus. Although she was happy to do so, she often wants to shift her focus towards the rest of the student body.

"Only the people really interested in it will hear about it," she says.

Maule says there are many areas where communication could be more engaging. "Students moving to Wellington for the first time are unfamiliar with the recycling and rubbish policies." She is a believer that if her peers are given the tools to be more environmentally aware, they will be.

During the orientation process, Wilks says he trains all of the campus coaches, who serve as tour guides and buddies to new students.

"I give them all the information about the basic sustainability stuff – the recycling bins on campus and how to get here by sustainable means. Hopefully that information trickles down," he says.

The Great Wellington Regional Council also relies on its environmentally sustainable programmes to trickle down to educational institutions in the region. Since 2012, it has supported 'Take Action for Water', a programme built to help primary and intermediate students explore their local environment. It also supports 'Turning on the Tap', a programme to help students understand where their tap water comes from and make informed decisions about how they use it.

Karyn Burgess says that both programmes are promoted through its website and the Enviroschools network.

In the Wellington region, there are 85 educational institutions participating in Enviroschools, with 23 in the city alone. Burgess says this covers about 25 percent of all educational institutions in the Wellington region. “We’re certainly not one of the front-runners in terms of numbers.

“Things are moving ahead and we have spent quite a lot of time making sure those that are registered a really committed,” Burgess says.

Enviroschools is funded by various arrangements, depending on the region.

For Wellington city schools, the Wellington City Council funds Enviroschools on a three-year contract - $45,000 a year in 2016 and 2017.

“It’s quite a political thing really. There was a period of time where the Wellington City Council stopped funding Enviroschools. That was reinstated when Mayor Celia Wade-Brown became mayor,” she says.

Although Burgess is confident Enviroschools will maintain its contract with Wellington City Council, she says there is always a chance the contract could end.

When it comes time for Enviroschools to reapply for funding, co-principal Jenny Austin says Clifton Terrace is always supportive and will provide dialogue for their submissions.

When an educational institution commits to the Enviroschools agreement, it pays approximately $150 for a set of resources.

The educational institutions are then responsible to cover any project costs they engage in as part of their Enviroschools journey. Karyn Burgess says many educational institutions apply for grants or fundraise to help offset some of these costs.

As part of the Enviroschools agreement, a facilitator is matched-up with the educational institution and aims to have contact at least once each term. In Wellington city, two part-time employees are facilitators for the 23 Enviroschools.

“The local councils pay for a facilitator to be able to work with the registered Enviroschools in an ongoing way to try to become whole-school in their approach,” Burgess says.

For Clifton Terrace, the continuity of lead people, such as facilitators, is really helpful, co-principal Brigid Conaglen says.

“We have had our facilitators be the same person for a number of years so there is the knowledge base of where we have come from and where we have been led to,” she says.

Genesis Energy public affairs manager Richard Gordon says the Schoolgen programme has a similar approach, with two full-time environmental educators liaising with 92 participating schools around New Zealand.

In 2013, Wellington City Council partnered with Genesis Energy to expand the uptake of solar energy in the capital as part of the council's Smart Energy Capital initiative.

This agreement meant they would each contribute $288,000 to put two-kilowatt photovoltaic systems on 16 Wellington educational institutions.

"We contacted all the schools in Wellington and invited them to apply," Gordon says. "Then we chose schools based on how far down the sustainability route they had gone."

For the Schoolgen programme, its mission reaches beyond just putting solar panels on schools. "It's about teaching renewable energy, energy efficiency, and changing people's behaviour so they have a better understanding of energy in their daily lives."

Their work with Wellington City Council is one of the few joint ventures Schoolgen has had over its nine years of philanthropic work, Gordon says.

"We don't have the resource to grow the programme. The focus for the next year is to halt installing panels and invigorate some of the schools we haven't seen in a while."

As part of the Wellington City Council support of educational institutions, council waste minimisation manager Kellie Benner says it offers waste education visits and landfill tours.

"We also provide free compost bins and worm farms for schools, and can help with the maintenance," she says.

Back in 2011, the council's recycling system changed and schools were then excluded from the kerbside recycling systems, Benner says.

Based on an estimate from the council's rubbish policy website, a Wellington educational institution could have to pay about $410 each year for paper, glass, can and plastic recycling.

The council offers a $225 annual grant for educational institutions to offset recycling costs. "We usually have about 10 to 15 schools apply each year and there is plenty more available if schools are interested," Benner says.

Online resources for education for sustainability include the *Guidelines for Environmental Education in New Zealand Schools*, published in 1999 by the Ministry of Education.

Although the guidelines have been updated to reflect the current curriculum, the foundation of the document from 1999 shows a considerable gap in focus on this issue. Ministry of Education head of early learning and student achievement Lisa Rodgers says these same guidelines continue to provide useful guidance for schools as they develop programmes in environmental education for sustainability.

Now over 17 years old, the guidelines cite commitments made in the 1992 Earth Summit and Resource Management Act 1991. Climate change is mentioned three times throughout the entire document, with global warming never making an appearance.

The guidelines do, however, list several government agencies, organisations and research institutes that may advise or support environmental education programmes.

A spokesperson from the Ministry for the Environment says it helps to fund Enviroschools, the Community Environment Fund and hosts a range of resources on environmental education on their website. “The Ministry recognises that education is key to embedding environmental stewardship as a generational value and supports a range of activities that assist schools to foster a culture of environmental responsibility among students.”

Even without Enviroschools or Schoolgen, Bob Naylor at Wellington High says he has no trouble finding off-site resources within walking distance of the school.

The class of year-9 students visited the often muddy, but peaceful Papawai Reserve that is cared for by local Mount Cook residents.

During other weeks on the course, Naylor organised visits to the Wellington Chocolate Factory, Kaibosh, and Fix and Fogg.

The class also paid a visit to Sustainability Trust and took part in an educational workshop.

Michelle Whale, from Sustainability Trust, says it works with at least 10 Wellington schools each year. “We put an email out to different schools throughout the Wellington region at the start and end of each year so teachers can plan things.”

On visits to the schools, Whale says she can forecast the success of new environmentally sustainable programmes by the enthusiasm she sees.

“More and more principals are actually coming on board and have been quite enthusiastic. Usually it’s driven by a head-teacher who has a personal passion for it sustainability.”

The message that emerges is that teaching environmental sustainability requires a commitment from the top and teachers with a passion.

Although actions of students like Alex Cattanach, at Wellington High School, had little to do with the current state of the environment, he will live to see climate change reshape his entire world.

But when it’s Alex’s turn to talk with his grandchildren, he will be ready to pass on useful advice on ways they can cope with their future.

Discussion

This study sought to analyse how key influencers in New Zealand communicate about environmental sustainability and climate change. This section examines and discusses the challenges identified in the long-form journalism, drawing on my own experience of interviewing environment reporters and writing the long-form environmental feature article.

Environment reporting has long been a part of the journalism industry (Frome, 1998). Over its decades, the environment round has experienced a great deal of change as the journalism profession adapted to a shifting industry. As the contemporary newsroom takes form today and industrial restructuring occurs, environment reporters struggle to have their story told. Many of the issues identified through my interviews with New Zealand environment reporters stemmed from the current crisis of the journalism industry. For environment reporters, this crisis brought increased demands, a struggle to pitch newsworthy and valuable stories, and difficulties around engaging with audiences (Thomas, 2016; Gudsell, 2016; Taylor, 2016).

Similar challenges were identified in a recent study of United States-based science journalists. The environment round or beat itself was said to be narrowing as the dominant environment story of climate change migrated around the newsroom to other rounds (Gibson, Craig, Harper, & Alpert, 2016). This allowed for an increasing amount of in-depth coverage on climate change, from a broader range of perspectives (Gibson, Craig, Harper, & Alpert, 2016). The long-form journalism sought to embrace this idea that environment reporting could find strength when coupled with other topics. Although the article focused specifically on environmental sustainability, it was largely a piece on education. The composition of numerous topics came naturally to this piece, given that environmental sustainability and climate change were relevant to a range of areas.

The science journalists interviewed in the U.S. study found that the weaving of climate coverage into other stories was a positive development, although it sometimes meant the environmental journalists themselves were forced to migrate from their specialised beats to general assignment reporters (Gibson, Craig, Harper, & Alpert, 2016). In these cases, the expertise knowledge of such journalists followed them to a range of other stories which then contained environment angles. The newsroom restructure also posed a problem as layoffs hit the science and environment reporters particularly hard (Gibson, Craig, Harper, & Alpert, 2016). This eliminates the expertise in environment or science that is crucial to authoritative journalism. In New Zealand, many newsrooms still have an environment round or beat, but with gradual restructures, many layoffs have occurred. However, this could be taken by a reporter who manages multiple other rounds. As mentioned earlier, many of the New Zealand reporters often had to fight to convince their editors to publish their stories on climate change. Ward believed that this would get easier only as senior editorial news managers grew to understand that climate change was a vitally important story to keep before the public (Ward, 2008). Since this long-form journalism was a product of an academic degree, no senior management stood in the way of the chosen long-form journalism topic. In submitting this article for publication, it will, however, be subject to the common challenges to today's newsroom presents.

Just as environmental sustainability at educational institutions can sometimes take low priority, environment reporting has been found to have "fallen to the wayside" as newspapers lose readers to the internet, revenues fall, and staffs shrink (Lieberman, 2008, p. 29). As a

science writer in the U.S., Leiberman found that many news organisations recommitted their resources away from environment and towards what they saw as higher priorities (Lieberman, 2008). Although these were "tough times" for the newspaper industry, the story of climate change could be a local one and Leiberman felt it was important to be told (Lieberman, 2008, p. 29). As outlined in the literature review, the idea of localising the environment story was a common theme in the interviews conducted with New Zealand environmental journalists. This was a driver in writing the long-form journalism from a localised perspective. The long-form article presented voices from Wellington city and from educational institutions many potential readers would be familiar with. This emphasised Ward's concept of reporting about humans rather than just facts and figures (Ward, 2008). Whether reporting on the environment or on crime, the story comes alive for readers when it is humanised and seen as relevant. The long-form feature focused on setting a scene for the reader, introducing passionate individuals and sharing the voices of Wellington's youth, which was then supplemented with facts and figures.

Another key focus for the long-form journalism was to be as descriptive with the writing as possible, to produce a genuine feature article. Ward's study suggested taking every opportunity to work in the field to get hands-on experience and a thorough understanding of the topic (Ward, 2008). Reporting from the field provides cultural context and a wealth of descriptive material to make for some of the best stories (Dattaro, 2015). Throughout the data-collecting process of the long-form journalism, interviews were conducted in-person as often as possible. Special attention was also given to scheduling the interviews at a location where the individual worked or lived, to provide background character. This meant most of the interviews were held within the educational institutions around Wellington. When crafting the long-form feature, experiences such as gardening with students, composting lunches, and the hours spent dressed in white tending to bees proved to be valuable in providing descriptive narrative.

In the interviews conducted with New Zealand environment reporters, it was clear they had started figuring out creative ways to help audiences connect with environment stories. The experience of writing the long-form journalism related to Ward's findings on how to engage with audiences through practical actions. Rather than cataloging problems related to the environment, Ward found that journalists should identify practical actions for the readers to understand how they can make a difference (Ward, 2008). The long-form journalism presents numerous ways in which educational institutions in Wellington are making a difference. These examples of positive action give the readers a sense of how they too can live more environmentally sustainable lives.

One of the largest challenges in writing this long-form journalism was conveying what qualified as positive change. Environmentally sustainable initiatives such as recycling or composting are positive actions, but they do not bring about the actual change desired to mitigate climate change predictions or prepare the future to face climate change challenges. Problems and solutions for planning a sustainable future are much more sophisticated and far-reaching than the consideration of individual, isolated initiatives (Nolet, 2009). As mentioned earlier, the key to driving actual change towards an environmentally sustainable future requires every single person to live with these practices and this mindset. This can be a difficult thing to explain and understand. The long-form journalism highlighted several positive actions that alone cannot create a sustainable future, but if shared could help drive the transformation needed. As the educational communities begin to develop a sustainable

way of thinking, there is greater opportunity for them to share these ideas and initiatives with a larger community.

With time, support and access to resources, as provided in this study, it was possible to develop a rich understanding of environmental sustainability, climate change, and the role each play across various parts of society. The development of knowledge around environment reporting and environmental sustainability for this paper led to a life-changing experience for the author. The work on this topic led to an increased sense of personal responsibility to not only live as sustainably as possible, but to share this knowledge with a wider audience. This solidifies the concept that with increased awareness and accurate information, transformation towards a more sustainable lifestyle can occur. Individuals who work with climate change as a dominant part of their career may have experienced similar transformations. Such people have also found that climate change study can often be depressing and negative (Taylor, 2016). For Taylor, the acknowledgment of climate change predictions coupled with the minimal amount of action occurring to mitigate those predictions around the world was a depressing realisation (Taylor, 2016). This long-form journalism served as a productive outlet to share the knowledge gained through this study and an avenue to continue the spread of knowledge.

From the start of this study, "environmental sustainability" was the focused term for research. It was used to guide all interviews and the majority of supplementary literature. However, this term proved to narrow the field of study. By including the word "environmental", it limited the scope of sustainability. The classic definition of sustainability includes three aspects: environment, society and economy (Mann S. , 2011). The study has come to agree with Mann's idea that sustainability only formed at the intersection of multiple aspects (Mann S. , 2011). This concept emphasised that "environmental sustainability" was a limited way of considering sustainability, and not a thorough way of addressing how a sustainable future could be met.

Interviewing children was a critical element of the work related to the long-form journalism. Before embarking on this research, educators and school administrators provided recommendations and advice for such interviews. In all cases, interviews were conducted in accordance to the policy of the educational institution. School policies concerning media interviews can vary widely and in some cases, permission from a parent is required before interviewing young children (Carr, 2012). In order to lead dynamic discussions, it was essential to be aware of age-appropriate language throughout these interviews as well. Language around environmental sustainability and climate change can be complex in the first place, so a great deal of time was spent preparing for discussions around these topics for a range of ages. Educators were happy to provide feedback on the interview-question outline which allowed for the greatest productivity during the actual interviews. Although it would have been helpful to offer students the opportunity to either talk with me one-on-one or as a group, time constraints from the educational institutions prohibited this (Carr, 2012). All of the interviews with students at the primary and secondary level were conducted in groups. In many cases this worked well, but it was a challenge in some groups that had difficulty focusing on one topic or had a tendency to talk over one another. One additional challenge to having young students as the majority of the piece's sources was in terms of follow-up questions. When it came time to write the long-form article, there were several times that additional information would have been valuable to the story. Given that many of these

students were under 13, it was not as simple as phoning them to ask just one more question about a conversation that happened several weeks prior.

Conclusion

This study illustrates that key influencers in New Zealand, educational institutions and news media, have a valuable role to play in informing the public about climate change and environmentally sustainable practices. It suggests that creative approaches which engage with and relate to audiences are the most empowering ways to achieve a sustainable future.

This study argued that the crisis within the journalism industry poses challenges for environmental journalists, which ultimately offer opportunity for new ways of reporting and creative approaches to engaging audiences. Similarly, climate change challenges provide opportunity for innovation across each and every discipline in the educational sector. Climate change forces people to think creatively and re-evaluate how business-as-usual is done. If today's students become critical thinkers about sustainability, they will be successful leaders for many trying decades to come.

A major conclusion of this study is that educational institutions and news media need to take on more responsibility when engaging and communicating on environmental sustainability and climate change. The negativity surrounding climate change coupled with its far-off implications make environmental topics a simple thing to set aside. Time constraints in both newsrooms and classrooms pose an additional challenge. This study indicates the opportunity for such key influencers to acknowledge this communication as their social responsibility. With a greater sense of responsibility, integrated teaching on environmental sustainability could see students from enjoying activities such as composting, to truly learning about the sustainable concepts behind composting. This responsibility would also encourage a more thorough approach to journalism on the environment, with in-depth research, crafted writing and engaging material.

While both educational institutions and environmental reporters have attempted to educate and inform their respective audiences about environmental sustainability, there is large room for improvement. There is a gap between the individual initiatives happening throughout the city's educational institutions and where the country needs to be in terms of transforming towards a sustainable future. Whether environment remains a staple round in New Zealand newsrooms or not, environment reporting will continue to exist in one way or another. What will change is the story. These stories may either inform and inspire action towards a sustainable future, or they may continue to describe homes swept away by rising sea levels and heat-waves ending dozens of lives.

Given New Zealand's status as being one of the world's highest greenhouse polluters per capita, and the current government's status to support weak targets, there is opportunity for further and more comprehensive research around communication on environmental sustainability and climate change. Moving forward, additional study on best ways to increase climate change awareness across the entire newsroom, from health reporters and news editors to upper-management would be valuable to both the journalism industry and the public. As climate change continues to play an overarching role in all aspects of society, there is a great opportunity to interview reporters who cover politics, business, farming, or any other round about how they cover climate change and communicate sustainability. There is also a gap in research around assessing learning on environmental sustainability in educational institutions throughout New Zealand.

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