Kids Greening Taupō:

Conservation Education Based on a Collaborative Community Model

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Abstract

Ecological degradation threatens the life-giving capacity of Earth. Literature identifies education and collaboration across all sectors of society as being critically important to reversing the trend of degradation. Aligning with these proposed solutions is a 21st Century approach to education, which calls for new partnerships and relationships to be formed between educational organisations and the wider community. Based on these principles, Kids Greening Taupō (KGT) represents an innovative conservation education programme.

This study examined the progression of an 18-month pilot project through which KGT was conceived and implemented in Taupō, a provincial town located in the central North Island of New Zealand. This study provides an example of a process used to develop a conservation education programme through a partnership model between five educational organisations and four community organisations. The purpose of the investigation was to develop an understanding, based on the researcher's and stakeholders' perspectives, about the structures formed and processes undertaken to design and implement KGT, as well as the formative outcomes observed through the development of the programme.

An evaluation of the pilot project was conducted using an interpretive study based on an ethnographic approach. Data were collected through participant observation, semi-structured interviews and documentation analysis, and then was thematically analysed. The research process included several factors to enhance the trustworthiness of the findings, including credibility, dependability and confirmability.

The findings of this study identify four stages of KGT programme development through which a number of structures, processes and outcomes evolved. Although an initial strategic planning process established a shared vision among the stakeholders and environmental projects for each participating educational organisation, a lack of consensus about other important strategic components led to some developmental challenges. Additionally, two sets of structures and processes emerged through the analysis of the data that were categorised as being enablers, barriers or a combination of both in relation to planning, implementing and maintaining KGT. The outcomes observed were related predominantly to the themes of educational, ecological, social and professional aspects.

Collectively, the experiences of the KGT pilot in conjunction with educational theory based on a 21st Century approach and environmental and sustainability education has led to the development of a collaborative community education model. This model, together with the findings about the KGT structures and processes, may inform the development of other similar programmes utilising a collaborative community approach. Strategic and operational recommendations are provided about possible ways to modify KGT in order to realise the potential of the programme in the Taupō context.

Must we always teach our children with books? Let them look at the mountains and the stars above. Let them look at the beauty of the waters and the trees and the flowers on Earth. They will then begin to think, and to think is the beginning of a real education.

David Polis, *Fiordland Kindergarten: Nature Discovery*

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Glossary

DOC Department of Conservation
ECE early childhood education
EE environmental education
EOs educational organisations
ESD education for sustainable development
ESE environmental and sustainability education
GT Greening Taupō
KGT Kids Greening Taupō
NZC The New Zealand Curriculum
SCPs school community partnerships
SLG strategic leadership group
SLT student leadership team
TDC Taupō District Council
TMTB Tūwharetoa Māori Trust Board

Chapter 1

Introduction

1.1 Chapter overview

This chapter establishes the context in which this study is embedded, the justification for and significance of it and my motivation for undertaking the research. The research purpose, questions and scope are also described. Finally, the structure of the thesis is outlined.

1.2 Context for study

This study is set in Taupō, a provincial town in the central North Island region of New Zealand (see Figure 1.1). The town lies on the shores of Lake Taupō, a large freshwater lake revered for its clean water, wild trout population and vistas across a group of volcanoes.

Figure 1.1 – Location map of Taupō, New Zealand.

(Source: Retrieved from https://commonswikimedia.org)

Māori settlement in this part of the country is likely to have occurred towards the end of the 15th century (Williams & Walton, 2003). For these first settlers, the lake and its surroundings were not an easy place to live compared to conditions in coastal lowland areas as the soil was infertile, winters cold and freshwater species were

relatively scarce (Drake, 1983). Nevertheless, the Māori persevered and adapted to the environment so that by the mid-18th century a strong iwi (tribe), known as Ngāti Tūwharetoa, was established in this part of the country (Drake, 1983). The population around this time is variously estimated between 2000 to 5000 people who lived in scattered small settlements, with the majority of these positioned close to the stream and river mouths entering the lake (Drake, 1983; Williams & Walton, 2003). Bush clearance was undertaken by these early settlers for a number of purposes including the facilitation of travel, cultivation of crops and the quest for fern root (a staple food source for early Māori) (Williams & Walton, 2003). It was not until the mid-19th century that the land where Taupō lies today was settled by European immigrants, when they founded as an Armed Constabulary post (Great Lake Taupō, 2016.). From then, Taupō developed through European colonisation, but it was initially a slow process as attempts to farm the land failed due to a cobalt deficiency in the soil (Drake, 1983; Great Lake Taupō, 2016). It was not until the 1950's that land utilisation on a large scale began with the application of fertilisers and from this point forwards, the rate of vegetative clearance greatly increased as effort was put into establishing farms, agriculture and exotic forests within the region (Drake, 1983; Grace, 1959). Over the next few decades, the continued colonisation by European settlers led to subjugation and eventual large-scale displacement of the indigenous Māori people (King, 2003).

Today, the district has an estimated residential population of 34,300 with approximately 77% of people in the district identifying themselves as European and 29% of people in the district identifying themselves as Māori (Statistics New Zealand, 2016.)[1]. There is a strong cultural presence in the district as reflected in Ngāti Tūwharetoa's whakapapa (genealogy), tikanga (Māori way of doing things) and kawa (protocol). The iwi own a number of successful and innovative business ventures, including their own official radio station, and also hold legal title to the bed of the lake and its tributaries, as procured through a deed of settlement with the Crown. The district is economically focused on the industries of forestry and wood processing, farming and agriculture, geothermal power generation and tourism, drawing on water sports, fishing and aesthetics for its appeal. Recent economic initiatives have seen a significant number of land conversions from forestry to dairy farming, promotion of geothermally assisted growth to support both existing

[1] Respondents could choose more than one ethnic group in the 2013 Census.

industries and new ones like aquaculture, and capitalising on the town hosting a number of large events, subsequently leading it to brand itself as the 'Events Capital of New Zealand'.

Over time, extensive changes in land use have led to ecosystem changes and significant loss of biodiversity, introduction of exotic species, land subsidence and agricultural pollution threats to the habitat and amenities of the district's waterways. Over the recent decade, some significant measures have been put in place to rectify these impacts, with the regional council's policy to cap the nitrogen flow into Lake Taupō being one such example. Another recent environmental restoration measure developed in the district is the conception of Greening Taupō (GT), a community organisation with a vision to re-vegetate areas with native and non-invasive introduced species to develop wildlife corridors in Taupo, to improve and beautify the general environment. The success of this organisation is indicated by its large number of significant partners, including the district and regional councils and a number of local businesses including two large power generation companies. The community's desire for reconnection of the town to the natural environment is also to be found in the popularity of GT's community planting days.

It is from the vision of GT upon which this study begins, as the organisation helped establish Kids Greening Taupō (KGT), a new conservation education programme based in Taupō town, underpinned by the work of GT. The programme was developed through a collaborative community partnership involving five educational organisations (EOs) and four community organisations. Although these stakeholders have all had their own objectives for participating in KGT, in general, the programme can be viewed as a means to foster a conservation ethic within the community through involving children, and potentially their families, in teaching and learning programmes based around authentic opportunities affiliated with GT's restoration activities. KGT officially commenced in October 2014 and was implemented through an 18-month pilot project.

1.3 Justification for the research

The Taupō context as described above illustrates an example of the way in which human impacts have and continue to adversely impact natural environments. As recognised by a number of substantive international reports, there is a crucial need for humans to repair and restore these environments, and most importantly, find

sustainable ways to exist on this planet (Intergovernmental Panel on Climate Change, 2014; Millennium Ecosystem Assessment [MEA], 2005; United Nations Environment Programme, 2012). Education has been deemed paramount to increasing humanity's awareness about the current socio-economic reality that has led to a global trend of ecological degradation and developing the understanding, skills, values and motivation necessary to resolve ecological degradation (United Nations Conference on Environment and Development, 1992). Furthermore, resolving ecological degradation will require significant partnerships between a range of societal sectors as the problems are inherently complex and vast. Integrated and collaborative efforts are vital as they lead to a larger knowledge and skill set, as well as improved economies of scale, through which funding and expertise can be distributed from regional and national bodies to grass root efforts (Clarkson, 2015). In this sense, school community partnerships (SCPs) offer much potential, as when effectively undertaken, they can lead to mutually beneficial partnerships whereby the key objectives of all the partnering communities can be achieved over time (McMillan & Binns, 2011). The inception of GT and KGT provides evidence that these messages are being taken on board by some.

This study draws on literature about 21st Century education and environmental and sustainability education (ESE), both of which have an affiliation with school community partnerships (SCPs). A 21st Century approach calls for authentic opportunities for real-life learning experiences and knowledge building activities (Bolstad et al., 2012), and ESE can be viewed as being characterised by learner-and-action-oriented approaches which seek to empower learners to critically examine and address the root causes of environmental and sustainability issues (Tilbury & Wortman, 2008) through taking both individual and collective action (Jensen & Schnack, 1997). Based on the aspirational endeavours as proposed by these approaches, schools cannot be expected to provide these opportunities on their own but require the participation of community and professional experts (McDowall & Whatman, 2016). As such, SCPs are justified as a means through which schools can access their respective wider community.

The benefits of SCPs can be viewed in terms of primarily being for student learning, but many other benefits in relation to family, school and the wider community (including the partnering organisations) have also been identified (Barza, 2013; Epstein & Sanders, 1998; Ferreira, Grueber, & Yarema, 2012). A number of

barriers, such as a lack of achieving adequate 'buy-in', and system-wide constraints are identified in the literature as impediments to the development of SCPs (Barza, 2013; Bolstad, 2015; Israel, Schulz, Parker, & Becker, 2001). An aspect of SCPs that does not seem to be adequately addressed by scholarly discourse is in relation to understanding the ways in which SCPs can be specifically developed (Hands, 2005; Sanders, 2001), especially for those that are on-going and cross-curricular (Bolstad, 2015).

If we are to overcome the barriers, deliver on the principles as set out by 21st Century and ESE theoretical discourse and realise the benefits of SCPs, then understanding how SCPs for environmental projects can be effectively or not effectively designed, implemented and maintained is crucial. For these reasons, this is the primary focus of this research as described below.

1.4 Purpose of the research

This research sought to provide an in-depth study, based on my view as the researcher and the perspectives of the stakeholders (including the education coordinator), about the process utilised to develop KGT and the formative outcomes of the programme as observed during the 18-month pilot project. Overall, the structures established and processes undertaken were evaluated based on the experiences of the KGT participants and the literature reviewed for this study, and a model for collaborative community education was developed.

1.5 Research questions

Based on the purpose identified above, the research questions that guided this study were:

- What structures were established and processes undertaken by stakeholders to design and implement a conservation education programme in a community?
- What are the stakeholders' perspectives in relation to the structures, processes and formative outcomes achieved to date?

1.6 Scope of the research

In this research, data were gathered over the entire course of the 18-month pilot project of KGT through the methods of participant observation, semi-structured interviews and documentation analysis. I attended and took notes at a total of 91 meetings/events affiliated with KGT. Eleven semi-structured interviews were conducted through which all the stakeholders and the education coordinator (23 people in total) participated. Lastly, I collated all KGT relevant documentation made available which I eventually narrowed down for analysis based on key themes that emerged from my observation field notes, reflective commentary and interview transcripts.

1.7 Significance of the research

As identified above in Section 1.3, there is a need for more research specifically addressing the ways through which SCPs can be effectively developed. As this was an interpretive study relating to the social setting of KGT, the findings of this study are not generalisable to another setting. However, through the lessons learned through the pilot project, particularly in relation to the specified structures and processes, the findings may be applicable to an alternative setting (O'Leary, 2014). Therefore, using an ethnographic approach, my endeavour was to provide an in-depth and rich account of the KGT setting and methods of research through which the applicability can be determined by those reading the research account. Based on this notion, this study may assist others who aspire to develop a new SCP or modify an existing one. Furthermore, my hope is that this study helps to develop a greater number of successful SCPs, which over time may help transform the education system to one that more readily enables community connections.

1.8 Motivation for the research

Forty years into my life, I found myself thinking hard about my purpose on this Earth. I had always been drawn to the natural environment, whether it be professionally through my roles as a teacher, environmental educator or planner, or purely for recreational pursuits. Basically, my life has been characterised by either searching out opportunities to be in nature or to learn more about it, especially in relation to humanity's interactions with, and impacts on, the natural environment. Upon becoming a parent, my mind-set became one step more serious such that

besides being the very best parent I could be, I also wanted to live a life with intention. For me, this meant a wholehearted attempt to making the planet a better place. From these contemplations, I decided to embark on post graduate studies in environmental and sustainability education.

After a year of completing the necessary papers for my Master's degree, it was time to identify my thesis topic. I was adamant that I wanted the research to be directly useful to someone or something. Coincidentally, around this time, there were plans being put in place to pilot a conservation education programme (KGT) in my hometown of Taupō. In short, it was a very nice alignment of the stars.

Upon agreement from all stakeholders for my proposed research, I, along with all others involved, set out on the 18-month KGT journey. From my perspective, it has been a wonderful and interesting time, through which I have learned a great deal as well as having achieved my goal of completing research that was meaningful to others as well as myself.

1.9 Thesis structure

Following this chapter, Chapter 2 provides a review of the literature relevant to this study. In the first section of the literature review, an overview of ecological degradation is provided, focusing largely on the causes and possible solutions. Within this section, the role of education as a way to reverse the current trend of ecological degradation is established. The second section sets the context of the New Zealand education system and highlights the reasons behind the call for a 21st Century approach to education. This discussion leads into the third section where some perspectives and pedagogies associated with environmental and sustainability education (ESE) are examined, particularly in relation to those applicable to KGT. In the final section of the literature review, the concept of school community partnerships (SCPs) is explored. First, a definition of the term SCP is given and some types of SCPs are identified. Next, the benefits and constraints of these partnerships are considered. Lastly, potential steps to successfully develop SCPs are outlined as based on literature from a range of fields about effective partnerships and the synergies between SCPs and 21st Century and ESE approaches are developed.

In Chapter 3 the methodology used to undertake this research is outlined. The research questions, methodological framework, and research participants, design and methods are presented. Considerations about trustworthiness, ethics and the limitations of this study are reviewed as well.

The findings of the study are presented in Chapters 4 and 5. A chronological description of the development of KGT as seen through my viewpoint is given in Chapter 4, whereas Chapter 5 explores the KGT stakeholders' and education coordinator's perspectives about the structures, processes and outcomes of the pilot.

Chapter 6 discusses the findings of this research as they relate to the two research questions posed by the study. A section where conclusions are drawn from the findings follows this, and in the final section, implications and recommendations are made, based on the findings and conclusions.

Chapter 2

Literature Review

2.1 Chapter overview

This chapter presents literature in relation to this study and is presented in four main sections. The first section provides a broad overview about the issue of ecological degradation and some solutions for resolving it. A summary of the New Zealand education sector is given in the second section, with a focus on a 21st Century approach. This leads to the third section about environmental and sustainability education (ESE) and its role in resolving the crisis of ecological degradation. In the final section, school community partnerships are explored in conjunction with a 21st Century approach and ESE. This chapter concludes with a summary.

2.2 Ecological degradation – what's the problem?

Humankind obtains direct benefits from ecosystems, which are commonly referred to as ecosystem services (L. Roberts et al., 2015). It is through these services that Earth's life-giving capacity is derived (MEA, 2005). At present, there is a problem such that the impacts of humankind are the cause of vast and severe ecological degradation (Hughes, Carpenter, Rockström, Scheffer, & Walker, 2013). The degradation affects species of all kinds, including humans, which has led to a drastic decline of biodiversity around the planet (Angeler, Baho, Allen, & Johnson, 2015; Hooper et al., 2012). This is a paramount concern not only for the loss of marketable products and non-market intrinsic benefits, but also because the loss has been identified as a likely significant 'driver' of further ecosystem change in the 21st century (Hooper et al., 2012). A number of substantive international reports all deliver a consistent message that the planetary resources are finite, and humans are drastically degrading ecosystems and depleting the natural capital that underpins human subsistence and elements of well-being (Intergovernmental Panel on Climate Change, 2014; MEA, 2005; United Nations Environment Programme, 2012).

The scale and extent of the human impact on the planet is so large that researchers are currently debating whether the geological timeline should be modified to include a new epoch, the 'Anthropocene', to mark the time when human activities started to have significant global impact on Earth's geology and ecosystems

properties (Monastersky, 2015). New Zealand is in no way exempt from these issues as evidence continues to mount in relation to major ecosystem degradation across the country (Ballantine & Davies-Colley, 2009; Ewers et al., 2006; McGlone, 2009; Verburg, Hamill, Unwin, & Abell, 2010; World Wildlife Federation - New Zealand, 2012). Demand for the planet's ecosystem services is expected to increase in the foreseeable future as the world's population is forecast to reach 9.7 billion by 2050 (Department of Economic and Social Affairs, Population Division, 2015) and the global economy is expected to quadruple by 2050 (MEA, 2005).

2.2.1 Drivers of ecological degradation

There are many drivers or causes that result in the degradation of ecosystems and these can be classified into two groups being either indirect or direct drivers (MEA, 2005). Indirect drivers comprise mostly social causes such as demographics, economic regime and individual lifestyle choices, whereas direct drivers are primarily changes to the physical, chemical and biological make-up of the ecosystem. Land use change and species introduction are two examples of direct drivers of ecosystem change. As shown in Figure 2.1, indirect drivers influence direct drivers which in turn affect the provision of ecosystem services for human wellbeing. There is also a reciprocal link between indirect drivers and human wellbeing such that a change to either one is likely to result in a change to the other.

In recent decades, the world has witnessed dramatic changes to ecosystems and equally profound changes to societal norms and values as a whole (Fromm, 1976; MEA, 2005). Some of the significant global trends include increases in globalisation, consumption, population, human mobility, technological change, inequity, consumption, debt, and conflict as well economic and cultural homogenisation (Sterling, 2001). The MEA (2005, p. 6) identifies the prominent cause for ecological degradation as "the excessive demand for ecosystem services stemming from economic growth, demographic change and individual choices". Based on this understanding, resolving ecological degradation requires that its complex socio-ecological dimensions are addressed, which leads to a reconsideration of conventional neo-liberalistic ideology (Hughes et al., 2013; MEA, 2005; L. Roberts et al., 2015).

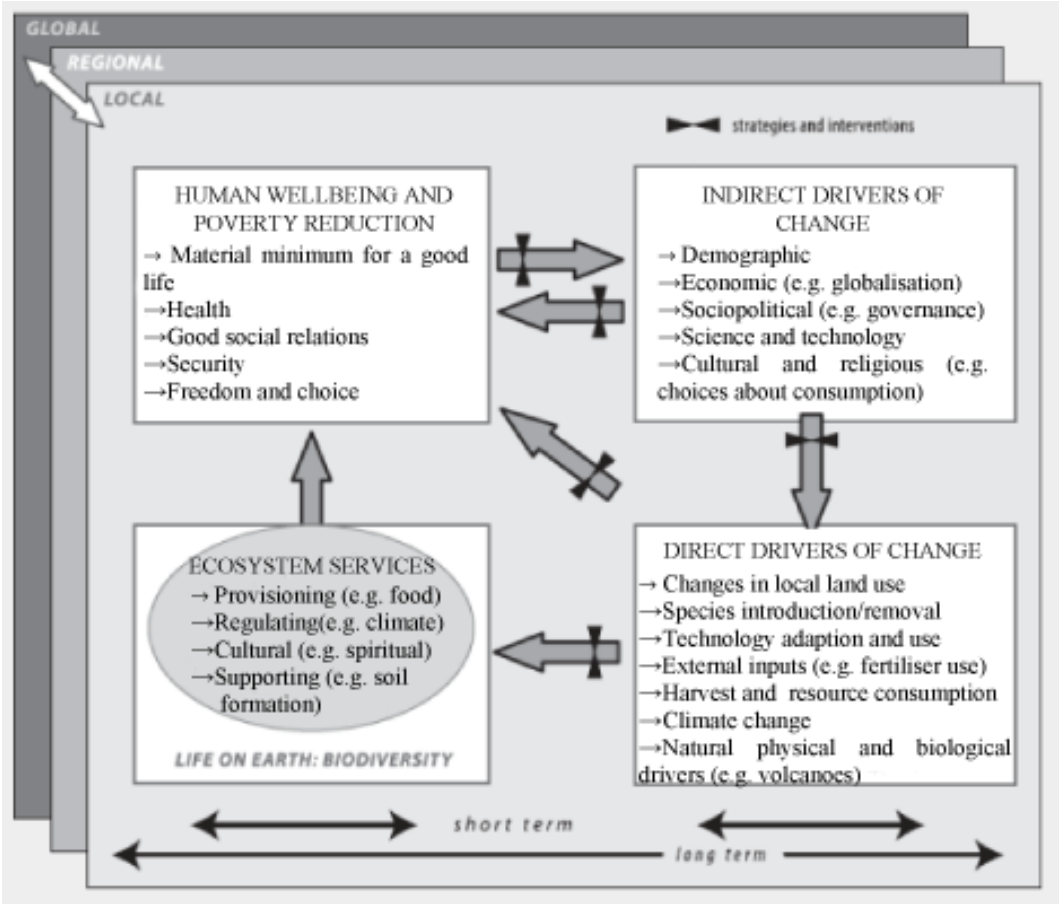

Figure 2. 1 - Drivers influencing the provision of ecosystem services
(permission granted to adapt and use from World Resources Institute, 2015)

The free market economies that have dominated capitalistic countries since neo-liberal policy reforms in late-1970s and 1980s are considered to be one of the most profound indirect drivers of ecological degradation (Barnett & Pauling, 2005). The reasons for this include a lack of protection and conservation of ecosystem services because firstly, there has been no 'market' for them, and secondly, the intra-and-intergenerational equity issues associated with sustaining ecosystems over the long-term have been irreconcilable with the short-term profit making motives (MEA, 2005).

Another indirect driver of ecological degradation, albeit one that can be viewed as associated with the domination of neoliberalism, is based on a more philosophical suggestion of a 'disconnect' between humans and nature. As Barry (2010, p. 117) suggests, "the world's environmental problems are grounded in an environment/society disconnect" and are representative of a western world paradigm which views the environment as in an adversarial binary to that of society. Such thinking is not new, as over 50 years ago, Aldo Leopold (1966) advocated for

a reconnection between people and their surrounding biotic communities, all the while being critical of social and economic forces undermining people's connection with the natural world.

2.2.2 What are the solutions?

As discussed in Section 2.2, survival of humans and non-human species on Earth depends on ecosystem services, and therefore, reversing the current trend of ecological degradation and creating sustainable communities is the greatest challenge facing humankind (Capra, 1994). Solutions to the issue of ecological degradation and towards sustainability as identified in the literature reviewed can be grouped into the four themes of (1) a re-connection between nature and society, (2) ecological restoration, (3) transformational change to the status quo of socio-ecological reality and (4) technical solutions. This section elaborates on the first three of these solutions due to their relevance to Kids Greening Taupō (KGT), the subject of this study.

2.2.2.1 A re-connection between nature and society

Stemming back to the age of the ancient Greek philosophers, there has long been an innate belief in the 'healthiness' of a connection between nature and people (L. Roberts et al., 2015). But somewhere along the way a separation or 'disconnect' between nature and the majority of humankind has developed (Barry, 2010), with the onset of the industrial revolution and its 'great promise' to satisfy all humankind's desires as a likely cause (Fromm, 1976). Industrialisation and increased migration to urban areas have facilitated working indoors and generally laid the foundation through which current neo-liberal societal norms and values have been derived from (Fromm, 1976), and as discussed in Section 2.2.1, are a significant cause of ecological degradation. The importance here lies in the recognition of this disconnect and the start-up of a number of influential 'connect to nature' movements as a way to ameliorate the problem. These movements are founded on the principle that humans require regular opportunities to be in nature for personal and societal wellness, and therefore, are indicative to the sustainability of the planet (Louv, 2006; L. Roberts et al., 2015).

A growing body of academic literature provides evidence about the relationship between experiences of natural environments with positive benefits of physical,

cognitive and emotional development (J. F. Bell, Wilson, & Liu, 2008; Blair, 2009; Cheng & Monroe, 2012; Driessnack, 2009; Munoz, 2009). Richard Louv is considered by many as a pioneer in relation to raising awareness about the importance of the human-nature connection and in his book, *Last Child in the Woods* (2006), the increasing divide between young people and the natural world was explored and the phrase 'nature-deficit disorder' coined. Louv is an advocate for finding ways to reunite society with nature, and he with others, co-founded the US-based *Children and Nature Network*, with a mission "to connect all children, their families and communities to nature through innovative ideas, evidence-based resources and tools, broad-based collaborations and support of grassroots leadership" (Children and Nature Network, 2015.). Meanwhile, *Project Wild Thing* is gaining traction for creating similar opportunities for human-nature connection in the United Kingdom (Project Wild Thing, 2015).

Edward Wilson, with others, articulated the 'biophilia' hypothesis (Kellert & Wilson, 1993) which postulates that there is an instinctive bond between human beings and other living systems, and therefore, a connection with living nature is a human need (L. Roberts et al., 2015). An international *Biophilic Cities* research programme has recently been launched, which aims to improve the connections between people living in cities and their living environments by building directly on biophilic bonds (Biophilic Cities, 2015). Wellington City has recently joined the Biophilic Cities network through its *Our Living City* programme (L. Roberts et al., 2015).

Today, more than 50% of the global population and over 80% of New Zealanders live in urban areas (Department of Economic and Social Affairs, Population Division, 2015). These statistics, in conjunction with the growing evidence that nature is an imperative need for humans, make the movements to reconnect humans with nature all the more important.

2.2.2.2 Ecological restoration

Ecological restoration aims to re-establish indigenous plant and animal communities (Norton, 2009) and is another solution for helping to halt the unsustainable trend of ecological degradation. In New Zealand, some of the main ecological restoration mechanisms include the creation and maintenance of island

refuges, fenced predator-exclusion zones, translocations of threatened species and predator control programmes (Urlich, 2015).

Norton (2009) broadly distinguishes between two main 'camps' of ecological restoration projects, as being those that are intensively managed through the deliberate introduction of indigenous plant and animal species, and those of minimum interference where regeneration occurs without the direct introduction of species. Whichever camp a project may fall in, restoration projects in New Zealand must have a strong focus on predator control and the management of invasive species because of the evolutionary limitations of the country's indigenous species, such as having extended life histories with low reproductive rates (Norton, 2009; Urlich, 2015).

At present, there are over 3,000 individual restoration projects being carried out in New Zealand (Clarkson, 2015). Projects such as Tiritiri Matangi Island, Maungatautari Ecological Island and Hamilton Halo are examples of significant projects successfully providing habitat for flora and fauna (Norton, 2009). Not only do these projects help restore biodiversity in small geographic areas, but they also increase public awareness, understanding and skill development through voluntary opportunities (Norton, 2009). Presently, there are more than 600 community groups carrying out restorative activities in New Zealand (Ross, 2009, as cited in Peters, Hamilton, & Eames, 2015) with an approximate combined total of between 25,000 and 45,000 participants (Handford, 2011, as cited in Peters et al., 2015).

Although localised projects such as these have many benefits, a major issue is that they are only achieving incremental progress in selected parts of the country and the battle to halt the decline of biodiversity continues to be lost on the whole (Clarkson, 2015). In order to achieve biodiversity outcomes on a larger scale, more strategic approaches involving integrated and collaborative research and programme implementation across sectors (i.e., government agencies, research institutes and the public) is required (Clarkson, 2015). Integrated participatory approaches improve economies of scale, which is vital in the conservation arena where limited funding is continuously identified as a major obstacle (Clarkson, 2015; Norton, 2009).

2.2.2.3 Transformation of self and society

The discussion up this point has argued that human activities have had a deleterious effect on the Earth's ecosystems and restoration programmes and connection to nature movements are likely to play an important role in reversing the trend of degradation. However, these solutions on their own will not solve the environmental crisis if the root causes of human-induced ecological change continue to be ignored (Hughes et al., 2013). For instance, biodiversity loss is a symptom caused primarily by habitat loss, over-harvesting, species introduction and climate change, but are in turn, driven by increasing population, consumption and global mobility (Hughes et al., 2013). Therefore, efforts that focus purely on increasing biodiversity through ecological restoration downscale and simplify the problem from its complex socio-ecological reality (Hughes et al., 2013). If a more sustainable trajectory is to be achieved, the root causes of ecological degradation must be addressed. A proposition such as this can only be achieved through the transformation of self (e.g., behaviour and values) and society (e.g., regulations, systems and structures) which sees environmental sustainability as the primary focus (Chapin, Mark, Mitchell, & Dickinson, 2012; Hill & Brown, 2014). As Orr (1992, p. 83) suggests:

> for all practical purposes, it [sustainability] is the agenda. No other issue of politics, economics and public policy will remain unaffected by the crisis of resources, population, climate change, species extinction, acid rain, deforestation, ozone depletion and soil loss. Sustainability is about the terms and conditions of human survival.

But making sustainability the underpinning concept from which all decisions are based is far from simple, not only because of the pervasive influence of neoliberalism, but also because of the contestable nature of what it actually means to be sustainable.

The World Conservation Strategy (International Union for Conservation of Nature, United Nations Environmental Programme, & World Wildlife Federation, 1980) and *Our Common Future* (World Commission on Environment and Development, 1987) both infer that achieving sustainability requires the following parameters to be met: (1) a reconciliation between economic and social development and environmental conservation, (2) the placement of any understanding of

environmental concerns within a socio-economic and political context and (3) that environment and development are integral concerns. From this inference, a range of perspectives about sustainability have been derived and today there is no prevailing consensus about the specific parameters that sustainability entails. Questions about what should be sustained and by how much continue to go unanswered. Räthzel and Uzzel (2009) suggest that the term has become so highly contested that sustainability can mean whatever anyone wants it to mean.

The numerous interpretations of sustainability align with present-day scholarly discourses which reflect postmodern viewpoints recognising "the multiplicity of social interactions and epistemologies, the importance of diversity of perspectives, and the plurality of socially constructed culture norms, behaviours and patterns of thinking" (Hill & Brown, 2014, p. 6). However, with regards to the transformation towards sustainability, an 'anything goes' approach is problematic as it can inhibit or prevent actions from being carried out (Hill & Brown, 2014; Räthzel & Uzzell, 2009). Based on this notion, Christen and Schmidt (2012) provide a useful framework for orientating thinking about potential actions in a justifiable way. Instead of trying to nail down a 'one-size-fits-all' formula, the five modules of the framework act as a guide to key principles and criteria related to the conceptual elements that any theory of sustainability should contain and on which decision-making can be based. A framework like this one endeavours to incorporate the local context while being guided by the key principles and criteria of sustainability. A detailed examination of this framework is beyond the scope of this thesis; however, this example is important for demonstrating that there are ways to work through the pluralistic meanings of sustainability.

From a 'whole systems thinking' model, Sterling (2001) argues that sustainability is integrally linked to the health of systems. These include family groupings, a school or an ecosystem among others. Sustainability refers to the ability of the system to sustain itself, its subsystems that it is comprised of and the supra-system that it is a part of. Based upon this scenario, sustainability encourages self-sustaining abilities and wholeness between systematic levels and developing inherent creative potential for self-reliance and resilience. As such, any system that undermines the health of its own subsystems or supra-system is unsustainable.

In summary, the complex socio-ecological reality of the causes of ecological degradation must be addressed if a more sustainable trajectory for life on Earth is to be achieved. This will require transformational change to both self and society such that sustainability becomes the basis from which all decisions are made. But for this to occur, a deep and enduring awareness and understanding of our dependency on ecological systems, the deleterious effects of degradation and what it means to be sustainable is an imperative (World Wildlife Federation - New Zealand, 2012). Therefore, education is identified as having a pivotal role in developing this awareness and understanding and enabling the widespread application of the solutions to ecological degradation as discussed herein.

2.2.4 Summary of ecological degradation

Ecosystems are being severely degraded through human impacts. A number of substantive international studies unanimously agree that humans are depleting the natural capital that is fundamental to the life-giving capacity of the Earth. In the foreseeable future, the demands on ecosystems are only expected to intensify through population increase and an expanding global economy.

There are many drivers responsible for ecological degradation, which can be classified as either being direct drivers (i.e., changes to the physical make-up of ecosystems) or indirect drivers (i.e., changes resulting from behaviour related to societal values and norms). In looking for solutions, a much greater emphasis must be placed on the indirect drivers than has been done in the past; tackling the root causes of the environmental issues, or in other words, the socio-ecological reality of the problems, is paramount.

Three solutions relevant to this study were categorised as: (1) a re-connection between nature and society, (2) ecological restoration and (3) transformation of self and society, all which must be underpinned by the objective of achieving environmental sustainability. Because of the complex nature and vast scale of environmental problems, integrated and collaborative approaches are vital as they result in a larger knowledge and skill set and improved economies of scale.

At a societal level, humans must gain awareness and understanding, the know-how and a willingness to resolve the indirect drivers; in other words, we must boldly face the consequences of our actions underpinned by neoliberalism. As such,

education is deemed as playing a critical role in reversing the current trend of ecological degradation. The educational opportunity proposed by KGT may help shift the trajectory within the local context towards a more sustainable direction.

The next section provides a broad overview of the New Zealand education system, with a focus on a 21st Century approach and the respective curricula within which KGT is embedded.

2.3 Education in New Zealand

2.3.1 Context

The three levels of New Zealand's education system are early childhood education (ECE), compulsory primary and secondary schooling and further or tertiary education.

Children may attend ECE from birth to school entry age. As of July 2014, there were 4,299 licensed ECE services in New Zealand with an enrolment rate of approximately 63% of children under 5 years old (Ministry of Education [MoE], 2015). Planning for early childhood teaching and learning is guided by the early childhood curriculum, *Te Whāriki* (Ministry of Education, 1996).

Schooling is compulsory for every child between the ages of 6 to 16 and is free at state schools (i.e., schools that are government owned and funded). The education system for schools comprises primary education for Year 1 to Year 8 (5 to 12 years of age), although some areas offer intermediate schools for Year 7 and Year 8. Secondary education includes Year 9 to Year 13 (13 to 17 years of age). As of July 2014, there were a total of 2,532 schools operating in New Zealand with 767,258 children attending (MoE, 2015). The four largest groups of ethnic origin within the total student population were identified as European (53%), Māori (23%), Pasifika (10%) and Asian (10%) (MoE, 2015).

Most compulsory schools operating in New Zealand are state funded of which most are secular and guided by the national curriculum (MoE, 2015). State schools that teach in the English language use *The New Zealand Curriculum* (*NZC*) whereas schools that offer Māori-medium programmes (Kura Kaupapa Māori) may use *Te Marautanga o Aotearoa*. This is a parallel curriculum document to that of *NZC* but based on Māori philosophies and perspectives (Ministry of Education [MoE],

2007). Māori-medium refers to programmes where students are taught the curriculum in Te Reo Māori for at least 51% of the time (MoE, 2015).

Further or tertiary education represents the third level within New Zealand's education system. There are a range of opportunities that fall within this category such as vocational and technical opportunities that help students into work and tertiary study towards degrees and postgraduate research. No further detail about these educational opportunities is provided here as they fall beyond the scope of this thesis.

As KGT relates to the ECE and compulsory schooling sectors, a discussion about each sector's guiding curricula is provided in the next section.

2.3.2 National curriculum frameworks

Te Whāriki is the Ministry of Education's first national curriculum statement for ECE. It was developed to encompass the uniqueness of the early childhood years and was also New Zealand's first bicultural curriculum statement, meaning it contains specific content for Māori immersion ECE (Ministry of Education, 1996). The publication of this document clearly signalled the importance of biculturalism in New Zealand's ECE sector (MoE, 2015).

The ECE curriculum document provides a framework through which the learning and development of early childhood can be based. It emphasises the socio-cultural context of the early childhood years through which teachers weave a holistic curriculum in response to the ECE setting and the wider context of the child's life comprised of parents and families.

Te Whāriki is founded on the following aspirations for children:

> To grow up as competent and confident learners and communicators, healthy in mind, body and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society (Ministry of Education, 1996, p. 9).

The four underpinning principles of *Te Whāriki* are empowerment, holistic development, family and community, and relationships. From these principles, arise the five strands which are well-being, belonging, contribution, communication and

exploration. In theory, the principles and strands are woven together, forming a curriculum framework appropriate for the early childhood years.

The national curriculum is the policy document that sets the direction for student learning at the compulsory school level. Although *NZC* and *Te Marautanga o Aotearoa* are derived from different perspectives, they both "start with the vision of young people who will develop the competencies they need for study, work, and lifelong learning and go on to realise their potential" (MoE, 2007, p. 6). As this study involves English-medium schools only, further detail is provided in relation to just *NZC*.

NZC is an outcome-based model of curriculum, meaning it provides schools with direction in relation to high-level learning outcomes as set out by the document's set of values, key competencies learning areas and principles (Bolstad & McDowall, 2014). Through this high-level guidance, schools and teachers are provided flexibility to develop local curricula and pedagogy to address students' different learning strengths and needs (Hipkins, Cowie, Boyd, Keown, & McGee, 2011). In other words, schools are entitled to make decisions about how to give effect to the learning outcomes sought by *NZC* in ways that best address the particular needs, interests and circumstances of their students and wider community (MoE, 2007). In addition, this freedom and flexibility also enables schools to foster learning that is 'learner-oriented', meaning that the student is put at the heart of their own learning (Cowie, Hipkins, & et al, 2009).

NZC was the product of a systematic curriculum review undertaken in 2003 by the Ministry of Education with the final document published in 2007 (Cowie et al., 2009). Some of the major changes that emerged from this revision included a shift from 'essential skills' to 'key competencies' that integrated knowledge, skills, attitudes and values, the inclusion of the future-focused themes of sustainability, citizenship, enterprise and globalisation, and guidelines about school-based curriculum design (Cowie et al., 2009).

These changes were largely driven by the realisation that students of the 21st century need to achieve more than the traditional knowledge outcomes as espoused in the previous national curriculum document, *The New Zealand Curriculum Framework* (Cowie et al., 2009). Further thinking around contemporary educational theory is discussed next.

2.3.3 21st Century education

The concept of '21st Century' education (also commonly referred to as 'future-oriented learning') became increasingly topical towards the latter part of the 20th century (Bolstad et al., 2012). Unprecedented social, economic and environmental issues, in conjunction with drastic technological changes, led educationalists to examine questions about the role and purpose of education (Dator, 2014). Some literature associated with 21st Century education refers to the issues noted above as 'wicked problems' (Green, Facer & Rudd, 2005, as cited in Bolstad et al., 2012). The wickedness is seen to arise from the fact that there are no easy solutions to these problems, like climate change for instance, which span multiple disciplinary boundaries and are "highly complex, uncertain and value-laden" (Green, Facer & Rudd, 2005, as cited in Bolstad et al., 2012, p. 3). Wicked problems result in a less stable and increasingly unpredictable future that humans must face, cope with and ultimately resolve (Dator, 2014).

A second factor for supporting a shift to a 21st Century approach relates to the changing nature of knowledge as a result of technological advancement. At the height of the Industrial Age, the purpose of schooling was to transmit knowledge from the teacher to the student (Bolstad et al., 2012) and train students to become contributing members to the socio-economic order (e.g., a worker) (Fromm, 1976). But today, in comparison, the technological means of the 21st century have led to an exponential increase in the amount of knowledge that is easily accessible to anyone with a computer and access to the Internet. Therefore, the value of knowledge on its own has significantly diminished compared to an individual's ability to do something with it (New Zealand Council of Educational Research, 2015).

These two characteristics of contemporary society have had specific implications for education such that they have spurred international thinking about how schooling might be altered to better accommodate the rapidly changing world (Bolstad et al., 2012). Broadly, 21st Century education refers to "practices and approaches that align with contemporary perspectives about the kinds of learning and learning opportunities young people need in order to have a good life in a well-functioning society" (McDowall & Whatman, 2016, p. 1). Effective learning today does not equate to learners as spectators where pre-prepared courses of knowledge

are delivered to them on a 'plate', but instead, requires active engagement in the whole process, meaning students and teachers work together to co-develop a learning programme and assessment strategy (Bolstad et al., 2012). Claxton (2007, p. 116) suggests that the core aspiration of 21st Century education should be the development of "effective, powerful real-life learners" capable of acting when faced with situations for which they are not specifically prepared. In general, commentators agree that some of the key attributes of 21st Century learners include the ability to understand diversity, capable of innovation and the possession of creativity (Gilbert, 2004, as cited in Boyd, 2013). Other key qualities include being curious, open-minded, flexible, imaginative, reflective, collaborative but also independent, both methodical and opportunistic, and keen to build on their products and performances (Claxton, 2007).

There is no single best practice or prescriptive formula for pedagogy based on a 21st Century approach (Boyd, 2013), but it can be viewed as a means through which learners' competencies, capacities and dispositions are developed through a transformative process which actively engages learners to construe meaning from new situations and environments (Claxton, 2007; Sterling, 2001). Bolstad et al. (2012) identifies six principles of 21st Century education that may help transform the current system to one that better reflects the context and demands of the modern world. These principles are summarised as follows:

- Personalising the learning process;
- Developing new views of equity, diversity and inclusivity;
- Using knowledge to develop learning capacity;
- Rethinking learners' and teachers' roles;
- Creating a culture of continuous learning; and
- Forming new kinds of partnerships and relationships between educational organisations (EO's) and the wider community.

Of particular relevance to this study is the last principle calling for new kinds of partnerships and relationships between EOs and the wider community. A 21st Century approach supports students developing the capacity to investigate and work towards solving real-life problems (Bolstad et al., 2012). Consequently, teaching and learning programmes need to be connected with the wider community in order

to provide students with authentic contexts, as well as additional resources, support and expertise that the teacher is unable to provide.

2.3.4 *NZC*'s 21st Century learning agenda

As established in Section 2.3.2, *NZC* was developed under the premise that contemporary education needs to achieve more than traditional knowledge outcomes and one of the endeavours of this national curriculum document was to provide schools with the capacity to incorporate teaching and learning programmes based on a transformational process. In order to demonstrate the 21st Century education intent of *NZC,* some excerpts from this document are provided below.

- The vision of *NZC* describes how school curricula will develop young people who are "creative, energetic and enterprising", able to "seize the opportunities offered by new knowledge" and be "confident, connected, actively involved and lifelong learners" (MoE, 2007, p. 8).
- Attributes that contribute to the concept of lifelong learners are identified by the *NZC* as "critical and creative thinkers; active seekers, users and creators of knowledge; and informed decision makers" (MoE, 2007, p. 8).
- The development of key competencies (i.e. lifelong learning capabilities) is an important part of a school programme in order to enable young people to "live, learn, work and contribute as active members of their community" (MoE, 2007, p. 12).
- *NZC* suggests that as part of the school programme, students "need to be challenged and supported to develop them [competencies] in contexts that are increasingly wide-ranging and complex" (MoE, 2007, p. 12).
- *NZC* promotes "teaching as inquiry", supporting the principle of a culture of continuous learning for teachers and educational leaders (MoE, 2007, p. 35)
- Four future-focused issues of sustainability, citizenship, enterprise and globalisation are suggested as possible examples of rich learning opportunities (MoE, 2007, p. 39).

Additionally, some of the kinds of learning as identified in these excerpts (e.g., 'life-long learning' and 'creators of knowledge') illustrate *NZC's* intent to expand the role of education beyond traditional frameworks of learning success such as

achievement and progression into tertiary education and employment (McDowall & Whatman, 2016).

2.3.5 Tensions between 21st Century policy and practice

Through the adoption of *NZC* in 2007, the Ministry of Education opened up the possibility for schools to reinvestigate and identify their core principles, values, pedagogy and ways of learning and potentially align their respective curriculums and teaching practices with a 21st Century approach. Nevertheless, some educators may not be convinced of the need for change, since effectiveness of a 21st Century approach is difficult to 'prove' due to its multi-faceted nature that cannot be narrowed down to a single circumscribed intervention (Claxton, 2007). However, an increasing body of practitioner-led action research projects is providing evidence that the approach has the potential to engage all learners and build learning capacity more effectively than that of the traditional system and, therefore, is worthy of implementation (Birdsall & Glasgow, 2014; Claxton, 2007; Hipkins et al., 2011).

Under the high-level direction of *NZC*, 21st Century principles and practices are readily visible in some New Zealand schools and classrooms, whereas in others they exist only in isolated pockets or have not been implemented at all (Bolstad et al., 2012). Nevertheless, such a paradigm shift is no easy task as there are a multitude of challenges. Hipkins et al. (2011) identify some of the challenges schools face as: (1) successfully building a shared understanding and commitment of the new educational goals, principles and practices with teachers, schools and communities, (2) developing and sustaining the distributed strong leadership teams required for transformational change, (3) enlisting community resources for the service of student learning and (4) changing the nature of educational 'accountability' to enable the vision of the curriculum framework and assessment systems to work together rather than compete. Furthermore, *NZC's* call for teaching and learning contexts that are increasingly wide ranging and complex is aspirational and signals the need for more cross curricular development, but a conventional subject-based education system like that of New Zealand poses additional challenges with regards to implementing cross-curricula programmes. (McMillan & Binns, 2011).

In conclusion, Sterling (2001) highlights the importance of schools questioning the reasons behind change to educational philosophy and practice; what is the purpose

of change, how will it be undertaken and who are these changes for are all deemed important considerations. Through critically thinking through questions like these, schools are able to clarify both the instrumental and intrinsic values that underpin their respective reasons for change.

2.3.6 Summary of education in the New Zealand context

In Section 2.2, education was identified as being imperative to reversing the current trend of ecological degradation; thus, Section 2.3 provided an overview of the New Zealand education sector within which KGT is embedded.

New Zealand's ECE and compulsory education (English medium) sectors are respectively guided by *Te Whāriki* and *NZC*. The underpinning principles of *Te Whāriki* are empowerment, holistic development, family and community, and relationships. These principles provide a foundation from which the strands of well-being, belonging, contribution, communication and exploration are integrated. *NZC* provides high-level guidance for schools and teachers through its vision and set of values, key competencies, learning areas and principles. Both national curricula documents, provide EOs with scope to develop a curriculum which specifically addresses their students' learning strengths and needs.

The recognition of wicked problems and the changing nature of knowledge has implications for the role of education on a global scale. A paradigm shift in philosophy and practice is promoted in contemporary literature about educational theory advocating for a 21st Century approach. Such an approach aims to provide students with the skills and aptitudes necessary for living in a rapidly changing world characterised by uncertainty and promotes a transformative process whereby learners are afforded opportunities to use knowledge to construct new meanings.

Although there is no single prescriptive recipe for a 21st Century approach, there are some key principles affiliated with it. Especially pertinent to this study, is the principle calling for new kinds of partnerships and relationships between EOs and the wider community. Although *NZC* provides scope for teachers to utilise a 21st Century approach, it should not go unheeded that schools face a range of challenges and barriers when developing and implementing a curriculum based on this approach.

With a broad understanding of the New Zealand education context established, a detailed examination of environmental and sustainability education is provided in the following section.

2.4 Environmental and sustainability education (ESE)

2.4.1 Overview

For many decades, education has been viewed as critical to promoting long-term changes in the way that people use and care for the environment (Bolstad, 2003; Gough, 2013). An array of pedagogical approaches have been developed over time in order to address the increasing number and severity of environmental problems. This section provides a synopsis of the evolving nature of the field of ESE[2] and is followed by a discussion of its four pedagogical approaches which are both widely cited in the literature and are relevant to this study. Lastly, a summary of the current state of ESE in New Zealand is given.

2.4.2 The historical evolution of ESE

Some of the significant movements and statements that have helped frame the evolutionary course of the field of ESE are discussed herein. This discussion also highlights the shifting nature of ESE pedagogy, from its focus solely on behavioural change discourses to approaches that include socio-ecological and emancipatory perspectives.

In the 1960s, environmental education (EE) arose out of a growing awareness about the threat of ecological degradation (Gough, 2013). Initially, ecological problems were seen as scientific problems that could be solved through the application of science and technology, but this was to change as even scientists themselves began to recognise that their respective disciplines could not hold all the answers (Gough, 2013). It was then that education was identified as a necessary tool for creating change in relation to the ways people used and cared for the environment (Bolstad, 2003). Around this time, there was also a view from some educationalists that the growing EE lobby movement could over-stress a particular social concern at the

[2] The terminology used to describe the field of ESE has changed over time. For the purposes of this thesis, the term 'environmental and sustainability education' is used generically to describe the field as a whole, but referral to more specific terms, such as environmental education (EE) or education for sustainable development (ESD), is utilised when it is warranted by the discussion at hand.

expense of education in general (Gough, 2013). Although this concern went unheeded for many years, it has more recently sparked debate with regard to the inclusion of a transformative approach (Gough, 2013), as discussed later within this section.

In the following decades, support for EE came through a wave of international conferences and special programmes (Bolstad, 2003). A key moment came as a result of the first Intergovernmental Conference on Environmental Education held in Tbilisi, Russia in 1977 which resulted in the signing of the *Tbilisi Declaration* (Bolstad, 2003). Through this declaration, EE was described as a "lifelong, holistic, interdisciplinary form of education … [which emphasizes] the interdependencies between humans and the environment, and the need to consider the present and wellbeing of both" (Bolstad, 2003, p. 11). Also of significance was the identification of awareness, knowledge, attitudes, skills and participation as the objectives of EE (Bolstad, 2003).

During these formative years, EE policy and initiatives emphasised instrumental pedagogical approaches that aimed to change behaviour through the development of learners' knowledge, values, attitudes and beliefs via instructional and participatory activities designed to achieve pre-specified goals (Wals & Dillon, 2013). This conventional approach was informed from behaviourist socio-psychology that assumed a more or less linear causality between environmental awareness, attitudes and behaviour (Fishbein & Ajzen, 1980, as cited in Wals & Dillon, 2013). More recently, this assumption has been found to be an oversimplification of reality as widely accepted empirical research demonstrates that environmental behaviour is dauntingly complex and that the presumed linear relationship is far too facile (Stern & Dietz, 1994). As pointed out by Glasser (2007), even though humans may have a familiarity and understanding about the problems, they may still choose not to respond to them (as cited in Wals & Dillon, 2013).

After the conference in Tbilisi, the concept of 'sustainable development', was given currency in relation to sustainability as discussed previously in Section 2.2.2.3. Although there are many definitions of sustainable development, the landmark definition that appeared in *Our Common Future* (1987, p. 41) defined it as "development that meets the needs of the present without compromising the ability

of future generations to meet their own needs". This definition was widely taken up and consolidated as an educational concern at the Earth Summit Conference held in Rio de Janeiro in 1992 (Bonnett, 2013). The central agreement of this conference by delegates from over 170 countries was *Agenda* 21 (United Nations Conference on Environment and Development, 1992), which included the proposal to introduce sustainable development into the educational programmes of their respective nations (Bonnett, 2013). The Earth Summit's underpinning theme of sustainable development reflected the broadening concern of the international community away from a focus purely on ecological and conservation issues to one that integrated the environment with social, political and economic development (Bolstad, 2003).

Agenda 21 was responsible for two significant developments in EE. Firstly, it played a major part in the reconceptualization of EE to education for sustainable development (ESD) (Tilbury, 1995). Secondly, *Agenda 21* acted as a powerful stimulus for the development and implementation of ESD policy in many nations (Bolstad, 2003), as well as being a major impetus behind the launch of the United Nation's Decade of Education for Sustainable Development 2005-2014 (Bonnett, 2013). The field's holistic and critical nature began to emerge as the scope of ESD was marked by moves toward an inter-disciplinary dimension with a more global, rather than local, approach (Tilbury, 1995).

Throughout these periods of reconceptualization, education has continued to be considered as a fundamental means for resolving environmental problems. But with its continued use, has also come increased critical scrutiny and tension about the authentic purpose of ESE and the most effective pedagogical approaches for using it. The persistent utilisation of conventional instrumental approaches has resulted in criticisms largely due to two main reasons (Stevenson, Dillion, Wals, & Brody, 2013). The criticisms were a response to individualistic behavioural research that found fault with the assumption that pro-environmental behaviour was directly attributable to increased environmental awareness, and also from a critical theory perspective which recognised the influence of wider structures and institutional arrangements (e.g., power relationships) on human behaviour (Stevenson et al., 2013). Nevertheless, the use of instrumental pedagogy continues to dominate ESE even though its effectiveness has been demonstrated to be limited (Wals & Dillon, 2013).

Much debate also stems from the pluralistic nature of sustainability as discussed in Section 2.2.2.3 and in relation to what is the 'right' perspective to base ESE on (Bonnett, 2013). On one side of the 'instrumental spectrum' lies the anthropocentric perspective of ESD that may justify the use of the natural environment to meet human needs, whereas on the opposite side of this spectrum, lies the promotion of education for deep ecology (Kopnina, 2014) and an ecological paradigm which resituates ESE through an ecocentric frame (Sterling, 2001). This latter perspective frames an argument that the purpose of ESE should be re-oriented to developing concern, care and respect for the natural world as a bearer of intrinsic and moral value and as being inextricably linked to humanity (Bonnett, 2013). Furthermore, there is also a non-instrumental perspective otherwise referred to as an 'emancipatory perspective' (Wals & Dillon, 2013). This perspective is based on the notion that ESE should be free from specified ends as the 'true' purpose of education is to develop the capacity of learners to think autonomously (Jickling, 1994; Jickling & Spork, 1998; Wals, 2010). With this purpose in mind, the consideration of alternative world views that are pluralistic and heterogeneous are considered paramount, rather than merely promoting the dominant cultural norm of the time (Jickling & Spork, 1998). An emancipatory perspective identifies transformative education as a complementary or even complete replacement for that of the more conventional instrumental approaches described above (Wals & Dillon, 2013).

Overall, there is a united sense of urgency about the severity of environmental issues, but as discussed above, it is the pedagogical approaches on which there is fundamental disagreement. Advocates of an emancipatory perspective such as Jickling (1994) propose that the flight to adopt more instrumental approaches as the planetary sustainability crisis intensifies is dangerous as it might impede the development of a more resilient society, better able to cope with risk and stress. On the other hand, Kopnina (2014, pp. 225–226) questions how such "amorphous pluralism" will achieve anything in terms of social transformation and as an alternative, she advocates for moral guidance, "the ultimate instrumental approach".

2.4.3 ESE pedagogy

The section above highlights the on-going debate about the overall purpose of ESE. An instrumental perspective emphasises the need to foster pre-specified kinds of environmental behaviour while an emancipatory perspective stresses the educational obligation to develop and respect students' own critical rationality (Bonnett, 2013). Today, a variety of pedagogical approaches based on both perspectives are used around the world. This section briefly outlines four approaches applicable to KGT, which have both instrumental and emancipatory components.

2.4.3.1 A three-fold approach of about/in/for

The three-fold approach of education 'about, in and for' the environment has been an influential catch phrase of ESE pedagogy as it is congruent with achieving the EE objectives of the development of knowledge, values and action (Barker & Johnson, 1998). Tilbury (1995) describes this approach as follows: education 'about' the environment being concerned with developing awareness and understanding about the environment and its associated problems resulting from human actions; education 'in' the environment as having a strong experiential orientation that fosters environmental awareness, values and attitudes by encouraging personal growth through contact with nature; and education 'for' the environment seeking to foster a sense of responsibility and confidence through active pupil participation towards the resolution of environmental problems.

A common misconception is that a genuine approach to ESE implies that participation must physically improve the environment in some way (Fien and Greenall-Gough, 1996, as cited in Bolstad, 2003), such as students partaking in activities such as cleaning up a beach or planting trees. Such experiences and activities have value to the extent that they may help develop student understanding and potentially increase motivation, but when considering educational outcomes, the distinction between environmental activities and environmental actions becomes pertinent. As distinguished by Jensen (2002), an action addresses the root cause of the problem, whereas an activity addresses solely the symptoms. To take action for something also involves conscious decision-making to do something about the problem, whereas activities may involve individuals who are purely

passive participants (Jensen, 2002). These ideas are embodied in the concept of action competence as discussed below.

2.4.3.2 Action competence

Environmental problems are anchored in society by way of its structures and systems (Räthzel & Uzzell, 2009) and through the lifestyle choices of individuals (Jensen & Schnack, 1997). Democratic and equitable solutions to these problems can only result from a critical assessment of their social, economic and ecological components, which are often conflicting in nature (Tilbury, 1995). Based upon this set of precursors, Jensen and Schnack (1997) developed the concept of action competence whereby learners become competent and willing participants who take action for the environment. Achieving action competence requires the development of cognitive and inter-personal attributes that include but are not limited to knowledge, insight, commitment, and visions, as well as participation in action experiences (Jensen & Schnack, 1997).

The attributes of knowledge and insight are concerned with understanding the issue: how did the issue arise, what are its effects, what are the possible resolutions to a problem (Jensen & Schnack, 1997). Ensuring learners are equipped with the skill set necessary to take action is also fundamental. For instance, learning how to seek out information and resources, how to approach people in the community for advice or support and how to critically assess different social needs and perspectives (Bolstad, 2003). Jensen and Schnack (1997) include the critical dimension as part of the knowledge component, although they point out that critical thinking and critical sense may also be considered as separate components since these skills are so vital to understanding the root causes of environmental and sustainability issues.

Commitment refers to growing the learners' motivation, assertiveness and drive, which is important because knowledge alone cannot be transformed into action if the learner is not driven to do so (Jensen & Schnack, 1997). Additionally, values can be seen as being intertwined with commitment. Tilbury (1995, p. 86) defines a value as a "certain belief, attitude, or conviction that is consistently reflected in one's behaviour". Teaching and learning about values can be accomplished through an instrumental approach, such as by promoting 'environmental citizenship' which embraces the importance of valuing the interrelatedness of the web of life and having concern for all life forms (Tilbury, 1995). On the other hand, from an

emancipatory perspective, a consensual set of values might be sought through the undertaking of a transformative learning process (see Section 2.4.3.3).

Action competence is also linked to creating visions associated with the learners' ideas, dreams and perceptions about their futures and the society in which they hope to live (Jensen & Schnack, 1997). Future visioning is important as it enables the identification of societal and lifestyle changes that must occur if the vision is to be achieved (Tilbury, 1995).

Lastly, participating in action for an environmental and sustainability issue can empower and motivate individuals, while also fostering a sense of responsibility, as described previously in Section 2.4.3.1.

2.4.3.3 Transformative learning

In his book, *Sustainable Education: Re-visioning Learning and Change*, Sterling (2001) differentiates between three orders of learning. The first order is adaptive learning that leaves basic values unexamined and unchanged; such learning experience is typical of that currently found in the majority of schools in Western countries (Sterling, 2001). Sterling (2001, p. 15) suggests the second order is about "thinking about our thinking" such that it entails the critical reflection about assumptions that influence first order learning. At a deeper level, third order learning happens when we are able to see things differently through creative learning which involves a deep awareness of alternative worldviews and ways of doing. Third order learning represents a shift in consciousness or a transformative learning experience through which a learner changes the way in which they see the world or makes meaning from the world (Prout, Lin, Nattabi, & Green, 2013).

Mezirow (2003, p. 58) defines transformative learning as learning that "transforms problematic frames of reference – sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mind-sets) – to make them more inclusive, discriminating, open, reflective and emotionally able to change". The transformative learning process is based on the dialectical interaction between the social world and the changing individual (Newman, Griffin & Cole, 1989, as cited in Räthzel & Uzzell, 2009). The approach can be broadly described as a process of discourse, debate and self-reflection through which participants work towards achieving solutions to the posed problems (Wals & Dillon, 2013, p. 256). The first

step of the process sees participants engaging in discourse and debate which is then followed by an opportunity for self-reflection between their own guiding assumptions and interpretations and those of others (Wals & Dillon, 2013). Mezirow and Taylor (2009) suggest that through such a process, learners are able to "recognise, reassess and modify the assumptions and expectations that frame [their] tacit points of view and influence [their] thinking, beliefs, attitudes and actions" (as cited in Wals & Dillon, 2013, p. 18).

Mezirow's transformational learning theory has been applied predominantly to adult learning theory and practice, based on the assumption that a foundation of mature cognitive development is a precursor to engaging in the critical reflection and rational discourse necessary for transformative learning (Merriam, 2004). However, Räthzel and Uzzell (2009) identify the transformative learning approach as being particularly useful in relation to enhancing children's and adult's understanding about the relations of production, consumption and political relations, which they identify as being paramount to ESE. They also advocate for transformative learning to be applied to ESE as an alternative to some instrumental approaches which can otherwise reproduce existing relations of power that constitute learners as consumers of knowledge and experiences, instead of acknowledging them as actors in a transformative process. Thus, transformational learning may still hold potential for KGT if it is undertaken at an appropriate development level.

2.4.3.4 Place-based education (PBE)

The meaning of 'place' must be understood before one can appreciate the value and usefulness of PBE in the modern world. Wattchow and Brown (2011, p. xxi) contend that "place is suggestive of both the imaginative and physical reality of a location and its people, and how the two interact and change each other". In this sense, people and places are reciprocal in nature (Mannion, Fenwick, & Lynch, 2012) meaning that "people make places and that places make people" (Gruenewald, 2003, p. 621). Places can also be viewed as "centres of experiences" that teach us about how the world works and "how our lives fit into the spaces we occupy" (Gruenewald, 2003, p. 621). Place is significant as it 'makes' us (Gruenewald, 2003), through the spaces we inhabit and what actions we impose on them.

But the importance of place has been eclipsed. Evidence for this is no more clearly demonstrated than in the disconnect between schools and the places they occupy, where children's attention is often directed away from their own societal context and way of knowing, and instead, focused on knowledge created by other people from other places (Smith, 2002). Thus, students tend to experience the world indirectly, with their role being to internalise and master the knowledge created by others (Smith, 2002). The conventional notion of standards and testing is also pertinent as these are often the only 'lens' through which student, teacher and school achievement is measured (Smith, 2002). This type of accountability is problematic because it fails to recognise the opportunity schools have with regards to the production of places through the education of place makers (or citizens) (Gruenewald, 2003). Hence, PBE or 'place-conscious' education (Gruenewald, 2003) is an idea that may have a powerful educational impact (Henderson & Tilbury, 2004).

Pedagogy of place emphasises the need for teachers and students to connect with places and citizens beyond the school's boundary (Gruenewald, 2003). Key features as summarised by Smith (2002) include:

- turning local phenomena into the foundation of curriculum development,
- emphasing learning experiences that allow students to become creators of knowledge rather than the consumers of knowledge,
- ensuring students' questions and concerns play a central role in determining what is studied,
- teachers acting as partners in learning-oriented approaches and brokers of community resources and learning possibilities, and
- increasing the 'permeability' of the 'wall' between school and community.

In addition, PBE is inherently experiential and multidisciplinary (Mannion et al., 2012).

PBE is not a new educational phenomenon as historically it has been integrated into other approaches that have connected teachers and students with real-life, such as cultural studies, nature learning, real-world problem solving and internships (Smith, 2002). However, its strong re-emergence in recent literature signals the possible merit in its use as a new norm for educational philosophy and practice. The growing recognition and support for a sense of place and PBE comes from deep concern

about the degradation of environments and injustices within communities (Hill & Brown, 2014), largely brought about through unsustainable practices resulting from the rapid pace of social change as described in Section 2.2.1. PBE is necessary to educate citizens so they can have direct effect on the well-being of the social and ecological places that they inhabit (Gruenewald, 2008).

2.4.4 ESE in the New Zealand context

In 1998, six years after the Earth Summit in Rio de Janeiro was held, the New Zealand government released *Learning to Care for our Environment: A National Strategy for Environmental Education* (Ministry for the Environment, 1998), through which its priorities for achieving the goals as set out by *Agenda 21* were outlined. Shortly thereafter, in 1999, the publication of the *Guidelines for Environmental Education in New Zealand Schools* (Ministry of Education, 1999) looked like a promising start. But approximately five years later, an independent review of ESE in the New Zealand context, as conducted for the Parliamentary Commissioner for the Environment, found there to be a lack of coordination and commitment to implementing relevant policy and programmes (Parliamentary Commissioner for the Environment, 2004). Also around this time, findings from a survey undertaken as part of a large multi-method study of ESE in New Zealand schools identified that half of the teachers who responded were either unaware of, or unfamiliar with the environmental education guidelines (Cowie et al., 2004). Over the next few years, some progress was made in relation to the coordination and implementation of ESE (Parliamentary Commissioner for the Environment, 2007). For instance, sustainability began to feature in the government's priority areas as well as being incorporated into *NZC*. In addition, a government funding package totalling $13 million was secured for the delivery of the Enviroschools Programme and an ESE advisory services for teachers in schools and kura over a four year period (World Wildlife Federation - New Zealand, 2012). Since then, government support for ESE has wavered and much of the momentum gained between 2004 and 2008 was lost when the government funding identified above was not renewed (Bolstad, Joyce, & Hipkins, 2015). Fortunately, despite the setbacks, Bolstad et al. (2015) found that there were still many pockets of ESE progress developed through initiatives and activities implemented by a range of stakeholders and supporters of the field.

Presently, there is no nationally coordinated ESE approach, but instead, it is a cross-sectoral endeavour where practice "is often situated within a web of other national and localised connections including local government, community providers, businesses, charitable foundations and other people and groups connected with specific natural environments, natural sciences, and environment and conservation-focussed projects and programmes" (Bolstad et al., 2015, p. v). Both *Te Whāriki* and *NZC* provide an enabling framework to support ESE, although there is no specific mandate to incorporate ESE into the ECE or compulsory schooling sectors. Furthermore, Bolstad et al. (2015) identified that the take-up of ESE is largely linked to teachers' knowledge and confidence around ESE, their access to relevant resources and support, and the values and priority given to ESE by administrators and the wider community of an EO. For these reasons, in conjunction with the fact that the concept of sustainability is inherently complex and contentious, ESE is diffusely implemented within EOs around the country. Encouragingly though, recent collaborative efforts between the Ministry of Education, DOC and Ministry for the Environment have been made in an attempt to further advance ESE in New Zealand (Bolstad et al., 2015).

A description of some of the current more significant ESE initiatives and trends are described below.

2.4.4.1 ECE

Participants in Bolstad et al.'s (2015) study identified an increasing surge of enthusiasm for ESE in the ECE sector, which is not surprising given the synergies between ESE, the easy accessibility of the natural world in New Zealand and the "holistic, authentic and organic nature" of *Te Whāriki* (Bliss, 2012, p. 13). The literature about ESE practice in ECEs strongly connects to place-based pedagogies and Māori kaupapa. The New Zealand ECE sector has also shown renewed interest in using the natural environment as part of teaching strategies to support and develop children's learning (Kelly & White, 2012). These bush programmes, as they are called in New Zealand, are often based on the premise that children who have access to free play in the outdoors will become nature literate, and grow into adults with a lifelong love of, passion for and willingness to look after the environment (Maley-Shaw, n.d.).

2.4.4.2 Enviroschools

The Enviroschools programme seeks to address the social, cultural and economic sustainability of schools and their wider communities. Their aim as identified on the Enviroschools website is "to foster a generation of people who instinctively think and act sustainably" (Enviroschools, 2016). The kaupapa (philosophy) of Enviroschools focuses strongly on decision-making by the students, including in relation to operational areas (e.g., waste disposal) which traditionally may not have been considered an appropriate area for students to have a voice (Bolstad et al., 2015).

The governing body of the programme is the Toimata Foundation, a not-for-profit trust, which achieves nation-wide reach through partnerships. Currently, the foundation has nearly 100 partners, including the majority of New Zealand's local government councils and approximately 1,000 schools are affiliated with the programme (Enviroschools, 2016).

2.4.4.3 National Certificate of Educational Achievement (NCEA)

There are achievement standards specifically related to ESE for NCEA standards (Levels Two and Three), as well as there being standards (all levels) from other disciplines (e.g., science, geography) that can be related to ESE. Through these standards, there are opportunities to design teaching and learning programmes based on real-life issues relevant to the students, with the potential for critical thinking and active citizen engagement (Cosgriff & Gillespie, 2011). Such programmes are aligned to a 21st Century approach, which underpin the *NZC* as demonstrated in Section 2.3.4. However, as Hipkins and Spiller (2012) note, the regulations relating to the required credits for university entrance may equate to only a small number of secondary students signing up for ESE courses, which may discourage some teachers from developing these courses. On top of this, Bolstad et al. (2015) also point out the difficulties that secondary school students may have in relation to coming to grips with some of the complexities of sustainability and the potentially 'risky' nature of a genuine approach to transformative citizenship education.

2.4.4.4 PBE and culturally-responsive pedagogies

There has been a growing trend in the New Zealand literature about PBE curriculum and pedagogies in relation to ESE (Bolstad et al., 2015). This pedagogical approach was previously described in Section 2.4.3.4. Additionally, culturally-responsive pedagogies have also been promoted through the New Zealand ESE literature which cites the need to acknowledge and integrate the nation's bicultural heritage as based on the Treaty of Waitangi, as well as recognising the importance of indigenous, spiritual and ecological knowledge in the pursuit of holistically understanding the environment and sustainability (Bolstad et al., 2015).

2.4.5 Summary of ESE

ESE can be broadly viewed as education focusing on both the biological aspects of the Earth and the socio-economic environment of humankind.

Changing perspectives about the purpose of ESE has led to different educational approaches and pedagogies being promoted at different times as the field has evolved. Currently, a tension exists between scholars about the use of instrumental versus emancipatory approaches. Four approaches applicable to KGT, were described under the following headings: (1) education about/in/for, (2) action competence, (3) transformative learning and (4) PBE. Together, these pedagogies, which demonstrate both emancipatory and instrumental components, support a transformative process through learner-and-action-oriented approaches that connect people to place.

In the New Zealand context, government support for ESE has wavered over time. Although there has never been an official mandate for ESE within New Zealand's formal education sector, diffuse pockets of successful ESE implementation are evident throughout the country. An overview of progress in relation to the ECE sector, Enviroschools, NCEA achievement standards and some emerging (or re-emerging) pedagogies was illustrated.

As described in this section and the one prior (see Section 2.3), a 21st Century approach and many of the pedagogies of ESE are based on the use of authentic contexts whereby students can investigate and participate in real-life experiences. However, EOs face a range of challenges to accessing these opportunities and teachers cannot be expected to have all the knowledge and expertise required.

Therefore, assistance from the wider community is deemed to be necessary, leading to a discussion about school community partnerships in the next section.

2.5 School Community Partnerships (SCPs)

2.5.1 Overview

Independent ways of working amongst organisations can lead to an inefficient use of resources, failure to achieve key objectives and the duplication of programmes (Woodhouse, 2009). The use of partnerships between organisations is an attempt to address some of these issues. Since the early 1990s, partnership models have gained traction in a range of sectors, including health (Israel, Schulz, Parker, & Becker, 1998), resource management (Margerum, 2008) and the social services sectors (Thompson, 2002). In comparison, partnerships between EOs and the wider community appear to be implemented to a lesser degree, even though research suggests that there are many benefits to be had.

2.5.2 Defining SCPs

Before defining SCPs, it is first helpful to understand what is meant by the terms 'community' and 'partnership' individually. Communities are characterised and limited by the human interactions and geographic distance between populations and therefore are both physical phenomena and social processes (Steiner, 2002, as cited in Hands, 2005). Horowitz, Robinson and Seifer (2009) define community in the following three ways: as a geographic entity (i.e., an area where people live), as a group that shares a common identity (e.g., ethnicity) or a group that shares a common concern (e.g., advocacy group). The term partnership here refers to the scenario when two or more organisations, that otherwise are independent bodies, come together to achieve a common goal (Woodhouse, 2009). The organisations that join together in a partnership are typically referred to as stakeholders, meaning that they have a stake or interest in the partnership. Within a partnership model, the stakeholders agree to cooperate in order to achieve specified outcomes that might otherwise have been difficult to achieve independently (Wei-Skillern & Silver, 2013; Woodhouse, 2009). They jointly develop a new organisational structure, programme or process which may operate differently to that of their respective organisations' ways of doing things, and staff, resources and information are commonly shared (Woodhouse, 2009). In theory, partnerships can have many

advantages over the efforts made by a single organisation, but there are also many barriers that potentially stand in the way of partnerships working effectively, as will be discussed in Section 2.5.5.

Based upon these definitions, an SCP can be described as a sustainable, mutually beneficial relationship between the school(s) and at least one community member or group which leads toward the achievement of collectively agreed goals that otherwise would have been unattainable in the absence of cooperation (Hands, 2005). The term 'collaborative' is often used in conjunction with partnerships (i.e., collaborative partnerships as creating new value together) (Kanter, 1994). Thus, although this term is not explicitly used throughout this section, it is important to note that the partnerships referred herein are based on a collaborative nature, rather than a mere exchange between partners (i.e., getting something back for what is put in) (Kanter, 1994).

2.5.3 Types of SCPs

Relationships and linkages between schools and community can take a variety of forms, from one-off events to the development of long-term collaborative partnerships. Typical activities between schools and community include mentoring and tutoring, contextual learning and work experience (Sanders, 2001), with linkages most commonly made with the business sector, the public sector (e.g., local authorities) and the non-profit sector (e.g., community groups) (Hands, 2005). The community affiliations that schools are able to connect with will vary since the composition of their respective communities vary. In general, secondary schools tend to lag behind primary schools for integrating family and community involvement with their schools' culture and improvement efforts, which Sanders and Lewis (2005) attribute to secondary schools having to overcome a greater number of barriers.

In New Zealand, conventional relationships between school and community tend to be linked to extra-curricular and co-curricular activities (J. Roberts, Bolstad, & McDowall, 2009). Some examples include families helping with school camps, galas or cultural festivals, and businesses providing sponsorship for specific school events (Bolstad et al., 2012). The national curricula provide kindergartens and schools scope to engage collaboratively with the community and support ongoing curricular learning opportunities, but educational institutions taking up the

opportunity remain in the minority (Bolstad et al., 2012; Eckert, Goldman, & Wenger, 1997; J. Roberts et al., 2009). Bolstad et al. (2012) provide a summary of some of the frameworks and approaches presently being used in New Zealand schools which assist the development of SCPs in a curricular context. Some examples include:

- Student and teacher engagement with local community issues is promoted through whole-school and whole-community-oriented approaches like Enviroschools or other initiatives associated with ESE. Such initiatives usually involve building relationships with significant community partners such as territorial authorities, organisations and businesses associated with environment and sustainability.
- The Education for Enterprise approach supports engagement between schools and partners from the community and business sectors on projects that involve students generating something 'new', whether in the form of ideas, products or services. Through this open-ended opportunity, schools and communities develop and enact their own ideas about being enterprising.
- Relationships with businesses and education/training institutions for implementing work experience initiatives like Gateway and Star enable students to experience different work and training scenarios and gain qualifications towards these pathways.

Initiatives like these have the potential to positively transform the status quo of students' experiences of learning in relation to the world beyond the school boundary. Thus, in order to help facilitate SCPs it is important to understand what enhances or diminishes the capabilities of school staff to collaborate with external expertise, and how these learning opportunities can be implemented across communities in equitable ways (McDowall & Whatman, 2016).

2.5.4 Benefits of SCPs

Educational researchers have been advocating the benefits of partnerships between schools, families and communities for the last few decades (Davies & Johnson, 1996; Epstein & Sanders, 1998; Hands, 2005). The impetus for the development of SCPs falls into three inter-related categories: (1) improving student academic and

personal success, (2) enhancing school quality and (3) supporting community development (Sanders & Lewis, 2005).

Epstein's (1987) theory of overlapping spheres of influence emphasises that schools, families and wider communities are major institutions that socialise and educate children. A central principle of this theory posits that educational goals should be of interest to each of these institutions and are best achieved through their cooperative action and support. The notion that children's learning is a shared responsibility is supported by a number of educational scholars (Barza, 2013; Dodd & Konzal, 2002; Heath & McLaughlin, 1987; Sanders, 2001). Heath and McLaughlin (1987, p. 579) argue that community involvement is important because "…the problems of educational achievement and academic success demand resources beyond the scope of the school and most families". They identify changing family demographics, demands of the professional workplace and a growing diversity among students as some of the reasons why schools and families alone cannot provide sufficient resources to ensure that all children receive the experiences and support they require to succeed. SCPs are identified as a way to provide a caring and connected component to schools (Ferreira et al., 2012), which otherwise can function as large institutions with an 'assembly-line' nature (Toffler and Toffler, 1995, as cited in Sanders, 2001).

SCPs are often seen as a means of supporting the shift required for education to become more relevant to the 21st Century world and workplace (J. Roberts et al., 2009). This shift requires new resources for supporting different styles of teaching and learning, as identified in Section 2.3.3. Collaboration and partnerships with people and organisations from the community are important for providing students with real-life learning experiences and authentic knowledge-building activities (Bolstad et al., 2012; McMillan & Binns, 2011).

Engaging students in relevant real-world learning through partnerships with the community increases student engagement and achievement (Ferreira et al., 2012). Research indicates a correlation between community involvement in schools and higher student attendance rates and decreased drop-out rates (Barza, 2013), as well as less behavioural problems and more positive attitudes about school (Ferreira et al., 2012). In a study by Hands (2005), it was found that SCPs expanded the students' networks and increased their social capital. By meeting, interacting and

developing relationships with citizens in the community, the students gained greater access to information, learning and occupational experiences. Moreover, the partnerships promoted students' acquisition of knowledge, skills and attitudes of democratic citizenship (Hands, 2005).

Although the literature about SCPs focuses heavily on the benefits related to student achievement and school quality, it also gives some recognition of the benefits to society at large (McMillan & Binns, 2011; Sanders, 2001). SCPs provide an avenue for businesses and organisation to deliver on their commitments to corporate and social responsibilities and provide young people with opportunities to become valuable resources to a community (J. Roberts et al., 2009). In addition, it has been shown that community members and organisations who partner with schools become more loyal to their respective communities and are more likely to support government measures to increase funding and support to the education sector (Barza, 2013). Davies (2002) suggests that school success is linked to community success and vice versa; in other words, by helping the other, they are helping themselves. In more tangible ways, schools can provide partners with access to their resources which include: physical facilities (e.g., computers and meeting rooms), teachers and administrators (e.g., skills) and students (e.g., participation in community service projects) (Davies, 2002).

To summarise, the Education for Enterprise website (Ministry of Education [MoE], 2015b) suggests the benefits of SCPs as being to:

- encourage and foster community connectedness,
- encourage and foster communication and dialogue,
- provide an avenue for community involvement in the education of our young people,
- provide the opportunity to enhance the delivery of the school curriculum,
- provide students with an opportunity to apply their knowledge and skills at something real,
- provide relevant and authentic learning contexts, and
- encourage and foster student engagement in learning.

Although SCPs tend to be viewed primarily in relation to the benefits for students, there are also a wide range of community benefits likely to be achieved through

the provision of networking and sharing of resources (McMillan & Binns, 2011). Effective partnerships are also mutually beneficial, meaning that the purpose of the partnership and the respective objectives of each partnering organisation are achieved over time (Wei-Skillern & Silver, 2013).

2.5.5 Barriers to SCPs

This section provides a synopsis of the constraints and barriers to designing, implementing and maintaining SCPs. Although the majority of these obstacles are interrelated, they are disentangled and presented here as discrete issues. Strategies for addressing these obstacles are provided as part of a wider discussion about the enabling elements and processes that lead to successful partnerships (see Section 2.5.6.2).

School administrators' and teachers' perceptions and attitudes about SCPs dramatically affect whether the idea of partnering with the community is considered (Sanders, 2001). Potential stakeholders who do not see the value in partnering or perceive their communities as uncaring or lacking in resources will be unlikely to commit the necessary time and resources (Hands, 2005; Sanders, 2001). Another hindrance to SCPs is territorialism or as described by Boyd & Crowson (1993) (as cited in Sanders, 2001), as "… the unresolved issues of information sharing, resource mingling and professional turf". Some schools also claim to be hesitant to opening their 'doors' to the wider community for fear of public scrutiny (Epstein & Sanders, 1998; Sanders, 2001).

Upon achieving 'buy-in' to the concept, one of the first obstacles that is often faced by schools is finding ways to connect with other stakeholders (Bolstad et al., 2012). Also problematic is maintaining the connection with stakeholders beyond the short term, as working relationships in SCPs are frequently based on a personal level rather than an organisational level (Bolstad et al., 2012). This poses a challenge for the continuity of the SCPs when these individuals leave the organisation or take up new roles.

The strategic planning stage is critical to developing successful SCPs and underestimation about the importance of this stage and allocation of adequate time can pose challenges (Sanders & Lewis, 2005; Woodhouse, 2009). Without adequate planning, a suite of project management and human resource issues can eventuate,

for instance, insufficient organisational capacity and a lack of funding (Barza, 2013; Hands, 2005; Sanders, 2001) and conflicts associated with differences in perspective, priorities and assumptions (Israel et al., 1998). The philosophical differences between those within the education sector and those outside the sector about the reasons for establishing SCPs have also been identified as a source of tension between partners (J. Roberts et al., 2009). Lastly, issues of inequitable distribution of power and control (Israel et al., 1998; Woodhouse, 2009) and lack of reciprocity of benefits between stakeholders can be the cause of partnership failure (Hands, 2005).

From a more holistic viewpoint, Bolstad (2012) highlights the system-level challenges that impede cross-sector collaborations in schools. As previously pointed out in Section 2.3.3, teachers alone simply do not have all the 'in-house' resources necessary for personalising learning based on authentic contexts. As such, Bolstad et al. (2015, p. 49) argue that present-day education systems and structures need to be transformed in order to "enable, rather than constrain, community connections". The ways in which the system might undergo transformation are beyond the scope of this thesis, but recognition about its limitations is an important point of consideration for those involved with SCPs. This does not imply that the imperfection of the system should prevent the development of SCPs, as this clearly does not need to be the case, as illustrated by the examples of successful SCPs currently operating in New Zealand (see Section 2.5.3). However, having an awareness and understanding of the reality in which schools operate is useful for creating strategies and tools to work as best as possible within the means of the current system.

With respect to available research on SCPs, the current literature focuses on the potential types and benefits of SCPs, general guidelines for implementing them and some of the potential obstacles to collaborative efforts (Sanders, 2001). There is a gap in the literature about specifying the processes undertaken by stakeholders to identify, develop and maintain SCPs over a long-term timeframe (Bolstad, 2015; Hands, 2005; Sanders, 2001). In-depth case study data about successful school community connections may assist aspiring schools and stakeholders to overcome the constraints and barriers described (Sanders, 2001).

2.5.6 The makings of successful partnerships

A successful partnership refers to one that effectively progresses towards achieving its outcomes as set by the stakeholders (Wei-Skillern & Silver, 2013). In order to identify key enabling elements and processes for establishing and maintaining successful partnerships, literature about partnerships in the sectors of education, health, resource management and social services was reviewed. Although the literature was derived from different fields, many of the enablers of successful partnerships were comparable. This section begins with an overview of an ecological theoretical perspective based on an assumption that the analogy of an ecosystem can be useful in relation to forming sustainable partnerships. This is then followed by discussion about the processes associated with designing, implementing and maintaining SCPs. Because every SCP evolves from a different context, there is no one 'recipe of key ingredients' for success; however, the elements and steps identified may serve as a useful foundation upon which the development of a SCP can be based or evaluated.

2.5.6.1 An ecological perspective of partnerships

Nature and its ecosystems are increasingly being looked to as a model for the sustainable design of a variety of social structures and processes such as farms, technologies and regional economies (Orr, 1992). As such, a succinct synopsis of Capra's (1994) depiction of ecosystem functioning in relation to the key elements and processes necessary for sustainable partnerships may serve as a useful guide.

In ecosystems, "partnership is a key characteristic of life", as reflected in the network of life that is made up of interdependent relationships between organisms (Capra, 1994, p. 7). It is through feedback loops within this network that an ecosystem continuously self-regulates and self-organises. The characteristics of interdependence, network relationships and feedback loops found amongst the many species of an ecosystem imply cooperation and partnership. In these ways, ecosystems organise and maintain themselves in a sustainable way.

Drawing upon this depiction of ecosystem functioning, partnerships amongst humans may be viewed from an ecological perspective. Within such partnerships, the interdependent relationships between organisations are necessary to achieve something that would otherwise be extremely difficult or impossible to achieve

(Wei-Skillern & Silver, 2013). It is through this interdependence that cooperation between stakeholders is maintained. Continuous feedback via communication within the network relationships is vital for balancing changes (i.e., fluctuations) that occur in the living world (Hands, 2005). As such, cultivating communication and cooperation is essential for establishing sustainable partnerships. Based on this notion of a fluctuating ecosystem, a partnership should also endeavour to incorporate flexibility into its structure so it can remain resilient, develop and evolve (Hands, 2005). Failure to incorporate flexibility could result in the early demise of a partnership as a result of it becoming obsolete and irrelevant in a continually changing environment (Hands, 2005). Lastly, the element of diversity is reflected by the stakeholder composition of partnerships. Wei-Skillern and Silver (2013) argue that partner selection is of the utmost importance; establishing the right mix of partners lays a foundation of trust-relationships from which holistic, coordinated and realistic decisions and solutions may arise from.

This analogy has sought to illustrate the elements of interdependent relationships, communicative feedback loops, cooperation, flexibility and diversity as being essential to sustainable partnerships. It is from this assumption, in conjunction with the scholarly literature about partnerships, that the following enabling elements and processes for developing, implementing and maintaining SCPs have been devised.

2.5.6.2 Developing, implementing and maintaining SCPs

This section describes three broad steps to developing, implementing and maintaining SCPs. Interwoven into this discussion are ways to address the constraints and barriers to SCPs as identified in Section 2.5.5 and promote the enabling elements of sustainable partnerships (i.e., interdependence, cooperation, communication, flexibility and diversity) as highlighted in Section 2.5.6.1.

Step 1: Planning process

Prioritising the planning process is paramount for developing and maintaining successful partnerships (Barza, 2013; Minkler, Vásquez, Tajik, & Petersen, 2008; MoE, 2015b; Sanders, 2001; Thompson, 2002). The Ministry of Education (2015b) identifies three key stages of the planning process as: (1) taking stock, (2) identifying stakeholder assumptions and issues and (3) negotiating the partnership

objectives and shared vision to be achieved. Sanders and Lewis (2005) warn stakeholders not to underestimate the importance of early strategic planning.

Initially, as part of the taking stock stage, stakeholders should consider such matters as their reasons for forming a SCP and the potential benefits and outputs for each party (MoE, 2015b). Partnership development should build in the 'ingredients' of resources, knowledge, skills and commitment from the onset of the initiative (Thompson, 2002). In relation to resources, adequate time and funding is deemed critical to success (Bolstad et al., 2012). Sanders and Lewis (2005) suggest that the allocation of time should be carefully considered as more time is often required than expected, especially because building partnerships based on trust tends to be particularly time consuming (Israel et al., 2001; Wei-Skillern & Silver, 2013). It is also vital that the lead team comprise participants who come to the table with the right perceptions and attitudes about SCPs, such that they genuinely value the opportunity to partner with the wider community (Minkler et al., 2008; Sanders & Lewis, 2005). Ensuring that the school principal supports not only the concept of a SCP but also the team in charge is also vital (McMillan & Binns, 2011; Sanders & Lewis, 2005). Wei-Skillern and Silver (2013) suggest that literature about successful partnerships often overlooks leadership and culture (i.e., shared values) as essential components. Through their research, they identify four principles crucial to effective collaboration. In brief, these are:

1. Focus on the partnership mission rather than organisational objectives.
2. Trust is essential for building partnerships (rather than control). As such, partner selection is of the utmost importance.
3. Humility is a hallmark of successful partnerships. To get work done effectively, participants routinely look to the strengths of their partners and seek to support and empower them.
4. Build constellations rather than lone stars. Partnerships are an array of equal, interconnected partners working to achieve a shared vision.

During the early planning stage, schools may or may not have already secured partnerships with the community. As highlighted by Bolstad (2009), a major barrier to the development of SCPs is that there is very little information or assistance available to schools for identifying, connecting and securing partnerships. In relation to the enabling element of diversity, this is a crux because, as noted above,

partnering with the right people and organisations is a key component of successful partnerships (Wei-Skillern & Silver, 2013). The literature recommends all stakeholders to be involved in the initial planning process (Davies, 2002; Epstein & Sanders, 1998; Hands, 2005). Therefore, if schools plan for SCPs prior to securing partnerships, strategic planning should be immediately revisited once stakeholder relationships are confirmed.

Following the establishment of the stakeholder group, partnership objectives should be collectively agreed. In relation to these objectives, it is important that stakeholder assumptions and any issues (e.g., resource implications) are identified and resolved (MoE, 2015b). During these early negotiations, it may be important to explore how the group will function (e.g., decision-making and resolving differences). Based upon an ecological perspective, stakeholders may look to establish operating procedures that integrate the elements of cooperation, communication via feedback loops, flexibility and diversity amongst the group (Hands, 2005). Partnerships often identify a democratic operating procedure with an emphasis on collective engagement by all stakeholders and a willingness to share power and compromise for the common good (Chapin et al., 2012; Israel et al., 2001).

Step 2: Design and implementation process

Following the planning stage, stakeholders collectively develop action steps and delegate responsibilities (MoE, 2015b). At this stage, having a coordinator on board for organising and managing the implementation phase can be extremely useful (Bolstad et al., 2012; Chapin et al., 2012; Israel et al., 1998; Kawabe et al., 2013). On-going communication between stakeholders, that is open and thorough, is also seen as essential for updating and supporting one another (MoE, 2015b; Thompson, 2002). This includes both formal (e.g., meetings) and informal contact such as brief phone calls, emails or discussion over a cup of coffee (Woodhouse, 2009).

During the design and implementation stage, a range of ‘hurdles’ are likely to arise, although the number and magnitude of these challenges can be minimised through a robust planning stage (Sanders & Lewis, 2005). Thompson (2002) recommends that all parties be on alert to issues of power, inequality and exclusiveness as these are obstacles that commonly crop up while implementing partnership activities. A jointly developed operating procedure and collective decision-making process may provide a strong foundation for helping the stakeholders find solutions to these

challenges (Israel et al., 2001; Thompson, 2002). Hands (2005) advocates that these procedures be based on a willingness and mutual understanding between stakeholders to cooperate and compromise for the common good. Flexibility is also required to address changing conditions and requirements of the school environment and wider community. Overall, the shared vision acts as the primary motivator and driver of momentum as well as being the 'glue' that holds partners together during times of challenge (Chapin et al., 2012; Wei-Skillern & Silver, 2013).

Step 3: Maintenance process

Developing a system for monitoring and evaluating progress against agreed outcomes, including a continuous cycle of reviewing and updating the strategic plans, is critical for maintaining partnerships (Chapin et al., 2012; Israel et al., 1998; MoE, 2015b; Sanders, 2001; Sanders & Lewis, 2005). As part of these regular review periods, the documented evidence of the activities undertaken and outcomes achieved can help facilitate a culture of sharing success and making time to celebrate. This may help maintain commitment and enthusiasm (Sanders, 2001).

In summary, the most effective and sustainable partnerships may be those that evolve organically and give themselves time to develop wholly and transform the ways of working for those involved (Woodhouse, 2009). The analogy of the development of a personal relationship that leads to a happy marriage has been used by Kanter (1994) to describe a model of how successful partnerships may develop over time. This analogy begins when the partners meet and are attracted to one another through some sort of compatibility. After 'going steady' for a while, they draw up plans for a future together. Later, upon setting up house together, they discover they have different ideas about how certain things should be done. In the penultimate stage, the partners settle down and find ways of coping with their differences so that they can ultimately get along. In the end, the partners grow old together through which they are able to recognise the changes each has made to keep the relationship functioning effectively.

While this may be a useful analogy where partnerships have time to evolve, it loses much of its value when partnerships are imposed from the top-down (Woodhouse, 2009). A domineering partner, driven by its own priorities, is hardly conducive to a happy 'productive' marriage, and in such cases a divorce may be imminent. As a

result, stakeholders should keep in mind, as illustrated by the marriage analogy, that successful partnerships are based on mutual respect and often require long-term commitment (MoE, 2015b).

2.5.7 Linking SCPs with ESE

As pointed out in Section 2.5.4, there are a number of reasons why schools should establish SCPs, which can be established across a range of authentic contexts and learning areas. But for the purposes of this thesis, what does the learning context of ESE have to offer SCPs, and what do SCPs have to offer the field of ESE?

For New Zealand's schools, the development of SCPs in relation to local environmental and sustainability issues provides an authentic learning context that the learning areas, key competencies and values of the *NZC* (MoE, 2007) can be integrated through a cross-curricular approach (McMillan & Binns, 2011). This is also true for kindergartens with respect to the principles and strands of *Te Whāriki* (Ministry of Education, 1996). As discussed previously, students experiencing the real world as part of their learning are likely to be more engaged and achieve more highly compared with conventional learning approaches. By involving students with people who are involved in environmental work, they gain a better understanding about the structures and processes that operate in their communities, which in turn may help them become more politically and ecologically literate citizens. Through SCPs, opportunities may also arise to connect students to their local 'place', and therefore lead to the development of their affective domains.

From a theoretical perspective, the use of SCPs for the purposes of ESE appears to be a good fit. Ongoing ESE research and case studies highlight the significance of learner-and action-oriented approaches which seek to empower learners to critically examine and address the root causes of environmental and sustainability issues (Tilbury & Wortman, 2008) through both individual and collective action (Jensen & Schnack, 1997). It is unlikely that teachers can do this alone and require expertise from professionals in the community, as they have much to offer students, especially in terms of providing students with a glimpse of the 'messiness' of the real world. SCPs offer an opportunity for schools and their respective communities to engage in public participation in local environmental issues (McMillan & Binns, 2011). Such a scenario reflects the vision of ESE that sees people actively involved

in working toward the resolution of environmental problems (Intergovernmental Conference on Environmental Education, 1977).

Lastly, as identified by Aguayo and Eames (in press) the concept of partnerships underpins many of the characteristics of effective community education for sustainability like social interaction, diverse partners and transformative processes. Transition Towns and community garden initiatives are two examples where community education is successfully leading to groups of people accepting responsibility to act for sustainability (Aguayo & Eames, in press). Through the use of SCPs in the context of ESE, schools too may play a part in providing opportunities to bring students and the wider community together with regards to working towards environmental and social change for a more sustainable world.

2.5.8 Summary of SCPs

The literature identifies many benefits of SCPs for not only students, but also for the EOs as a whole and the wider community. A 21st Century approach supports collaboration between EOs and their respective communities as they can help provide authentic opportunities for real-life learning experiences and knowledge-building activities via of community and professional experts. Similarly, in terms of ESE, SCPs appear to be a good fit as research highlights the importance of learner-and-action-oriented approaches that empower learners to think critically about the root causes of environmental and sustainability issues. Hence, for these reasons, SCPs can be viewed as an important component of a modern curriculum.

However, establishing successful SCPs, especially ones that are on-going, can be difficult as EOs face many barriers and challenges as system-wide constraints often result in a lack of structural or human capacity. Historically, there is also a gap in the literature about processes undertaken by stakeholders to identify, develop and maintain SCPs over a long-term timeframe. As such, literature about effective partnerships from a range of sectors (e.g., health, resource management) was reviewed, through which three key steps and a number of practical considerations for establishing SCPs were identified.

Cooperation, flexibility and diversity were three essential elements of sustainable relationships as based on an ecological perspective of partnerships. Furthermore, some key processes for developing SCPs were identified as:

- Partnership selection, as a trusting relationship between partners is paramount,
- Strategic planning, including the development of shared understandings about expectations and role clarity,
- Determination and securing of adequate resources, knowledge, skills and organisational commitment,
- Ensuring there are channels for open and on-going communication,
- Establishment of a scheme to monitor, evaluate and implement change, and
- Creating opportunities for sharing and celebrating.

2.6 Chapter summary

Ecosystems are being severely degraded through human impacts and the consequences are dire as their properties and services provide the life-giving capacity of the Earth. There are many causes for ecological degradation and three categories of solutions were described as a reconnection between nature and society, ecological restoration and transformation of self and society. Paramount to all these solutions is the identification of the root causes of environmental problems, which currently can be largely attributed to the societal values and norms of neoliberal ideology. Humankind must develop the capacity and willingness to resolve the complex socio-economic reality that underpins the potentially catastrophic issues relevant to all life on Earth. As such, education is deemed critical to reversing the current trend of ecological degradation.

New Zealand's ECE and compulsory schooling sectors are respectively guided by *Te Whāriki* and *NZC*, both which provide EOs with the flexibility to develop a curriculum to address students' different learning strengths and needs. A 21st Century learning approach, which has been shown to be supported by *NZC*, aims to provide students with the skills and aptitudes for living in a rapidly changing world with much uncertainty. Due to the changing nature of knowledge, a 21st Century approach to education also promotes a transformative process through which learners use knowledge to construe meanings from new experiences.

ESE is the field of education specifically related to the biological aspects of the Earth and the socio-economic environment of humankind. Because scholars and

practitioners have differing views about the purposes of ESE, the degree to which instrumental versus emancipatory approaches should be used is highly contested and is a point of tension within the field. The ESE pedagogies of education about/in/for, action competence, transformative learning and placed-based education were determined to be the most applicable to KGT. These pedagogies, collectively having both instrumental and emancipatory aspects, support a transformative process through learner-and-action-oriented approaches that help connect people to place. Additionally, they seek to empower learners to critically examine and address root causes of environmental and sustainability issues.

There are a number of synergies between 21st Century and ESE approaches. For the purposes of this study, as related to KGT, the development of opportunities for students to investigate and participate in real-life experiences is the commonality focused on. SCPs have been identified as an effective way to assist teachers to identify, obtain access to and understand authentic contexts for teaching and learning programmes.

But establishing successful SCPs, especially ones that are on-going, can be difficult as there are a number of challenges that need to be worked through. Through a review of the literature about effective partnerships, three key steps to developing successful SCPs were identified, which also included a number of practical considerations and elements to be fostered as part of this process. Presently, there is a lack of literature about the critical processes undertaken by stakeholders to develop and maintain SCPs over a long-term timeframe. This leads to the purpose of this study, which is to provide an in-depth study about the structures established and processes undertaken during the development of KGT over an 18-month pilot timeframe. It is hoped that this information, in conjunction with the findings related to the development of KGT, may help others interested in establishing a SCP, whether it be in the field of ESE or another context. The research approach taken in this study for this purpose is presented in the next chapter.

Chapter 3

Methodology

3.1 Introduction

Prior to carrying out research, the interrelationship between the 'buildings blocks' or key stages of the research process should be collectively considered (Grix, 2010). The three stages of the research process undertaken through this study are referred to as follows: (1) methodological approach, outlining the research questions and philosophical underpinnings of the study, as well as describing the methodology which guided the collection and analysis of data, as described in Section 3.2; (2) methods, which provides an overview of the sample of participants, research design and the data collection methods, as described in Section 3.3; and (3) analysis (Sections 3.4). In addition, the trustworthiness of the data, limitations of the study and ethical considerations taken into account must be examined before any new knowledge produced from this process can be regarded as being credible, and these are respectively examined in Sections 3.5, 3.6 and 3.7.

3.2 Methodological approach

3.2.1 Research questions

The research questions that guided this study were:

- What structures were established and processes undertaken by stakeholders to design and implement a conservation education programme in a community?
- What are the stakeholders' perspectives in relation to the structures, processes and formative outcomes achieved to date?

3.2.2 Methodological framework

3.2.2.1 Philosophical underpinnings

Research is a way in which we set out to discover new knowledge about the world in which we live (Cohen, Manion, & Morrison, 2011). But what is actually meant by knowledge? Is it something to be collected, or is it created? The way a researcher thinks about the reality of knowledge and its creation is represented by the paradigm

that he or she chooses to embrace as part of an inquiry. Markula and Silk (2011, p. 25) define a paradigm as "an overarching set of beliefs that provides the parameters – how researchers understand reality and the nature of truth, how they understand knowledge, how they act and the role they undertake, how they understand participants and how they disseminate knowledge – of a given research project". As implied by this definition, the paradigm of a study is significant because it links the theory of the methodological framework with the practical application of the data collection and analysis methods.

A number of different paradigms are defined through literature about research methodology (Markula & Silk, 2011), but for the purposes of this thesis, they are described in terms of two broad categories, being the positivist paradigm and the interpretivist paradigm. The distinguishing criterion between these two categories is based on their respective assumptions about the reality of knowledge (ontology) and its creation (epistemology) (B. Bell, 2014). In brief, the positivist paradigm considers there to be general 'laws' or 'rules' that govern the 'truth' of social reality. This truth can be discovered by the researcher in an objective and unbiased manner (Guba & Lincoln, 2005). In contrast, interpretivism assumes that social reality is constructed by the individual, and therefore, multiple realities or meanings exist which can be 'uncovered' through the interactions between the researcher and participant(s) (Guba, 1996, as cited in Lincoln, Lynham, & Guba, 2011). This latter paradigm fits more closely with the purpose of this study and is therefore described in more detail next.

3.2.2.2 Interpretivism

If a paradigm is a "basic set of beliefs that guides actions" (Guba, 1990, as cited in Denzin & Lincoln, 2003, p. 33), this has implications for the actions taken by the researcher. Three such implications for enquiries positioned in the interpretive paradigm are explored below.

First, through an interpretive lens, the social world can only be understood from the standpoint of an individual who is part of the ongoing action of the social setting being investigated, without any manipulation or intervention by the researcher (Cohen et al., 2011). Second, Schwandt (1997) suggests that human social action has meaningfulness, and therefore, it is distinguished from the movement of physical objects. Thus, a central tenet of interpretivism is for the researcher to

illuminate the meanings of people's interpretations about their behaviours and experiences (Cohen et al., 2011). Third, through analysis of the data, interpretations are made about reasons leading to the subsequent social discourse. This process is not undertaken from the objective viewpoint of the researcher, but instead, is seen through the 'eyes' of the participants (Cohen et al., 2011). Hence, an interpretive approach is a subjective undertaking. Social reality is comprised of a "multiplicity of complex conceptual structures, many of them superimposed upon or knotted into one another" (Geertz, 1973, p. 10). To find some coherence and meaning amongst this complexity, Geertz (1973, p. 10) promotes the use of "thick descriptions" through which the goal is to enable the reader to distinguish "the winks from twitches".

This study is positioned within the interpretive paradigm because its purpose, as reflected by the research questions, is to understand the KGT stakeholders' and coordinator's 'lived' experiences and constructed meanings about the structures established, processes undertaken and outcomes associated with the development of the programme. The interpretive nature of this study dictated that a qualitative research approach be employed and that a suitable methodology and subsequent methods undertaken accounted for the implications as identified above.

3.2.3 Qualitative research

Quantitative and qualitative strategies are two distinct approaches used for research. A quantitative approach seeks quantifiable (measureable) and if possible, generalisable findings through the collection of numerical data (B. Bell, 2014). In contrast, a qualitative approach seeks insights about others' perspectives, and therefore, most commonly, the data collected through this strategy is comprised of words (B. Bell, 2014). Thus, through these approaches' respective data collection methods, quantitative research seeks patterns and regularities within broad populations, whereas qualitative research aims to gain a detailed understanding about the complex reality occurring in specified social settings.

But to fully appreciate the differences between these approaches, the theoretical foundations on which they are based also require consideration. In very broad terms, a quantitative approach construes a research strategy based on deductive reasoning (theory testing), an objectivist concept of social reality (i.e., researcher is separate from the reality being investigated) and the use of the scientific model

(Bryman, 2012). On the other hand, a qualitative approach includes the application of inductive reasoning (generation of theory), a constructionist viewpoint implying social reality results from the interactions of individuals and the use of interpretive methodologies (Bryman, 2012).

Although a distinction between the qualitative and quantitative approaches has been described above, it should be noted that there are many instances of research projects where these two approaches are combined (Bryman, 2012). This is typically referred to as a mixed methods approach which recognises that researchers do not need to take a "slavish adherence to a single approach" (Cohen et al., 2011, p. 217). As illuminated by Cohen et al. (2011, p. 219) "there is no single picture of the world. Rather, there are many worlds and many ways of investigating them".

A qualitative approach was employed for this study because it involved an in-depth study of the perspectives held by the KGT stakeholder group and the education coordinator. It was adopted using an ethnographic approach to data gathering as explained further below.

3.2.4 Ethnography

The literal meaning of 'ethnography' means "cultural writing" (O'Leary, 2014, p. 133). Historically, ethnography was associated with social anthropological research, typified by a researcher going to a 'strange' land and spending a long duration (often many years) living within another culture in order to come to understand it (Bryman, 2012). Today, an ethnographic approach no longer applies only to the study of distant cultures, but instead, is an approach used by social scientists for studying cultural groups in many social contexts, such as the home environment, workplace or even a recreational setting like a sports field or clubroom (Bryman, 2012). Importantly, the term 'cultural' is not constrained by genetics or geography as it also refers to other commonalities amongst a group of people such as "shared traditions and patterns of beliefs or behaviours" (O'Leary, 2014, p. 133). Ethnography attempts to portray and explain the group's situation in its real life context (Cohen et al., 2011) and illuminate the reasons for "the methods, rules, roles and expectations that structure" it (O'Leary, 2014, p. 133).

The key strength of ethnography is its attempt to understand and assess a culture from the point of view of the participants rather than from the researcher's objective

view or a pre-existing frame of reference (e.g., Western worldview) (O'Leary, 2014). The goal for the ethnographer is to 'see' the way the group members see and 'grasp' the meanings they use to understand and make sense of their social reality. To achieve this, an ethnographer tends to immerse themselves in the cultural group's social setting for an extended period of time where they have on-going interactions with the members of the group through which they observe behaviours, listen to and engage in conversations, and potentially undertake interviews and collect relevant documentation (Bryman, 2012). All the while, the ethnographer endeavours to suspend judgement in an attempt to understand, discover, describe and interpret the meanings from their perspectives (O'Leary, 2014). A common critique of ethnography is that it is merely a descriptive endeavour, but through the generation of 'thick descriptions' as referred to by Geertz (1973), an attempt is made to reveal the meanings underlying the behaviour and actions of the group.

For clarity, when considering the methodology to be used for this study, I contemplated the use of an ethnographic case study. This was based on Holliday's (2007) suggestion that there are no 'tight' categories between methodologies and they can be blended if this is the approach that best fits what is being studied. In the end, I opted for purely an ethnographic approach because the methods of data collection as per this research strategy were the most suitable for answering both my research questions, especially in relation to grasping the meanings constructed by the KGT stakeholders (the cultural group). Thus, I decided ethnography was 'fit for purpose' without the need to further complicate the matter by adding another approach.

Through an ethnographic approach, the sample, research design and methods of data collection I utilised during this project are described in the following section.

3.3 Methods

3.3.1 Sample of participants

This research used a non-probability sample through a purposive technique whereby the participants were selected by the researcher. Purposive sampling is commonly undertaken on the basis of requiring that the participants have certain characteristics or hold particular knowledge about an issue (Cohen et al., 2011).

The sample in this study was comprised of all the KGT stakeholder representatives and the education coordinator (23 participants in total). The KGT stakeholder representatives were affiliated with five educational organisations (EOs) and four community organisations. The education coordinator was an employee. The participants were selected because they were the key adults involved, in one aspect or another, with the development of the KGT umbrella progamme, the individual environmental initiatives and/or the underpinning partnership (as described in Chapter 4). In terms of the thoroughness of my sample, it was fortunate that all KGT stakeholders and the coordinator agreed to be interviewed and that I had the capacity to undertake this sample size. For this reason, there were no issues with regards to the selection of the participants. A case could be made that some of the participating students should have been part of the sample because KGT seeks a student-led approach to developing the programme through a youth perspective. Ideally, that would have been the case, but realistically, there was no spare capacity for a larger sample size within this study. Thus, for the purpose of this study, a sample comprised of all the key adults, rather than some adults and some children, was deemed most appropriate.

Table 3.1 provides a brief description about the expected contribution of each organisation as per the KGT strategy (Kids Greening Taupō, 2015a) and its number of respective KGT representatives. Generally, the participants from the community organisations were brought on board through direct personal communication. The initial idea for KGT was conceived by one of the Department of Conservation (DOC) representatives who then approached the Greening Taupō (GT) representatives and the secondary school teacher representatives. Thereafter, this group of representatives approached Tūwharetoa Māori Trust Board (TMTB) and Taupō District Council (TDC) as well as the senior management and/or Board of Trustees of five EOs who had shown interest in involving their students in restoration activities prior to the KGT initiative having been conceived. Each EO nominated teacher representatives differently, depending on the approach they took to implementing the programme in their institution.

Table 3. 1 – Overview of stakeholder organisations

Organisation type	Contribution	No. of representatives
DOC	• Provide ecological and conservation education expertise as well offer some practical support (e.g., meeting rooms).	2
GT	• Provide biodiversity plan and vision to base authentic teaching and learning programmes on. • Administer funds and employ and manage the coordinator.	2
TMTB	• Provide cultural learning opportunities and facilitate interactions with Tūwharetoa students and local kaumātua.	1
TDC	• Provide access and support for the restoration of council-owned lands.	2
EO1 (Kindergarten- approximately 45 students)	• Develop affective domain for nature and resilience through bush kindergarten.	3
EO2 (Primary school- 447 students)	• Grow biodiversity knowledge, skills, values and nature in their school grounds.	4
EO3 (Primary school- 489 students)	• Grow biodiversity knowledge, skills, values and nature in their school grounds.	3
EO4 (Secondary school- 604 students)	• Grow biodiversity knowledge, skills, values and nature at a local public reserve.	2
EO5 (Kindergarten- approximately 55 students)	• Develop affective domain for nature and resilience through bush kindergarten and looking to grow nature in reserve adjacent to kindergarten.	3

3.3.2 Research design

The selection of the KGT pilot project as the topic for my thesis was the result of a timely opportunity between my post-graduate research agenda and the inception of the programme. It was a fortunate 'aligning of the stars' as the stakeholders wanted to establish a research programme about the barriers and critical success factors for setting up a collaborative community partnership like KGT and the opportunity was well aligned with my interest in environmental and sustainability education.

At the start of the pilot project, all 22 stakeholders and the education coordinator gave their verbal approval for me to attend KGT meetings and events and collect notes. Overall, these stakeholders provided me with a high level of access to the project as I was officially invited to attend all meetings and events, copied in on the majority of emails between stakeholders, and given all KGT-affiliated documentation. Over time, my involvement with the group steadily increased as stakeholders encouraged me to take a more active role. During the 18-month pilot project, I attended a total of 91 meetings and events (see Appendix A) through which, it is my view, a high degree of rapport and trust was built between myself, the stakeholders and the education coordinator. The fact that I had worked in the past with some of the stakeholders on other environmental education projects may have further strengthened this relationship.

Approximately one year after the commencement of the pilot, I sought informed consent (see Appendix B) from the stakeholders and the education coordinator to use the notes and any relevant documentation I had collected as data for this study and gain their approval to be interviewed. A purposive sampling technique was used whereby all stakeholders and the education coordinator were interviewed. A total of eleven interview sessions were held with two being one-to-one interviews and the other nine sessions having more than one participant. All the participants in each interview session were from the same representative EO or community organisation.

By being involved with the pilot over a long period, I was able to see how events evolved over time as well as developing a holistic understanding of the dynamics of the people, including their roles and personalities, the practices and issues of KGT. Such immersion facilitated the generation of thick descriptions of rich and reflexive interpretations of the participants' perspectives. In addition to my lengthy

involvement, the triangulation of data collected through the methods of participant observation, semi-formal interviews and document analysis laid a comprehensive foundation from which the findings of this study emerged. An overview of each of these methods and how they were applied in this study is given next.

3.3.3 Observation

Data that is collected from observation is "strong on reality" as its unique strength is the opportunity to gather primary data from its natural context rather than relying on the secondary accounts of others (Cohen et al., 2011, p. 466). When complemented with data collected from other methods, observation provides the researcher with a deep understanding of the people, practices and issues, and it often leads to a greater awareness of salient behaviours and actions which might otherwise go undetected (Menter, Elliot, Hulme, Lewin, & Lowden, 2011).

Observation is a highly flexible data collection method through which systematic records of interaction between members can be recorded (Cohen et al., 2011). My observational field notes were based on a template I designed from suggestions made by Menter et al. (2011) about systematic observation. My notes recorded key discussion points, who contributed to them, including any non-verbal gestures and reflexive insights, and my own developing ideas about my study's objectives.

Through observation, the researcher is the instrument through which he/she must make a conscious decision about how and what to sample and what issues might require attention (Menter et al., 2011). Initially, I took an unstructured observational approach, meaning that I had few pre-conceived ideas about the data I wanted to collect (Cohen et al., 2011). During this time, my observations were mainly descriptive in nature, providing me with a sense of familiarity about the KGT stakeholders and education coordinator: who they were, their values and how did they contribute (or not contribute) to the project. Over time, my observations became more focused on the strategic elements once I established a suitable understanding of the KGT context and became comfortable with the relevant literature. Thus, my initial inductive approach to data collection through observation slowly morphed to one that 'blended' the inductive with the deductive.

Bryman (2012) identifies Gold's (1958) classification of observer roles as one of the most widely cited schemes for illustrating the researcher's degree of

involvement with and detachment from members of a social setting. On one end of the spectrum is the complete participant, a fully functioning member of the social setting; and on the other side, lies the role of the complete observer who does not interact with the members. The midpoints on the spectrum include participant-as-observer and observer-as-participant, mainly distinguished by the degree of interaction with the other members. Initially, my role in KGT was in the realm of an observer as I said to the stakeholders at the start of the pilot "I will be like a fly on the wall during the meetings". But after three months of observation, the stakeholders began involving me through discussion and specific tasks, thus, my role gradually transitioned to a participant-as-observer (referred to from here as participant observer). I was always aware of the potential effect my presence and involvement could have, not only with the members of the group, but also in relation to developmental path of the programme. However, because I had been present at almost every KGT meeting or event, my role within this group was naturally accepted. The fact that the stakeholders increasingly involved me over the entire duration of the pilot confirmed this perception. I reflexively tried to keep my involvement focused on areas where I had something to offer, such as providing insights from the literature about educational theory or school community partnerships. But there were instances, particularly with regards to personality issues, where my involvement was difficult to navigate. During these times I did my best to be "an empathic, sympathetic member" of the group "whilst still acting as a researcher with a degree of detachment" (Cohen et al., 2011, p. 465).

The spreadsheet provided in Appendix A outlines the range of KGT meetings and events I attended over the course of the pilot project. The majority of these functions were comprised of meetings, with the working group/strategic leadership group, teachers and/or the student leadership team. A few times, I also visited the EOs when they were undertaking KGT affiliated activities. Lastly, there were a few special events that I attended, such as the two launches (i.e., local and an official launch) of the programme.

3.3.4 Interviews

A research interview has a specific purpose; it is dialogue aimed at eliciting information about a topic of interest for a research enquiry (Menter et al., 2011). Interviews enable participants to give their interpretation about their 'lived'

experiences and to express how they regard situations from their own point of view (Cohen et al., 2011). The information gathered during an interview endeavours to illuminate the reasons why people think or act in certain ways or to explain why something has or has not worked (Menter et al., 2011). As suggested by Tuckman (1972), interviews are an excellent method for providing access to what is "inside a person's head" in terms of their knowledge, values, attitudes and beliefs (as cited in Cohen et al., 2011). In ethnographic research, the method of interviewing is frequently used in conjunction with observation (Menter et al., 2011). Both these methods align with an interpretive epistemology such that the production of knowledge is viewed as being generated through human interaction (Kvale, 1996).

The literature identifies a few different types of interviews, each with a corresponding description about its purpose, structure and data type to be generated. The distinguishing feature between these types of interviews is most commonly related to the structure of the interview, whether it is highly structured with pre-determined questions and prompts or characterised by flexibility and freedom, with the conversation guided by broad topics as per the unstructured interview (O'Leary, 2014). The middle ground can be found in the semi-structured interview, the most commonly used interview in social science research (Markula & Silk, 2011). Semi-structured interviews are generally organized around a set of pre-determined, open-ended questions but with the freedom and flexibility to diverge off into unplanned territory of discussion, probe for more detail, and make alterations to how questions are asked (O'Leary, 2014). For these reasons, I chose to interview through a semi-structured format.

All interviewees were emailed information about their participation and sent consent documentation (see Appendix B), as well as a schedule of questions in case they wished to consider the questions before hand (see Appendix C). One and a half hours was the duration of every interview, except for the interviews with the two council representatives. These latter interviews were shorter (approximately 30 minutes each) as these representatives were not involved with KGT to the same extent as the others. Each session was audio-recorded with permission, and subsequently fully transcribed by me. Transcripts were returned to all participants for verification and approval. Only three interviewees came back to me with alterations to the transcripts, which involved grammatical modifications only.

The number of participants at each interview session varied, but as stated previously, all interviewees in a session were from the same representative EO or community organisation. Table 3.2 below shows the order the interviews were conducted in relation to the organisation and the number of participants attending. During each session, all interviewees were given the opportunity to answer every question, no matter the number of participants. In general, I witnessed a response from every participant to every question, although sometimes, this was merely a nod in agreement.

Table 3. 2 – Schedule of interviews conducted

Interview number	Organisation interviewed	Number of participants
1	EO1	3
2	EO2	4
3	EO3	3
4	GT	2
5	EO4	2
6	DOC	2
7	TDC	1
8	TDC	1
9	education coordinator	1
10	EO5	3
11	TMTB	1

After having been a participant observer for approximately one year, my interviews with the KGT stakeholders and the education coordinator were timely. By then, through my role as participant observer, I had developed a thorough understanding about the programme, its context and the people involved in the pilot project. After having spent such a long time of immersion with this collective group, I considered the interviews to be a special 'gift' to me as I felt privileged that the stakeholders and education coordinator were all willing to be interviewed and came eager to share their perspectives.

Every interview I undertook was a learning experience for me, not only in relation to the insights the participants shared, but also in terms of my interviewing technique. This led me to keep a list of ways that I could improve. The schedule of questions never changed, but for clarity sake, I refined how I went about asking certain questions. The need to listen 'deeply' was always in the back of my mind, as O'Leary (2014) points to this as a crucial skill for an interviewer. Nevertheless,

I was often surprised by the amount I still did talk when I listened to the audio-recordings. This led me to further refine how I probed; the more interviews I did, the better I got at drawing out more information from the participants without the need to share my own experiences or perspectives, which could potentially influence their responses.

3.3.5 Document analysis

Document analysis may be succinctly defined as a process through which "documents or various forms of text are analysed either quantitatively or qualitatively" (Mutch, 2005, p. 218). There are many types of documents (e.g., media releases, organisational documents, personal communication) which are useful for research as they record an event or process (Cohen et al., 2011). In addition to these types, there is also a difference between 'primary' and 'secondary' documents with the former term meaning the document has come from the original source and the latter term as referring to the document having been filtered in some way (e.g., a second-hand account) (Mutch, 2005). Documentation analysis in this study refers to the collection and analysis of all the primary documents produced during the KGT pilot project by the stakeholders and education coordinator. Although documentation analysis is a useful method for exploring what people produced in the real world, it is important to remember that they should "not be taken to be 'transparent representations' of an underlying organisational or social reality" (Atkinson and Coffey, 2004, as cited in Bryman, 2012, p. 527). Through this statement, Atkinson and Coffey allude that organisational documents are written to accomplish a specific purpose for a certain audience rather than aiming to reflect reality. O'Leary (2014) signals that just like any other data collection method, researchers need to consider what data to collect from the documentation, how they will account for reliability and what approach to analysis will be taken.

Over the course of the 18-month pilot project, I collated all KGT relevant documentation made available to me by the stakeholders and education coordinator, with the aim that I would narrow down the selection of documents to be used following the analysis of my observational field notes and interview transcripts. Documentation analysis was used primarily to verify findings generation through my analysis of observational and interview data. Minutes from the working group/strategic leadership meetings, some emails pertaining to specific issues

relevant to the KGT partnership and a selection of organisational documents like the strategic plan (Kids Greening Taupō, 2015a) were the documents thematically analysed. The key documents I analysed are identified in Appendix A under the last column labelled 'Data collected'.

3.4 Analysis

This section describes the systematic process of analysis I undertook to generate meaning from within the data collected.

Right from the start of my observations of the pilot project, I incorporated a section in my field notes whereby I regularly took note of the events I was witnessing through my interactions with the stakeholders and coordinator in comparison to my research objectives and questions. This reflective commentary, as referred to by Miles and Huberman (1994), represents my initial steps, albeit very preliminary ones, to analysing the data. Thereafter, I consider the first formal step of analysis to have occurred when I transcribed the interviews. Although confidentiality could not be guaranteed through this study (as discussed in Section 3.7.2), a pseudonym code (e.g., T1, T2, etc.) was used in place of the names of the EOs, teachers and representatives from the community organisations. Not only was this a practical way of keeping track of who said what and how often, but it also helped reduce the traceability of data.

I was guided by a 'framework analysis' approach, characterised by a focus on developing themes from the narrative accounts gathered by the researcher (Menter et al., 2011). Ritchie and Spencer (1994) describe this process as involving four interconnected stages which are summarised below:

1. Familiarisation - sensitising the researcher to content and issues via listening to recordings, reading transcripts etc.
2. Identifying a thematic framework - based on the research questions, researcher's notes and readings, this framework guides the researcher as to what to look for in the data.
3. Indexing - the framework is used to explore the data for segments of recurring text and concepts (i.e., themes).

4. Charting - relevant pieces of indexed text and quotes are extracted and put into thematic groupings.

(as cited in Menter et al., 2011)

Thematic analysis requires the data to be coded. Coding is a way to label and categorise data in order to reveal patterns and themes (Mutch, 2005). This interconnection of the data is the basis to the generation of thick descriptions. Descriptions which are interconnected are not only rich and meaningful, but they tend to reveal different and deeper aspects of the social phenomenon under study rather than only what superficially appears on the surface (Holliday, 2007).

Throughout the course of the pilot, I collected observational notes at all KGT meetings and events I attended and then used these notes as the basis for writing a reflective commentary. At the start of the analysis stage, I re-read both my observation and reflective commentary notes. Following this re-familiarisation step, I developed a thematic framework or as referred to by Miles and Huberman (1994, p. 65) a "start list" of codes (categories). The initial categories for this study were developed through both deductive and inductive reasoning as I consulted the conceptual framework of my literature review (which was informed by my research questions) and the themes that emerged through all my notes. The initial categories of my thematic framework were listed as follows: objectives, vision, processes and structures, outcomes and miscellaneous (for data recurring multiple times but not able to be categorised under any of the other headings).

I then read the transcripts in full and coded the interviewees' statements based on a manual colour-coding system. Through this first coding process, the additional themes of future challenges, future opportunities and lessons learned emerged from the interview data. The category of processes and structures was modified to recognise that there were two sets of processes and structures being undertaken to develop KGT, one by the working group and the other by the teachers. My supervisor independently coded a selection of transcripts and through comparing our two sets of coding, these categories were deemed suitable.

A spreadsheet was used for recording the interviewees' statements under these category headings. Three spreadsheets were used for each category, one sheet for the teachers, one for the community representatives and the other for the coordinator. After all statements were entered onto the correct spreadsheet, a

number of sub-themes and sub-sub-themes were identified. For example, a sub-theme under the category 'working group – structures and processes' was 'enabling processes' which included the sub-sub-themes of 'logistics' and 'communication'. The emergence of these sub-themes (meaning both sub-themes and sub-sub themes from this point forwards) required that all statements under each category be re-read and a secondary coding process, now based on colour and numerical codes, was undertaken.

Once the list of sub-theme categories was finalised, these categories were put into the spreadsheets and the data re-organised to fit under the additional category headings. Statements that contained more than one theme/sub-theme were listed under all relevant categories. The frequency of statements made by the interviewees about each theme/sub-theme was tabulated as the pseudonym code was recorded in the column next to the category every time an associated statement or comment was identified. The data under the miscellaneous heading was re-considered in light of the new categories and any data that did not fit was discarded. At this stage, my supervisor reviewed these spreadsheets again in terms of whether the categories and the respective statements were coherently organised.

Upon completing this initial coding process, I then created mind maps of this information. Through this step, I was able to cross-check that all statements were located in the right position on the spreadsheet and I purposely looked for contrasting cases or negative evidence. Creating these mind maps was also very useful for differentiating and combining the data in order to interpret meaning. These mind maps were shared with both my supervisors and they assisted me to generate a framework as a guide for writing about these findings under the headings of strategic planning, structures and processes, outcomes and future opportunities and challenges.

After completing the analysis of the interview data, the observational data recorded in my field notes from the working group and strategic leadership group meetings were analysed using the same categories as identified above. The amount of documentation collected from the course of the pilot was extensive thus, a similar analysis of all the text was impractical due to the timeframe of my research. As such, the selected documents were used to verify information gathered through my interviews and observations.

Miles and Huberman (1994, p. 55) state that qualitative data collection is "inescapably a selective process" through which I would add - so too is the coding process as described above. This leads to the next section about trustworthiness.

3.5 Trustworthiness

If the goal of research is to produce new knowledge, a reader must be able to evaluate this knowledge if they are to trust and rely on it. But this is easier said than done in social science research which involves working with people, as people (the researcher included) can bring a range of challenges such as hidden agendas and fallible memories. Thus, because of the subjective nature of qualitative research, the production of reliable and worthy knowledge is no easy feat.

The concepts of validity (truthfulness) and reliability (consistency) are important criteria for evaluating the quality of quantitative research but in their purest sense, they are not considered totally applicable to qualitative research (Bryman, 2012). There are a range of differing opinions amongst qualitative researchers as to whether or not these concepts should even be used to assess qualitative work. Some qualitative researchers support the use of these terms in conjunction with applying appropriate measures for dealing with arising issues. Another stance taken is that qualitative research should be evaluated according to different criteria. The measures of evaluation used for this study is based on this latter option.

Guba and Lincoln (1994) identify trustworthiness and authenticity as two primary criteria for assessing qualitative research (as cited in Bryman, 2012). Trustworthiness is examined below in order to demonstrate the quality of this study's methodology and findings. The concept of authenticity is not discussed because it is associated more with assessing the wider issues of a study's political impact (Bryman, 2012) and goes beyond the objectives of this enquiry.

The four criteria of trustworthiness proposed by Guba (1981) are:

- credibility,
- transferability;
- dependability, and
- confirmability (as cited in Shenton, 2004).

Credibility refers to the extent in which the findings align with reality (Shenton, 2004). In other words, did the researcher correctly understand and document the social world as seen by the participants? Because of the subjective nature of qualitative research, demonstrating credibility is paramount and some, like Lincoln and Guba (1985), argue this criterion is one of the most important factors in establishing trustworthiness (as cited in Shenton, 2004). Truthful data is more likely to be generated when there is trust and rapport between the researchers and participants (Holliday, 2007), which I aimed to develop through my prolonged engagement as a participant observer. Additionally, through my data collection methods of interviews, observations and document analysis, I was able to cross-check credibility of the interpreted findings through in-depth engagement. Also relevant are member checks which seek to corroborate the findings with the participants (Bryman, 2012). I was fortunate that I was able to use member checks extensively throughout this study. All stakeholders and the coordinator were given the opportunity to review their interview transcripts as well as a draft of the findings. Two stakeholders provided feedback about the draft findings. For the most part, there were some minor descriptive changes to be made, although there was one potential misinterpretation. After reflecting on the stakeholder's suggestion and discussing it with them, the issue was clarified through some minor adjustments to the wording. Furthermore, towards the end of the pilot, I was asked a few times to give presentations to stakeholders and others about my emerging findings. This was useful as not only did it act as a member check but it offered a chance for a fresh perspective. I had other accounts of peer scrutiny through discussions with my supervisor and another academic researcher involved with KGT (identified as 'Carol' in Chapter 4). Although Carol's involvement with KGT was minor, she was a useful sounding board with respect to minimising any detrimental effects of the study through bias because she understood the context, knew the stakeholders and coordinator and had seen me interacting with them. Lastly, in terms of establishing credibility, Holliday (2007) promotes the use of thick descriptions, which I endeavoured to provide, in order to convey the actual situations under investigation and the context around them.

The second criterion of trustworthiness is dependability. Dependability is commonly compared with the quantitative concept of reliability but as Lincoln and Guba (1985) highlight, the changing nature of social phenomena is problematic for

enabling the same findings to be found under the same conditions (as cited in Shenton, 2004). Thus, in order to convey dependability, the processes undertaken to carry out the study should be reported in detail so that a future researcher can at least repeat the work, even if the same results are not achieved (Shenton, 2004). Bryman (2012) suggests that all records of the research process (e.g., field notes, transcripts and data analysis documents) be reported in the form of an 'audit trail'. The methodological description as provided in this chapter attempts to provide the audit trail for this study.

Transferability refers to the extent to which findings from one study can be applied to another situation (Shenton, 2004). But since qualitative research tends to relate to specific social situations, it is difficult to demonstrate generalisability. Lincoln and Guba (1985) puts the responsibility onto the researcher for providing adequate contextual information which enables the reader to judge how to, if at all, to transfer the findings (as cited in Shenton, 2004). I have endeavoured to provide an in-depth and rich account of KGT through this thesis, enabling others to make comparisons if deemed appropriate.

The last criterion of trustworthiness is confirmability which is comparable to the positivistic notion of objectivity (Shenton, 2004). Confirmability refers to the assurance that the researcher has acted in good faith and the potential issues of subjectivities and bias have been well managed (Bryman, 2012). Shenton (2004) further clarifies confirmability as meaning the findings are the result of the experiences and ideas of the participants rather than 'flavoured' by the characteristics and preferences of the researcher. Triangulation of methods increases confirmability, as does the audit trail providing a clear methodological description. Miles and Huberman (1994) consider the key to confirmability to relate to the extent that the researcher admits his or her own pre-dispositions within the research work. Self-reflective commentary is significant to confirmability as unrecognised bias may make an entire research project untrustworthy, whereas recognised bias in the interpretation and final reporting may highlight dimensions of interest in relation to the study (Kvale, 2006). In all aspects of this study, I have endeavoured to be reflexive in relation to my own position within the KGT context and to examine my situation for biases. Having a colleague like Carol, who understood the study's context but was not particularly immersed in it, was useful in terms of maintaining my awareness of any influential bias on my part.

The conduct of research in terms of ethics is not specifically accounted for through the criterion of trustworthiness but it is a fundamental component of quality research (O'Leary, 2014). The ethical considerations taken into account for this study are outlined below.

3.6 Ethics

In general, ethics refers to an underlying sense of morals and in relation to research, it promotes a professional 'code of practice' designed to protect the researched from unethical conduct, while also protecting the researcher from legal liability (Mutch, 2005; O'Leary, 2014). This section describes the key ethical considerations taken into account as part of my planning for this enquiry. Ethical approval for this study was granted by the University of Waikato's Faculty of Education Research Ethics Committee in November 2015 (see Appendix D).

3.6.1 Informed consent

Informed consent ensures that participants are fully informed about the purposes, conduct and possible dissemination of the proposed research (Mutch, 2005). The information consent documentation sent to the teachers and stakeholders is given in Appendix B. Consent forms were signed and returned to me prior to the interviews taking place and included permission to use all prior and future observations as data sources.

3.6.2 Confidentiality

Confidentiality refers to the scenario of the researcher knowing who provided the information but not using it in such a way that might identify the participants or enable them to be traced (Cohen et al., 2011). Confidentiality also refers to the researcher not discussing an individual's comments with anyone else.

Confidentiality could not be guaranteed through this study due to the small number of stakeholder representatives involved, the intimate working relationship between these individuals and the small town setting that KGT is placed in. This was disclosed through the informed consent documentation and was also highlighted by the researcher at the start of each interview and before observational note analysis. It should be noted that there have also been a number media releases associated

with the pilot project through which the names of participating stakeholder organisations and some of their respective representatives have been published.

Nevertheless, some steps have been taken to preserve a degree of confidentiality. Firstly, the researcher was careful about not revealing comments by individuals that were of a sensitive nature. Second, abbreviated pseudonyms were used in the discussion of findings to provide some degree of confidentiality with respect to the non-traceability of participants' contributions to the data. As stated in the informed consent documentation, the names of the participating community organisations were used to help build the rich and detailed context as necessitated by a qualitative study.

3.6.3 Participant safety

Participants should understand the consequences of participation and not be subject to any form of harm (Mutch, 2005).

It was acknowledged that some findings of the study could potentially create or elevate tensions amongst certain participants due to the controversial nature of some issues that arose during the pilot. As this study is based on the principle of *primum non nocere* (i.e., first of all, do no harm), only findings that are constructive towards the future development of the programme and stakeholder relations have been used. Lastly, the informed consent documentation outlined the voluntary nature of participation, the participant's right to decline or withdraw and the procedure for dispute resolution.

3.7 Limitations

The majority of limitations of this study are indicative of its qualitative nature and ethnographic methodology, which have been addressed in relation to trustworthiness in Section 3.5. However, there was one minor limitation in relation to the sample of participants which should be noted. An underpinning principle of KGT seeks programme development to be student-led through the student leadership team. Based on this notion, it could be viewed that KGT stakeholders were comprised of not only adults but also members of the SLT, and therefore, the sample of participants should have included some of these students. Unfortunately, there was no spare capacity in this study for a larger sample size. Based on the fact that during the pilot there was very little genuine student-led development (see

Section 6.3.1.3), the most appropriate sample was deemed to be one comprised of all adults rather than some adults and some students.

It should be noted that DOC (a KGT stakeholder) made a $3000 contribution towards the costs of my Master's degree. There were no conditional requirements attached to this financial contribution and I have had complete authority to write all sections of my thesis as I deemed appropriate.

3.8 Chapter summary

This chapter provided an overview of the methodology and methods employed by this study. It was a qualitative study within an interpretive paradigm. An ethnographic approach was used to provide a rich, detailed and meaningful interpretation of the KGT stakeholders' perspectives about the development of the pilot project. The sample of participants, research design, methods of data collection (observation, interview and document analysis) and analysis process were described. The four criteria of trustworthiness were examined in terms of their meanings and relevance to ensuring the robustness of this study. The last sections of this chapter gave an overview about the ethical considerations accounted for as part of the planning for this enquiry and limitations of the study.

A chronology of the 18-month KGT pilot project is provided in the next chapter

Chapter 4

Findings 1: KGT chronology

4.1 Introduction

The purpose of this study is to provide an understanding about the structures and processes used to design and implement the Kids Greening Taupō (KGT) pilot project and the formative outcomes of the programme to date. In alignment with the study's research questions, these findings are based on both my view as the researcher in a participant observer role and the subjective views of the KGT stakeholders[3] and the programme's education coordinator.

During the 18-month pilot phase, I collected observational notes from 91 KGT meetings and events (see Appendix A) and was privy to all official documentation related to the pilot. To obtain the perspectives of the KGT stakeholders, 11 semi-structured interviews with the 22 stakeholders and the education coordinator were held. These three sets of data (meeting notes, documentation and interview transcripts) were thematically analysed as described in Chapter 3. The findings that emerged from this data are organised into two chapters, Chapters 4 and 5.

Chapter 4 addresses the first research question of this study as it provides a chronological description of the pertinent structures and processes used in relation to designing and implementing the KGT pilot (Section 4.2) and also provides an overview of the individual projects developed at each participating kindergarten and school through their involvement with KGT (Section 4.3). This chapter is written from my viewpoint based on the notes and documentation I collected during KGT meetings and events, which are referenced throughout the chronology. Chapter 5 pertains to the second research question through which the KGT stakeholders' and education coordinator's perspectives about the structures, processes and outcomes of the pilot are explored.

[3] Stakeholders' refer to all participating teachers and representatives from the community organisations affiliated with KGT.

4.2 KGT chronology

This section provides a chronological summary of the structures and processes implemented during the course of the pilot, and also identifies some of the formative outcomes observed. In this thesis, the term 'structures' refers to the tangible elements comprising people, resources and documentation. 'Processes' relate to the activities undertaken by the stakeholders and education coordinator such as visiting a site, communicating via various modes (e.g., meetings, media releases) and publicly launching the programme. A timeline as shown in Figure 4.1 illustrates some of the significant structures and processes implemented over the course of the pilot project. A summary of all works (e.g., meetings, media releases, reports) undertaken by the stakeholders and education coordinator is provided in Appendix E.

4.2.1 Stage one - the inception of KGT (April 2014 – September 2014)

In 2014, the 'Kids Restore the Kepler' conservation education project (Kids Restore the Kepler, 2016) became of interest to the newly formed Outreach and Education team at the Department of Conservation (DOC). Broadly, there were three features of this programme that sparked the interest of the DOC team. First, Kids Restore the Kepler had a track record of integrating real-life environmental and conservation opportunities into the curriculum of the local kindergartens and schools in Te Anau. Second, the Kepler programme was set up in a way that enabled the participating students to take a leading role in the decision-making process. Third, it was a place-based project that appeared to involve real collaboration and partnerships between schools and the wider community.

Around this time, the DOC team were contemplating the feasibility of upscaling successful conservation projects from one location in the country to another (DOC representative, personal communication, December 7, 2015). Subsequently, the national coordinator for the Outreach and Education team identified the possibility of piloting a collaborative community conservation education programme in Taupō based on Kids Restore the Kepler. The key to developing this pilot was the involvement of Greening Taupō (GT), a community organisation dedicated to providing Taupō residents and businesses with opportunities to participate in conservation initiatives to restore ecological corridors through the town.

Figure 4.1- Development of significant KGT structures, processes and events

The Outreach and Education team extended an invitation to GT, as well as a local Taupō secondary school, to accompany DOC staff on a site visit to Te Anau to see first-hand the Kids Restore the Kepler in action. The purpose of the trip was to assess the potential for a model of the Kepler programme to work in Taupō, and for the visiting participants to identify 'key ingredients' which might be included in a Taupō version.

Following the site visit to Te Anau, the visitors summarised what they had learned from the generous sharing of the Kepler team (Department of Conservation, 2014). Thereafter, the two representatives from DOC, one representative from GT and two teachers from the college agreed to work together as the initial 'stakeholder group' with its first task being to invite some local kindergartens and schools, Taupō District Council (TDC) and the local iwi, Ngāti Tūwharetoa, to participate in a pilot project based on the Kepler model. It was decided that ideally the number and type of educational organisations (EOs) involved would reflect the same structure as that of the Kepler: two kindergartens, two primary schools and one secondary school. The stakeholder group agreed to give presentations to senior management, and in some cases the Board of Trustees, of EOs who had shown interest in being involved with GT prior to the proposed KGT initiative. Through coincidence, this resulted in two kindergartens, two primary schools and one secondary school being invited to attend a teacher planning workshop.

4.2.2 Stage two – design and implementation (October 2014 – December 2014)

On 10 October 2014, the inaugural KGT teacher planning workshop was held at a meeting room located at the Taupō DOC offices from 9am to 3pm. In attendance were sixteen teachers in total from the five EOs invited, seven representatives from four community organisations (GT, DOC, Tūwharetoa Māori Trust Board (TMTB) and Taupō District Council (TDC) and myself.

The goals of the workshop were to develop:

- a clear understanding of the pilot programme goals,
- a shared education goal for the Taupō pilot, and
- strategic thinking around the pilot programme opportunities.

(Teacher planning workshop, October 10, 2014)

Key points of discussion during the day focused on establishing teacher expectations of the pilot, introducing the participating community organisations and their respective representatives and fostering 'blue sky thinking' in terms of education and restoration goals (Teacher planning workshop, October 10, 2014). Brainstorming was undertaken to establish teachers' knowledge of the Kepler model and their expectations for the Taupō version. The post-it notes written by the teachers during these brainstorms reflected a good understanding about the Kepler programme and the key components they expected from KGT. Some excerpts of these notes were:

- It will be driven by the students.
- [Through KGT] environmental education is integrated through the whole curriculum.
- Getting kids to learn about/use/acknowledge the environment.
- For children to develop respect/responsibility for our natural environment they need to develop a strong connection to it.
- There will be bicultural aspects to this project.

The teachers also brainstormed a range of questions such as:

- How will 'Greening Taupō' look in our school? Does our school all do the same thing or different things for different teachers?
- Who is going to fund this? Do schools provide some money?
- Is there a timeline? Other workshops? Benchmarks?
- Do we get to share what we have done?

(Teacher planning workshop, October 10, 2014)

During this workshop, the teachers from each EO discussed potential locations where learning programmes about nature and/or restoration could be established, either within or in close vicinity to their organisation's boundaries. This discussion was assisted by maps provided by the stakeholder group, marking a one and two kilometre radius from each respective organisation. Figure 4.2 provides an example of one of these maps used during the meeting. As there was no funding yet available to hire an education coordinator, a representative from the stakeholder group was

assigned to each of the participating EOs as a liaison person for helping with individual project planning. Although there was discussion at this workshop about a potential collaborative project to be developed in the future, the individual projects were considered an interim step for KGT. Stakeholders were happy to support this teacher-preferred approach and accepted it would be easier for teachers to become involved with the programme in their 'own backyards' (Teacher planning workshop, October, 10, 2014).

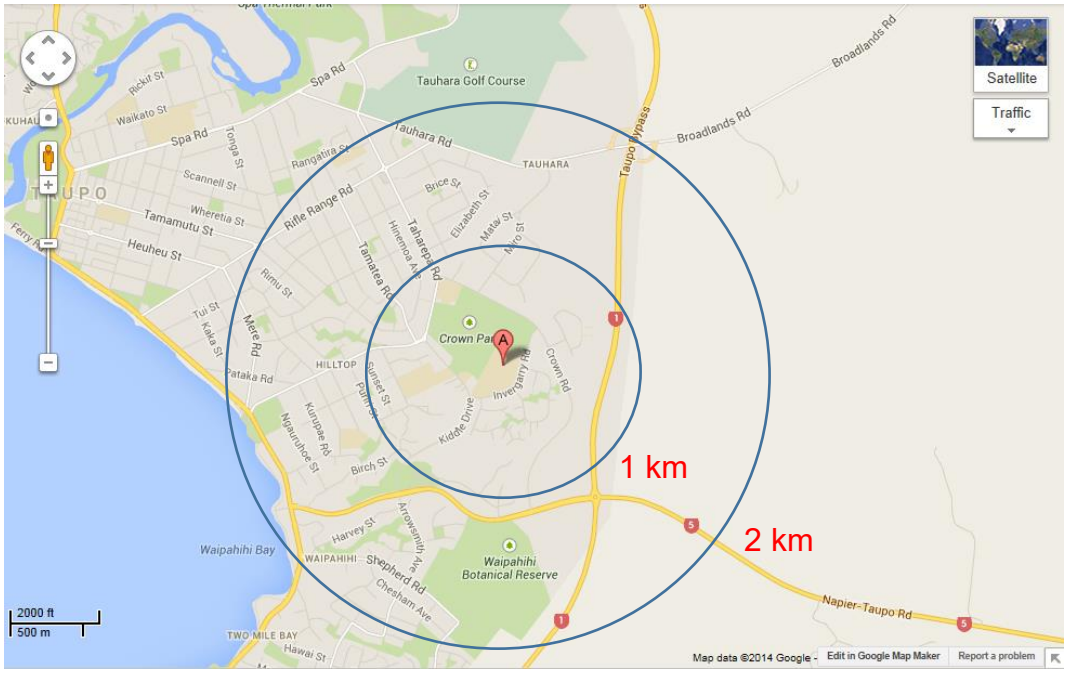

Figure 4. 2 - Example of map provided to teachers for project planning

At the workshop, the botanist affiliated with GT gave a presentation about the vision and objectives of GT in relation to the past and present state of the district's ecology. As a potential researcher for the pilot, I gave an overview of the purpose of my proposed study and the involvement it might entail from the participants.

By the end of the workshop, all teachers had confirmed their participation in the pilot, and I was given approval from the teachers and representatives from the community organisations to attend all KGT meetings and events and take notes for my study. It was agreed that I would formally seek informed consent closer to the time of the proposed interviews. Halfway through the workshop, the GT botanist commented to me that he always "finds it interesting how much more energised meetings like this can be when they are dominated by women rather than men". Whether it was the skewed number of women versus men, or just the atmosphere

typically found at the start of a new project, the workshop was certainly filled with excitement, enthusiasm and an air of expectant hope.

Following this teacher planning workshop, the original stakeholder group and the TMTB representative formed the KGT 'working group', which would 'share the load' of planning, coordinating and implementing the pilot until funding could be obtained for an education coordinator. At the debrief of the workshop, the first agenda item was the resignation of the DOC representative who had coordinated the majority of KGT activity up to this point; however unfortunate and untimely this was, it did not slow the pilot's momentum as it continued to build due to the consolidated efforts of the working party.

During this period, each EO was visited two times by its respective liaison person. Unlike the Kepler programme which utilises one common area (i.e., Kepler Peninsula) for the participating EOs to work from, each KGT kindergarten and school confirmed an individual project area. But even though focus and energy was put towards these projects at that time, there was also some discussion by teachers that reflected their enthusiasm for involvement in collaborative projects in the future (Teacher planning meeting, December 10, 2014).

Broadly, the kindergartens were focused on finding an area where their students could experience free play in the natural environment and connect with nature (i.e., bush kindergarten style); whereas the schools placed greater emphasis on finding project areas where students could develop competencies and skills through opportunities to restore native vegetation. In these early planning stages, a meeting between the TDC, DOC and GT representatives helped identify and work through some of the opportunities and challenges of the EOs' proposed projects. Although the representative from TDC did not officially join the working group at this time, their support for KGT and the EOs was verbally confirmed and then later strengthened through written acknowledgement (TDC, personal communication via letter, June 2, 2015). The working group also organised a video conference call between the KGT kindergarten teachers and teachers from Fiordland Kindergarten in Te Anau. The Fiordland Kindergarten teachers operate 'The Nature Discovery Group' a bush kindergarten programme they started approximately five years prior under the 'umbrella' of Kids Restore the Kepler. The Fiordland Kindergarten teachers provided the Taupō kindergarten teachers with a plethora of useful

information and practical tips for developing a bush kindergarten programme (Kindergarten teacher video conference call, March 30, 2015).

By the next teacher planning meeting held in December 2014, the EOs' projects had progressed to varying degrees. One EO had planned a whole-school inquiry based on KGT, including having 'buy-in' from all staff and their Board of Trustees; another EO had fully planned and successfully trialled their project until unexpected parental concern was flagged and progress slowed; and another EO had not yet selected a project area. At the workshop, there was an unintentional 'air' of comparing and contrasting one another's projects as some EOs were very proud of their progress to date, while it seemed others were almost apologetic for slower progress (Teacher planning meeting, December 10, 2014). Thereafter, the working party acknowledged that without a collaborative venture between the EOs, competition between the institutions could potentially develop (Teacher workshop debrief, December 11, 2014).

The focus of the EOs on individual projects was one way in which KGT differed from the Kepler programme. Another significant difference between the two programmes was that KGT involved iwi representation. During the inception phase of the pilot, the stakeholder group sought participation from iwi, resulting in a representative from the TMTB becoming part of the working group. Consequently, consistent effort was made to identify opportunities for learning about Tūwharetoa's perspectives of the natural environment. Throughout the pilot, the TMTB representative made it clear that he did not support what he called a 'dial a kapahaka' approach (i.e., a tokenistic learning approach to Māori culture) but instead emphasised an approach based on the Māori philosophy of tuakana-teina, the development of relationships based on older or more expert tuakana guiding younger or less expert teina. The principle of ako (sometimes the teacher, sometimes the learner) was also acknowledged as being important through which students' different strengths were to be identified and utilised where possible. Others in the working party fully supported the integration of these principles into KGT. As noted by a teacher representative from the secondary school, these principles were well aligned to the Kepler's ethos of enabling and empowering students to drive the programme (Working group meeting, November 11, 2014). The TMTB representative also sought ways to provide teachers with opportunities to become more confident and capable of teaching in a culturally responsive way.

He was keen for some secondary school students affiliated with Ngāti Tūwharetoa to teach KGT students and teachers about their perspectives of tikanga (the Māori way of doing things) and the environment, and he proposed cultural champions to be nominated at each participating institution for helping with this learning process (Teacher planning meeting, December 10, 2014).

Similar to the Kepler model, it was proposed that the KGT programme would include a student leadership team (SLT) and education coordinator. But towards the end of 2014, 'loose ends' in the KGT strategic planning process were becoming evident, particularly in relation to the lack of funding secured other than the work-related time the working group members were permitted to spend on KGT and the provision of a venue and refreshments for meetings through DOC. At this stage, a coordinated funding strategy had not been put in place, even though funding was deemed a critical priority as neither an education coordinator nor a Take Action Fund could be secured without it. Some members of the working party also expressed concern that they would not be able to sustain their current efforts for much longer (Teacher planning meeting debrief, December 11, 2014). Another loose end was related to vagueness around KGT's education goal. As asked by a DOC representative "What is the big picture/shared vision for KGT? We need to know this as it is critical for achieving cohesion and collaboration between the EOs" (Working group meeting, November 11, 2014). Other unanswered questions about key processes loomed, such as how to establish the SLT, and once funding was obtained, how could it be distributed fairly amongst the EOs? For questions such as these, the working group strived to reach collective agreement from all stakeholders (i.e., teachers and representatives from the community organisations), but as 2015 rapidly approached, they decided a different approach to decision-making was required (Teacher planning meeting debrief, December 11, 2014).

4.2.3 Stage three– decisions and change (January 2015 – December 2015)

The 2014/15 summer period saw the working group take a more proactive approach to decision-making. The KGT strategic plan was developed, which had a clear vision statement, goals and measures of success, and a three-staged timeframe of programme development. This document also identified the key stakeholder organisations and broadly outlined their potential contributions. During this time, a number of grant schemes as possible funding sources were identified and three

applications submitted, although none were successful. With regards to developing some of these and other key structures and processes, the working group sought 'outside' assistance when needed (Working group meeting, February 10, 2015). For example, a DOC communications advisor helped to formulate a communication strategy for KGT; another DOC Outreach and Education Coordinator involved with the development of the Project Janzoon's SLT in the Abel Tasman provided guidance about KGT's SLT (Sub-working group meeting, March 26, 2015); and GT organised a local contractor to begin coordinating a funding strategy (Working group meeting, May 27, 2015). It was during this time that the working group also involved me to a greater extent through tasks such as reviewing the strategic plan and brainstorming an education guide; thus, my role changed from being purely that of an observer to a participant observer. As the KGT workload grew, adequate time to contribute increasingly became an issue for some of the working group members, and in an attempt to cope, key tasks were allocated to specific individuals. In the data collection summary (see Appendix A), I refer to meetings that focused on these specific tasks and that were typically not attended by all the working group members as 'sub-working group' meetings.

Three educational workshops were organised by the working group for the participating teachers. The first workshop was held at a local marae on a Saturday in the month of February and focused on tikanga and environmental perspectives of Ngāti Tūwharetoa. The second and third workshops were both after school sessions held about a month apart. In April, staff from the Taupō Native Plant Nursery facilitated a workshop about plant propagation, followed by volunteers from the Waipahihi Botanical Gardens providing a learning opportunity for the teachers about tracking and trapping pests. Around these workshops, the working party also tried to provide teachers with succinct overviews about the purpose of each workshop, relevant resources and key messages about KGT for sharing with their school communities. A summary of key messages as emailed to teachers on 3 March 2015 read:

- KGT is about learning through doing and bringing nature back to the urban environment.
- KGT is a student-led restoration, conservation and real-life learning project.

- KGT is being piloted by five EOs…It is a joint partnership between GT, DOC and TMTB.

  (DOC representative, personal communication via email, March 3, 2015)

At the start of the school year, all EOs except for one started working on their respective projects with their students. Although the focus very much remained on the EOs progressing their individual projects, teachers again discussed ideas for collaborating with one another at the teacher planning meeting held in June (Teacher planning meeting, June 4, 2015). Around this time, it also became apparent that the secondary school did not have a project of their own lined up. Since the two teacher representatives in the working group were from this secondary school, the slip-up was not due to a misunderstanding or lack of interest on their part, but instead, it was simply that all their time and energy had gone into progressing the tasks of the working group and the other EOs' projects (Working group meeting, May 11, 2015; Working group meeting, May 27, 2015). Furthermore, getting a project up and running required support from other staff and because only the school's Board of Trustees had been consulted, the majority of the staff from this school knew nothing or very little about KGT. In an attempt to resolve this issue, the working group representatives from DOC, GT and TMBT delivered two presentations to the school's staff, and soon after, the school had adopted a project area and started making plans for its restoration.

Progress was also being made in relation to the development of the SLT. Over the summer period, the working group collated the *Terms of Reference to Establish a Leadership Team*, a document outlining the purpose and work to be undertaken by the team of students. This document also provided EOs with selection criteria for nominating and choosing the KGT leaders who would collectively form the SLT. Schools were given the discretion to nominate and select candidates in a way that best suited their institution, but the working group emphasised that they were keen to see a diverse range of students as part of the team (in terms of gender, ethnicity and personal strengths) (Teacher planning meeting, April 1, 2015). The DOC partnership ranger who worked with Project Janzoon suggested the EOs not only consider the "talkers and high achievers, but also the do'ers, thinkers, and potential achievers" (Sub-working group meeting, March 26, 2015). The working party and the kindergarten teachers agreed that for now only school-aged students would attend the team's monthly meetings with the proviso that further consideration be

given as to how the kindergarten children would be incorporated into the leadership aspects of the programme (Teacher planning meeting, April 1, 2015). As one kindergarten teacher said "It is important that their voices are heard too". Furthermore, although the secondary school teachers decided that only Years 9 and 10 students would be eligible for the SLT, a Year 13 student eventually became an honorary member. Starting out the year as the KGT official photographer due to her excellent photography skills and passion for the environment, this student soon became a valuable asset to the team as she proved to be an excellent mentor for the younger student leaders.

On 5 May 2015, the first KGT SLT meeting was held at the Taupō DOC office. The team was comprised of students from the three participating schools who ranged in age from seven to 14 years. The purpose of this initial meeting was stated as being an opportunity for the students to connect with one another and establish a team charter and ground rules (SLT meeting, May 15, 2015). The guest speaker on the day was the presiding Mayor of Taupō, who spoke to the students about how the TDC operates and his perspective about qualities that make a good leader. In lieu of an education coordinator, the responsibility for the general coordination of KGT and the SLT fell to the newly appointed DOC representative, who had replaced the DOC representative who resigned from the organisation in 2014.

By the end of May 2015, funding for KGT had still not been secured and pressure continued to build as the working group members struggled with the KGT workload. Some teachers were also expecting money to soon be made available for their projects. It was at this time that one of the DOC representatives said she went to see her managers and argued the case that maintaining the momentum of the pilot was looking unsustainable if funding could not be secured (Working group meeting, May 11, 2015). The pressure on the working group further intensified when the GT representative went on maternity leave and the TMTB representative announced he was soon to take up a new role with another organisation, at which point he could no longer continue as a working party member. Fortunately, DOC was in a position to offer KGT a one-off grant to be used to hire an education coordinator for 15 hours per week over the next year (Working group meeting, May 11, 2015). A few months thereafter, it was announced that GT's application for a DOC Collaborative Community Partnerships Fund for KGT had been successful. This funding provided

KGT with $5,000 to put towards a Take Action Fund and a launch as well as securing another two years part-time salary for the education coordinator.

Immediately after receiving the initial funding, an education coordinator position was advertised based on a *Person's Specification for the Kids Greening Taupō Education Coordinator*. This specification was based on the Kids Restore the Kepler coordinator specification in conjunction with feedback sought from KGT teachers. After the application closing date, some working group representatives and a representative from TDC with expertise in youth leadership met in order to short-list the seven candidates who applied for the position and develop interview questions. These questions were based around the themes of connectivity and place, tikanga, collaboration of various individuals and groups, empowering students, and sustainability and leadership education (Sub-working group meeting, June 9, 2015). The newly appointed representative of GT, who had replaced the former GT representative, suggested that the interview questions "should provide an avenue for candidates to show what innovative ideas they can bring to the programme" (Sub-working group meeting, June 9, 2015). Another working party member recommended that the interview panel be upfront and honest about the challenges facing KGT, stating "We shouldn't pretend that it is all rosy, because it is not" (Sub-working group meeting, June 9, 2015). The outcome saw a local resident of Taupō with a background in environmental education selected as the KGT education coordinator.

When the education coordinator started work in mid July 2015, the focus of the working group had shifted from strategic thinking and assisting EOs with their projects to planning and preparing for an official launch of the programme. Previously in June, a local launch was held at council chambers providing students with an opportunity to talk about KGT and their respective projects to the wider Taupō community. The second launch was aimed at increasing the recognition of KGT as a collaborative community education approach to growing conservation and generating support for the programme, particularly in relation to securing additional funding (Sub-working group meeting, July 29, 2015).

The second launch was held on 24 September 2015 and was comprised of three events: (1) an evening presentation by a well-known and popular environmentalist; (2) an official launch programme held at Spa Park for invited guests; and (3) an

afternoon workshop for those involved with existing collaborative community conservation education projects around the country. The launch consisted of a powhiri led by secondary school students affiliated with Ngāti Tūwharetoa, speeches made by the VIPs, a tree planting ceremony and blessing, and demonstrations by students showcasing some activities they had partaken in through their involvement with KGT. Following these activities, refreshments were served while guests mingled and had a chance to read the display boards designed by the EOs to describe their respective projects and the outcomes achieved to date. At the end of the launch, an SLT meeting was held on site and guests were invited to stay and observe.

Planning for the official launch was a mammoth task for all those involved. Over a three-month period, the working group, teachers and newly appointed education coordinator spent the majority of their allocated KGT time preparing for the event. That the Minister for Conservation had accepted an invitation to come to the launch added pressure, as there were extra associated formalities that needed attending to. Unfortunately, at the last minute, the Minister gave her apologies as she had not been granted leave from Parliament to attend, and instead, the newly appointed DOC threatened species ambassador took her place.

The launch was held on 24 September 2015. The evening presentation with the environmentalist was entertaining and informative about the current extent and rate of environmental degradation related to human impacts. Planning and preparing for the launch provided a collaborative venture for EOs whereby for the first time, they were all working towards achieving the same thing (i.e., a successful launch event). The launch gave the SLT a chance to do some hands-on work in preparation for the big day as they developed the KGT logo, began planning a blog site and contacted local businesses seeking sponsorship towards the launch. There were many others not directly involved with KGT who contributed to the day. Some examples included secondary school students photographing and filming the day's activities, the DOC administration team helping to create the display boards, GT volunteers taking responsibility for car parking and businesses sponsoring product.

Although some of the working group members endeavoured to undertake a debrief session of the launch, this never occurred. Nevertheless, the representatives from the community organisations to whom I spoke with felt the launch was a successful

event for increasing the brand recognition of KGT (Representatives from GT, DOC and TMTB, personal communication, September 24-25, 2015). From my personal observations and interactions with those who attended the event, I too believe the event was a success. Firstly, the launch showcased KGT to a number of attendees from the sectors of government, education, non-profit organisations and businesses. From my viewpoint, the launch also equated to a 'feel good' event as typically found when both young people and nature are involved. This view was supported by a guest's comment about how thankful she was for being invited to the launch as it was a 'heartfelt' experience that gave her hope for the future of conservation (GT representative, personal communication, September 24, 2015). Talking with the students, it was evident they had gained a real sense of achievement through their involvement. The media release about the event led to a number of print articles being published about the pilot (see Appendix F), a radio interview with one of the kindergarten teachers about bush kindergarten, a news item on the Māori television channel and a documentary piece about KGT on TV3's programme *Story*. The TV3 documentary provided another opportunity for the EOs to meet again at Spa Park where the school-aged students revegetated an area overrun with blackberry while the kindergarten students played or worked alongside of the others.

For all the positive outcomes associated with the launch, there were also some challenges associated with the working relationship between DOC and GT. Tensions between these partners initially arose in conjunction with DOC providing the first allotment of funding for the education coordinator position who would be managed by GT, as collectively agreed by these two partners. As part of this agreement, the education coordinator and GT would produce bimonthly reports on progress and expenditure. But amongst all the busyness of the launch, no time was allocated for developing a consensual reporting template. Thus, on the first reporting of progress, and amongst some personality issues, tensions between the two partners began to surface (DOC representative, personal communication, July 22, 2015). Overall, this scenario illustrated the importance of obtaining collective agreement from all partners about their expectations of the outcomes and the monitoring, evaluation and reporting system to be implemented.

Also of significance is the fact that the new GT representative, in place of the one who went on maternity leave, and the education coordinator, started their roles in

KGT around the time that planning for the launch commenced. This created changes to the working group's composition during a very busy time. The new GT representative and coordinator came in with a different approach to undertaking work for KGT (GT representative, email, November 30, 2015), a scenario typically found in any ongoing project when new people come on board. But due to the high intensity of work being undertaken by all stakeholders and the education coordinator at this time, there was little spare time to 'iron out' issues associated with the changing dynamics.

Soon after the launch, a sub-working group meeting was held to discuss the challenges that arose during this period and representatives from DOC and GT also had a number of informal discussions about the issues. This dialogue resulted in the working group acknowledging that a greater importance needed to be put on role clarity, particularly in terms of identifying a collective vision of the programme, the path to achieve it and respective objectives and contributions of the partnering organisations (Sub-working group meeting, October 22, 2015; GT and DOC representative, emails, December 18, 2015).

There was also the need to collect teacher feedback so modifications to the pilot could be made for 2016. Each group of teachers from the EOs were interviewed twice, once by the education coordinator and/or a DOC representative as an end of year review and a second time by myself for the purposes of this thesis. Even with the end of the school year fast approaching, all the teachers willingly agreed to these interviews.

During the last working group meeting held in 2015, the members began to discuss their changing role now that an education coordinator was on board. In general, at this meeting, there was consensus that the initial two stages of the pilot had largely been led by DOC and significant achievements had been made. But the working group members at this meeting questioned whether this pace of progress could be sustained as the education coordinator was contracted for only 15 hours per week (Working group meeting, December 16, 2015). It was agreed that the working group needed to shift its focus from the operational details of organising and running the programme to that of a more strategic role. As part of this transition, a few significant decisions were made during this meeting. Firstly, they decided to review and revise the original KGT strategic document as produced in stage one of

the pilot. In the document, *Reviewing the Strategic Document* (Kids Greening Taupō, 2015b, p. 1) the proposed outcomes of a strategic review were identified as:

1. Develop a strategic document that clearly articulates the shared direction, goals and vision of KGT.
2. Identify the roles and contributions that each stakeholder has in the programme.

Assistance with this review came through some more 'outside' support via an offer from 'Carol', an educational researcher. As some of the working group members knew Carol both personally and professionally, it was proposed to the other members of the working group that a 'neutral' person like Carol could be useful for facilitating the review. After all partners were given the opportunity to meet her, everyone agreed to Carol becoming the official facilitator for the strategic review process (Working group meeting, December 16, 2015).

The second significant decision made at the meeting on 16 December 2015 was for the GT representative to take over from one of the DOC representatives as chairperson of the working group meetings for 2016 (Working group meeting, December 16, 2015). Although not specifically stated, there seemed to be an unspoken understanding that this change in chair might help foster a sense of equality amongst the partnering community organisations. Another option later proposed was to have established a 'rotating chair position' in which all of the representatives from the community organisations would have played a part. Thirdly, a decision was also made to change the name of the working group to the strategic leadership team (Working group meeting, December 16, 2015). This name was later revised to the strategic leadership group (SLG)[4] in order to eliminate confusion between themselves and the SLT (SLG meeting, February 18, 2016). Along with this name change also came the decision to meet once a term rather than once a month as had been the case in 2015. The fourth key point made at the meeting in December highlighted the fact no funding had been secured for the proposed Take Action Fund, as the $5000 secured as part of the Collaborative Community Partnership Fund had almost entirely been used for expenses related to the official launch. of the In addition, recognition was given that KGT still lacked a coordinated

[4] The terms 'working group' and 'SLG' are used independently to signal to the reader whether the discussion relates to events prior to 16 December 2015 (e.g., working group) or after this date (e.g., SLG). The term 'working group/SLG' is used when the discussion is applicable to either time period.

funding strategy which subsequently led to the GT representative stating that his organisation would take the lead to source this funding. He proposed a draft funding strategy would be tabled at the next full SLG meeting in the New Year (Working group meeting, December 16, 2015).

On 22 December, the final sub-SLG meeting for the year was held, which included the attendance of Carol. At this meeting, the teacher feedback collected at the interviews as conducted by the education coordinator and/or nominated working group member was summarised. The feedback was categorised under the headings of benefits, challenges and unrealised opportunities of KGT. This information was handed over to the coordinator for reflection over the school holiday period (Sub-SLG meeting, December 22, 2015).

4.2.4 Stage four – a new phase (January 2016 – May 2016)

As predicted by the SLG, the pace of development and progress of KGT slowed as the new phase in programme development took effect. This loss in momentum resulted when the stakeholders stepped back from KGT following the launch and the education coordinator took time off over the summer period. So although there were legitimate reasons for this change of pace, it was a difficult period of adjustment for some of the SLG members.

The agenda for the first SLG meeting held in 2016 had two priorities: (1) to support the coordinator with regards to planning for the new year and (2) to implement a strategic review process. As agreed to in December 2015, the GT representative brought to the meeting draft documentation outlining the KGT funding guidelines and strategy, but there was no discussion about the processes required to put these documents into action (SLG meeting, February 18, 2016). To kick-start the strategic discussion, Carol suggested I outline some of the emerging themes associated with my research. My presentation began by identifying the four foundational principles of KGT that had emerged since the project's inception. These principles were:

1. an authentic teaching and learning opportunity,
2. schools working together and collaborating across the wider community,
3. an ethos of students in the 'driver's seat', and
4. a continuous cross-curricula learning journey.

Next, I showed a figure developed by one of the DOC representatives which she had created as a means for illustrating her perception (as she had described to me during our interview) of the broad organisational structure of programmes like KGT. Feedback from the SLG members suggested the figure needed to reflect how the SLT and SLG fitted into the organisational structure and through this discussion a collective agreement between stakeholders about the organisational structure of KGT was generated. This structure is illustrated below.

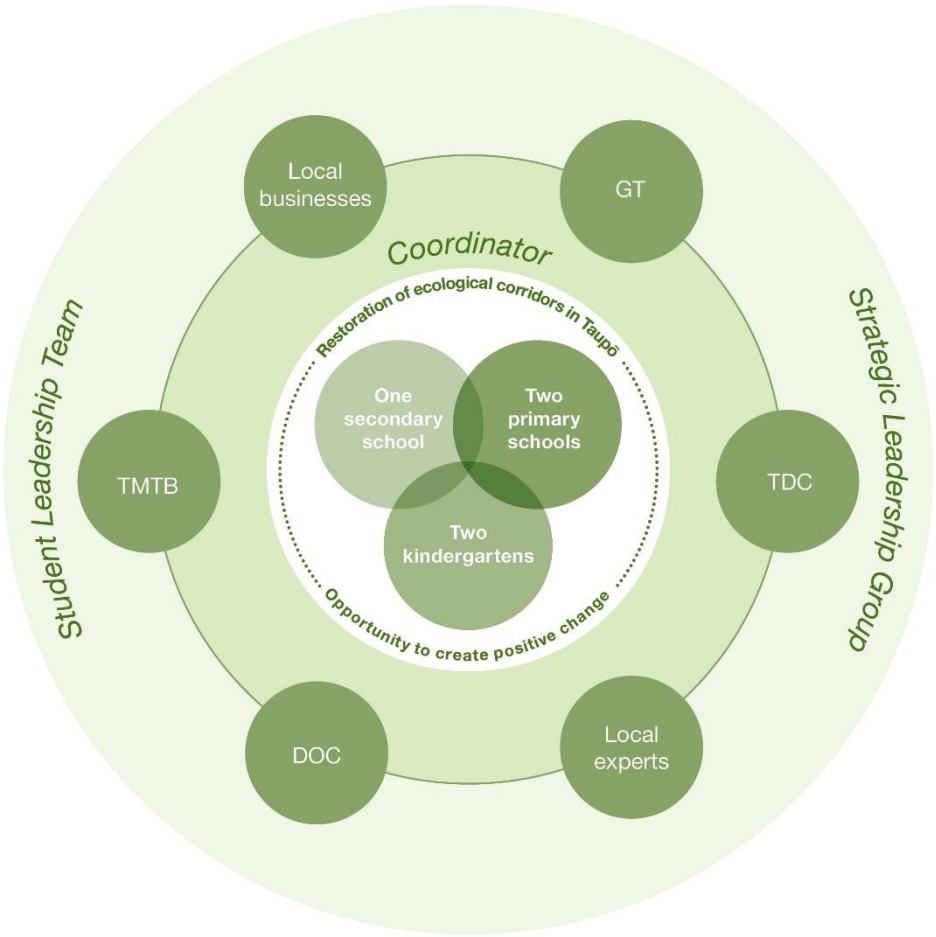

Figure 4.3 - Organisational structure of KGT

Lastly, I outlined some 'key ingredients' for designing, implementing and maintaining a programme based on a SCP. At this time, these ingredients were identified as:

1. a clear shared vision;
2. an effective partnership between all stakeholders;
    - working to strengths,

- commitment at the organisational level,
- on-going transparent communication, and
- regular strategic review and implementation of feedback;

3. funding;
    - education coordinator, and
    - Take Action Fund.

During this meeting, a summary of teacher feedback collected in December 2015 by the education coordinator and/or DOC representative was shared and discussed. It was acknowledged that the strategic review process needed to take into consideration two set of processes and structures; one set relating to design and implementation of the pilot by the SLG and the other set being those processes and structures used by teachers to integrate KGT within their respective institutions. When time ran out, the group decided to schedule another meeting this term rather than waiting for Term Two as originally planned.

Three weeks later, the second SLG meeting focusing on the strategic review process was held. A new representative from TDC was officially welcomed onto the group as well. Further discussion about the emergent themes and teacher feedback led to the following key points being minuted (SLG meeting, March 8, 2016):

- Schools understand the vision includes collaborative project work, but they're not sure how this will happen. What is the balance between individual school projects and collaborative projects? Teachers also keen to share (e.g., ideas, resources) with one another.
- Teacher feedback about ways to improve logistics should now be implemented by the coordinator. The operational side of things needs to be clear, concise and decisive and ensure SLT is 'kid friendly'.
- A continuous learning journey is important to teachers.
- Teachers need help with curriculum integration as they don't have time/headspace to tackle this task alone.
- Kindergarten students should have a place/input as leaders. Also, older students working with younger students is not babysitting as they can learn from one another.
- Equitable and fair share of support going forward is vital.
- The KGT umbrella provides integrity.

Discussion about identified barriers also included the following:

- Ways to address school barriers can be explored at KGT teacher planning meetings.
- Some teachers have pre-conceived ideas about what the Take Action Fund will provide for. Focus should be on taking action, not supporting teacher release.
- Set criteria for funds needs to be well thought out, especially in terms of fairness and equality.

There was also some discussion at this meeting about the recent announcement that the Governor-General of New Zealand was planning to visit the Central Plateau region and he wanted to learn more about KGT. Subsequently, preparing for his visit became a priority for the KGT stakeholders, education coordinator and SLT. Through the guest list, there was an unexpected opportunity to connect with a new EO which represented an important potential link to establishing a continuous KGT learning journey for the town's young people. Initially, there were differing opinions amongst some of the SLG members as to how to best handle this opportunity, but eventually, after a number of emails went back and forth outlining the education coordinator's and partners' perspectives, a mutual agreement was reached (Education coordinator and SLG representatives, emails, March 30, 2015). Although disagreements over this situation were minor, it was heartening to see the difference of opinions resolved through open dialogue.

Planning for the Governor-General's visit as well as further strategic discussion were the agenda items at the third SLG meeting held on 31 March 2016. The strategic discussion was based around the SLG members brainstorming about the purpose and functions of the SLG. Some of the ideas proposed were:

- Providing strategic guidance and support where needed (e.g. coordinator, funding, collaboration);
- Building connections (locally, regionally and nationally);
- Ensuring KGT education, conservation and cultural goals are addressed;
- Nurturing the 'health' of the partnership; and
- Developing process plans (e.g., communications, funding, strategic review).

(SLG meeting, March 31, 2016)

At the close of this meeting, SLG members were asked to bring to the next SLG meeting a summary of their organisation's potential contribution to the progamme and the desired outcomes they wished to achieve through participation. On this same day, the first teacher planning meeting for the year was held with the main discussion points as:

- the Take Action Fund and identifying the equipment most urgently needed to progress projects,
- teacher educational workshops for 2016,
- health and safety considerations for SLT meetings and experiences, and
- Term Two teacher visits to each other's EOs.

(Teacher planning meeting, March 31, 2016)

The final SLG meeting pertaining to this study was held on 12 May 2016. At this meeting, the official end date to the KGT pilot was set as 30 June 2016 and members decided that they would undertake an official review prior to making decisions about potential changes to the programme. Overall, it was promising that all stakeholder organisations remained on board throughout the entire duration of the pilot. During the last few months of the pilot, I also perceived there to be an increase in the cohesiveness between the SLG members, similar to how I perceived the cohesiveness of the working group in the earlier stages of the pilot.

4.3 The EOs' environmental initiatives

Five EOs (two kindergartens, two primary schools and one secondary school), all located within Taupō town, have participated in the KGT pilot. A brief overview of their respective initiatives as developed through their involvement with KGT over the 18-month timeframe of the pilot is provided below. As a participant observer, I gathered this information in a number of ways such as through visits to the EOs during KGT activities, EO progress updates given at working group meetings and by reviewing relevant documentation (e.g., EO newsletters).

4.3.1 EO1

Every Tuesday morning at EO1, the teachers and students partake in bush kindergarten, regardless of the weather. The overall purpose of the programme is to provide an on-going opportunity in the same location for the children to explore

and play in the natural environment and connect with nature. The teachers from EO1 promote bush kindergarten as a means to develop resilience, confidence and self-reliance in the children, as well as fostering care and concern for the environment.

During a parent consultation evening when EO1 first raised the idea of bush kindergarten at a particular park in Taupō, they encountered opposition from parents (one parent in particular) based on their perception of the potential danger associated with strangers and dogs in the park. The lack of support from some of the parents led the kindergarten to reassess the location and an alternative site was identified. The alternative location required the hireage of a large 45 seater bus to transport the children.

After spending two terms at the alternative location, the kindergarten moved its bush kindergarten programme to the proposed park as originally planned. The decision to relocate was based on a number of reasons. Firstly, the teachers really wanted to show the children that they did not need to travel far from kindergarten to find nature. As this park is in close proximity to the kindergarten (approximately 1.5 km), parents drop their children off at the park and a van is used to transport the students back. The long-term vision is, once the teachers feel the children are fit enough, to have them walk back to kindergarten. Secondly, supervision at the alternative site was sometimes difficult to find but through KGT contacts, a couple of secondary school students volunteered to assist the kindergarten in lieu of work experience at the park location. Thirdly, the parent who was most opposed had since moved her child to another kindergarten. EO1 also held a parent information evening focusing on the benefits of outdoor play in a bush kindergarten setting and organised two visits from TDC's canine education staff for teaching students about safety around dogs. This park is used by EO4 for their KGT project as well, thus, the teachers from both organisations are keen to organise opportunities for student interaction to foster a tuakana-teina relationship.

4.3.2 EO2

EO2 has formed a project group comprised of the Years three and four syndicate called 'Kaitiaki o te Whenua' (Guardians of the Land). Their focus has been on increasing native plantings around the school grounds, particularly kowhai, cabbage

tree and harakeke. Their inquiry in 2015 was focused on the propagation of these species and learning about their traditional uses and significance to local Māori.

In 2015, the syndicate undertook a hikoi (journey) to the lakefront to eco-source seeds which they have raised back in the classrooms. They have had good support from the community and the Board of Trustees, with a large parent turnout at a school planting event and donations of three small greenhouses and soil as well. Students also presented their progress and learning to a Board of Trustees meeting. The school also held a 'Green Day' to celebrate the KGT work accomplished by the syndicate. On this day, staff and students dressed in green and students brought a gold coin donation to be used to fund more native planting around the school grounds. The student leadership team representatives from EO2 also hosted an assembly on this day through which they were able to share the KGT vision with the rest of the school.

In 2016, a new playground was built which included a 'nature zone' inspired through the school's involvement with KGT. Another hikoi for seed collection is being planned in conjunction with an 'eco-warrior' inquiry unit.

4.3.3 EO3

EO3 undertook a school-wide approach to their project, which has seen each of the 20 classrooms undertaking an inquiry and committing to a mini-project within the overall school project titled Waipahihi Kakariki. Their KGT focus has been on developing an area on the school grounds where large unruly trees were removed. This project, referred to as the He Manu Whenua project, included the re-vegetation with over 500 native plants. Two parents of students at EO3, who are both landscape architects, used each class's mini-project concept as the foundation to a landscape plan. Some features of this plan included a concrete footpath, areas of native planting, pump track and plant propagation area.

In 2015, around 500 native trees were planted around a proposed paved footpath and dirt mounds were sculpted as the base to the pump track. All students in the school were involved in an inquiry unit about native flora and fauna and some classes undertook pest tracking and trapping.

EO3 has a large student steering group for the Waipahihi Kakariki project comprised of two student representatives from each class. These students are in

charge of reporting back and collecting feedback about progress from their respective classes and organising ‘Enviro Days’ in conjunction with the school’s enviro-team. The group has developed the characters ‘Tui’ and ‘Tane’ who are role models to the children for how to look after the environment. The participating KGT teachers attribute much of the success of this large project to the school’s groundsman, who they recognise as being extremely dedicated and consistently works beyond their expectations, as well as a supportive parental community.

EO3’s focus for 2016 is to complete the He Manu Whenua project.

4.3.4 EO4

EO4’s vision is to develop a Taupō park site as part of a wildlife corridor. The focus of their project is to plant native species that provide year-round food for native birds and to undertake trapping for pests.

Predominantly Year nine and some Year ten students are involved with the project with the aim being to build the skills and competencies of these students over a three to four year period through which they will also be in a position to support new students coming through.

In 2015, KGT has provided numerous real-life opportunities for these secondary students. The Year 13 student who started out as the photographer but soon became a mentor for the student leadership team representatives has designed the KGT logo alongside a local design company contractor. She was also the master of ceremonies for the programme’s launch. Four Year 10/11 students worked on developing the KGT website and blog with a website design expert. Another student interested in landscape architecture has been shadowing a landscape architect as she designed EO5’s reserve plan. Some students affiliated with Ngāti Tūwharetoa helped facilitate a teacher training day at a local marae and also led the kapa haka (action songs) group for the launch day. Horticulture students have worked on a planting plan with support from TDC, calculating the number of plants required and investigating what species would be most suitable for the site. Throughout the year, students worked with GT, the TDC’s Parks team and a local botanist. Students have also given support to Bush Kindergarten sessions.

Continued planting and maintenance of vegetation at the park site will occur in 2016 with an interest in undertaking some tracking and trapping work once funding can be obtained.

4.3.5 EO5

EO5 run a bush kindergarten programme called 'Nature Explorer' with the aim to regularly engage children with nature and develop respect for Papatūānuku (the Earth mother). The Nature Explorer programme involves the kindergarten's four year old children visiting the same nature reserve area every two weeks. Parents are invited to spend time with the children at bush kindergarten and many of the children revisit the area with their families to share their special place with them.

EO5 have a long term plan to develop the reserve owned by council, located adjacent to the back boundary of their kindergarten, into a bush kindergarten area. This would make nature experiences more readily available to all of the children that attend the kindergarten. The teachers have encouraged the children to lead this project by developing a vision for the area and being involved with the planning meetings. The teachers helped the children learn about native plants and birds. Thereafter, they drew pictures about their restoration vision and spoke with the local landscape architect who used their ideas to develop the proposed landscape plan. In late 2015, the plan was approved by TDC who have also offered sources of support in the form of labour and natural materials like mulch, logs and large rocks. The kindergarten is poised and ready to commence planting once they have secured funding and coordinated all necessary resources.

4.4 Chapter summary

This section summarises the main findings in relation to the significant structures, processes and outcomes of the four developmental stages of the KGT pilot project, which emerged from the data. The chronological description also serves as a contextual foundation from which the stakeholders' and the coordinator's perspectives, as provided in Chapter 5, can be better understood.

The findings indicated that a visit to see the Kids Restore the Kepler conservation education programme by representatives from DOC, GT and a Taupō secondary school was an important impetus to the project. The development of a working group comprising these representatives was a key structure, which allowed them to

work together on a process to develop and implement an 18-month pilot of a conservation education programme based on the Kepler model. The structural model that the representatives sought to embed in the Taupō programme were as follows: (1) to provide an authentic conservation opportunity for teaching and learning, (2) its implementation and development based on community collaboration and (3) led predominantly by the participating students (rather than the adults).

The next stage established KGT as the umbrella programme and planned the structure for the underpinning conservation education projects to be established at each of the five participating EOs. This part of the process was characterised by well-structured planning meetings and workshops, effective communication about what was trying to be achieved, establishment of bush kindergarten and/or restoration projects and educational workshops for the teachers. All in all, through these collaborative efforts, a shared sense of purpose developed amongst the stakeholders, and in a relatively short space of time, some 'quick wins' were achieved as the EOs' projects developed.

But in spite of these achievements, the data reflects that loose ends in the strategic planning process had begun to surface; questions loomed about significant structures and processes that had yet to be established and pressure came to bear on the working group as it struggled to maintain momentum and adjust to the inevitable changing dynamics associated with collaborative projects.

Although the third stage saw the KGT structure modified with the hiring of an education coordinator and the working group taking a more assertive approach to decision-making, workloads remained high. The findings indicate that time pressures were compounded because of the extensive planning required for the formal launch, personnel changes to the working group and unclear working relationships.

In the final stage of the pilot, with the coordinator positioned to take over the operational processes, the working group formally acknowledged their new role by changing the name of the group to the SLG. Additional changes to key processes and structures were informed by teacher feedback in conjunction with a strategic review, through which SLG members came to consensual agreement about some components of the KGT strategy and future priorities.

The data clearly shows that the KGT pilot project provided the participating EOs with an authentic conservation opportunity for their educational purposes and opportunities for collaboration, although this mainly consisted of EOs working with the community organisations and experts rather than with one another. On the other hand, the evidence provided by the data showed that a genuine student-led approach and a continuous, cross-curricula learning journey had not yet been achieved through the KGT structure.

The perspectives of the stakeholders and education coordinator about some of the structures, processes and outcomes identified in this chronology are provided for in the next chapter.

Chapter 5

Findings 2: Stakeholder perspectives

5.1 Introduction

This chapter explores the perspectives of the Kids Greening Taupō (KGT) stakeholders and education coordinator in relation to the structures, processes and formative outcomes associated with the development of the pilot project. These perspectives emerged mainly from the analysis of the transcripts of interviews conducted in November and December 2015. Data from my observations and documentation analysis are used to elaborate some key points of the findings discussed herein. The respective sections of this chapter are organised into four themes: strategic planning (Section 5.2), structures and processes (Section 5.3), outcomes (Section 5.4) and future opportunities and challenges (Section 5.5).

5.2 Strategic planning

Stakeholders participating in a collaborative venture like KGT are likely to have different objectives and will be capable of making different contributions towards achieving outcomes. But amongst these differences, it is vital the stakeholders share a common vision with regards to what the collaborative venture sets out to achieve (Woodhouse, 2009). Overall, the complex nature of collaborations make strategic planning paramount (Sanders & Lewis, 2005).

As identified in the KGT chronology (see Section 4.2), the initial KGT strategic plan was completed in April 2015 and then shared with all stakeholders. This section explores their (including the education coordinator's) understanding and perspectives about some of the key aspects of this plan and the strategic process undertaken from the commencement of the pilot in October 2014 to when I conducted the interviews in late 2015. Respectively, Sections 5.2.1, 5.2.2 and 5.3.3 explore the perspectives about the KGT vision, organisational and personal objectives, and perspectives about role clarity.

5.2.1 Perspectives about the KGT vision

The initial KGT strategic document stated the vision of the programme as:

> Kids Greening Taupō will provide the district's schools with an on-going, real-life project that provides all students with the opportunity to connect with their local environment and shape the future of our Place, now (Kids Greening Taupō, 2015a, p. 1).

When interviewing the stakeholders and education coordinator, I asked each participant "What does the vision of KGT look like to you"? Through analysis, the responses to this question were categorised as being linked to the following themes: pedagogical, community activism, connection to place and increasing biodiversity.

Teachers tended to relate the vision to the provision of pedagogical opportunities or community activism. Responses from seven out of the 15 teachers connected the KGT vision with a pedagogical component such as the provision of a cross-curricula opportunity or a continuous learning journey for Taupō students. As one teacher put it:

> For me it is a combination of the stepping stones of life. I mean it starts off with the [kindergarten] children, and they then can take that love and passion with them to primary. And it is like a river, it flows through. Then they take it to secondary school. And when that finishes they have another cycle to go through and then the cycle repeats itself. And in that sort of way it saves the Earth. You can't fix the big problem, but if everyone puts a little input into the problem, then the outcome is that the big problem will solve itself, maybe, fingers crossed (T15, interview).

Another three teachers linked the KGT vision as a means for students to be active community members:

> It's being community-minded, it's not just about doing something for themselves but having that civic mindedness. Wanting to help out, doing things and having that awareness about what it might be like if everyone did the right thing (T5, interview).

In comparison, five of the seven representatives from the community organisations linked the vision to providing opportunities for connecting young people to place, in terms of either the local community, natural environment or both. From a cultural

perspective, the TMTB representative explained this theme of connectivity through the following quote:

> The paradigm that the Kepler brought together is iwi, it is our whakapapa…Your whakapapa is your foundation from which you grow. When you whakawhenua, you connect. And whilst it's [KGT] a mainstream programme that talks about environmental benefits and connectivity, it's still about how to whakawhenua yourself to your community effectively (P7, interview).

The education coordinator had quite a different take on the vision as she linked it with an opportunity to increase biodiversity. She believed there to be a lack of understanding of teachers about the vision of GT and the way in which the two programmes (i.e., KGT and GT) integrate. From her prior experience as an environmental education coordinator in schools and her more recent interactions with the EOs, she forewarned that too broad an interpretation of the vision could potentially threaten the sustainability of the programme.

> I don't think there is anyone who doesn't share that vision about increasing biodiversity but I think that some other things are just getting added in that aren't actually part of that original vision…I think all of us who are involved with environmental education see this big picture so we kind of get excited about anything to do with it and forget a specific focus and kind of get into other areas. So it is good for us to keep thinking about purpose, and does this fit, and what are we trying to achieve (C, interview).

In summary, all the interviewees associated the KGT vision with the provision of teaching and learning opportunities, but the differences of viewpoints were in relation to their perceptions about the outcomes of the opportunities. Broadly, the findings demonstrate that teachers perceived the vision to be about providing opportunities for educational outcomes or community activism, the representatives from the community organisations linked the vision with opportunities for socio-educational outcomes and the education coordinator connected the vision with opportunities for environmental outcomes.

Approximately one year later, the SLG modified the vision as part of a strategic review process. As per my meeting notes, the vision was revised to (key terms added to the vision are in bold):

> Kids Greening Taupō will enable young people to participate in real-life projects with **opportunities** to connect in a **culturally responsive** way to their local environment and **community** to **increase** biodiversity**, student leadership and educational outcomes**, shaping the future of our Place, now.
>
> (SLG meeting, March 31, 2016)

Through these changes, the SLG endeavoured to explicitly highlight some of the aspects of the programme they deemed to be very important). For example, they decided it was important to highlight that connection to place was not only about the natural environment, but also about connecting to the people and culture. Another main difference between the two vision statements was that the later version used the word 'opportunities' rather than the word 'project', clearly indicating their acceptance of multiple project areas rather than the one common project area as depicted in the Kepler programme.

During the interviews, I also asked interviewees whether or not they thought all stakeholders shared a collective vision. On the whole, the teachers were uncomfortable responding to this question as the majority of them felt like they had little to do with the representatives from the community organisations. But this is not to say the working group excluded the teachers from being involved with strategic decision-making and interacting with the representatives from the community organisations. In fact, as demonstrated by the synopsis below, the working group really wanted to ensure the teachers' 'voices' were heard.

Over the course of the pilot, the working group had intermittent discussions about promoting the 'ownership' of KGT by all stakeholders and striking the balance between the working group predominantly making decisions (top down approach) versus the teachers predominantly making decisions (a grassroots approach) (Sub-working group meeting, December 22, 2015; Teacher planning meeting, October 29, 2015; Sub-working group meeting, October 12, 2015; Working group meeting, March 25, 2015; Debrief teacher planning meeting, December 11, 2014). Except

for the two teacher representatives from the secondary school, no other teachers volunteered for tasks related to strategic development (Teaching planning meeting, December 10, 2014), nor did they want to become members of the working group (Teacher planning meeting, October 29, 2015). During the interviews, one of the teachers said she would have liked to have participated more with the working group but that she did not have the time. All teachers from EO3 said during their interview that they wished the working group had been more assertive rather than trying to obtain consensus from all stakeholders. Therefore, although the working group made numerous attempts to involve the teachers with the strategic decision-making process, these opportunities were not taken up by the teachers. In general, teacher interaction with the representatives from the community organisations only occurred during the teacher planning meetings or when teachers/students received assistance from the community organisations with their individual projects.

On the other hand, five of the seven representatives from the community organisations interviewed were also SLG members who had received regular updates about progress made by the EOs. As such, these representatives were more comfortable with this question and their responses illuminated a common perspective that there was a collective understanding of the vision by all stakeholders. However, a key point of this finding was their shared belief of there being different depths of stakeholder understanding and consensus about how to achieve the vision. As one of the DOC representatives put it:

> I think fundamentally, we are all on the same page. The blue sky thinking that we did with our teachers very early on blew us away as they thought exactly like we did. But in terms of what that looks like, in terms of what do our schools need, how can we best support them, what is our role… I think there is a different depth of understanding of what collaboration looks like. So we all come to the table with our different agendas (P3, interview).

The representative from TMTB made a similar point:

> They [stakeholders] all have their own lens…You have people that have a DOC focus that need to meet certain outcomes, you have schools wanting to make sure their children get the best of the project, you have an environmental care group who want to see certain things fulfilled on

> behalf of their organisation but also on behalf of their funders. So their motivations are all going to be different (P7, interview).

5.2.2 Organisational and personal objectives

The two quotes outlined above also relate partly to the objectives that each stakeholder held, either personally or as part of their respective organisation. When asked about their organisational objectives, all the representatives from the community organisations proficiently identified specific reasons for participating. For example, DOC responded with an explanation about its duty to fulfil obligations as per the *Conservation Act (1987)* and *Treaty of Waitangi*; GT thought KGT would be a useful tool for growing their organisation and helping to achieve its vision; TDC saw the pilot as a way to facilitate partnerships to achieve outcomes for the community.

In terms of the educational organisations (EOs), at least one of the teachers from four out of the five participating EOs (eight out of the 15 teachers interviewed) indicated their organisational objective for taking part in KGT was to establish a 'green' opportunity for students. A number of these teachers then went further, specifically identifying the outcome(s) they sought through this green opportunity (e.g., enabling the students to connect with nature, increasing environmental awareness, respect and responsibility).

Five of the eight teachers who commented about their personal objectives for participating in KGT also indicated it was because of the opportunities for their students to increase their environmental awareness and responsibility and/or have experiences connecting them to the natural environment. As one teacher said:

> For me, it's important for them [students] to feel comfortable sitting on a piece of grass and to feel the soil and think 'I am part of this'. For every student to plant a tree, leave a legacy, put some emotion into Taupō…so when they go away and come back, it is etched, that organic connection (T11, interview).

These findings indicate that the majority of participating teachers and their respective EOs initially took part in the KGT pilot because they believe it is important to provide their students with learning opportunities and experiences about the natural environment. This is significant when one considers the fact that

there is no mandate within *The New Zealand Curriculum (NZC)* (MoE, 2007) for environmental education.

5.2.3 Perspectives about role clarity

Data collected about stakeholder role clarity indicated there was a wide range of perspectives about the community organisations involved, their role in KGT, and the structure they collectively formed. The community organisations knew who the KGT stakeholders were, but had differing opinions about the overall structure of the partnership. During stage one of the pilot, one of the representatives from DOC developed a figure illustrating her perception of the KGT organisational structure. As shown in Figure 5.1, this was linear and somewhat hierarchical with the community organisations on the top and EOs underneath. Almost one and half years later, during my interview with this representative, she explained how her perception of the structure had changed. A few days after the interview, the representative produced a diagram of her new perception of structure, with the main difference being that the revised structure was circular rather than linear and hierarchical (see Figure 4.3). During the interview with GT, when asked about the organisational structure of KGT, their answer clearly reflected how they perceived their contractual role in terms of their legal and financial accountability for funds received for the programme, which included employing the coordinator. As explained by the GT representatives, this sees Project Tongariro (the umbrella organisation of GT) on top; GT and KGT (side by side) sitting underneath Project Tongariro; followed by the EOs and other community partners underneath KGT and GT. However, a few months later, through the strategic review process in 2016, all representatives of the community organisations on the SLG, including the GT representatives, collectively agreed to using the DOC representative's most recent version (Figure 4.3) for illustrating the organisational structure of KGT (SLG meeting, February 8, 2016). This clearly indicates that GT perceived their organisation as having two distinct roles in KGT. Firstly, they have a contractual capacity for managing funds, employing a coordinator and monitoring and reporting on progress and secondly, a role on the SLG similar to all other affiliated community partners.

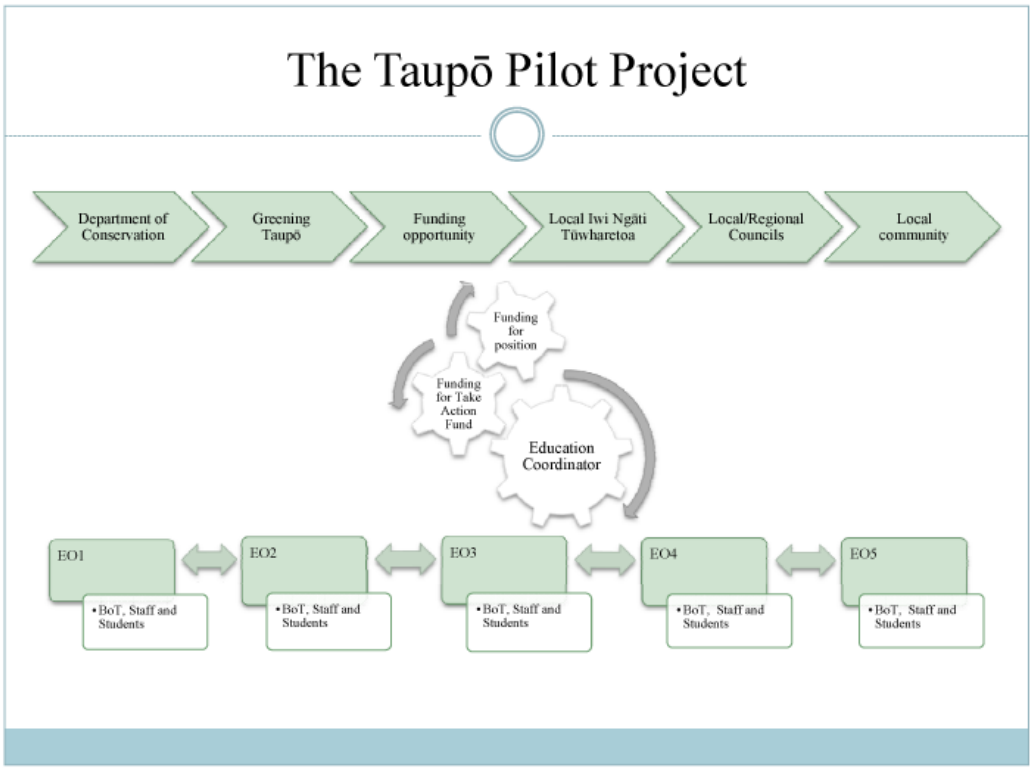

Figure 5. 1 - Organisational structure of KGT as perceived by a DOC representative in 2014

With regards to roles and responsibilities, one of the representatives from GT recalled "It's funny, we talked about role clarity right at the beginning…it was decided to never put any roles or defining as to what people's roles were" (P1, interview). However, minutes from a working group meeting held on 10 February 2015 indicate there was some discussion, albeit of a very general nature, about the roles of the working group members. For example, the role of one of the DOC representatives was recorded as "collaborating and supporting conservation outcomes"; the role of one of the teacher representatives was minuted as 'teaching and learning coordinator' (Working group meeting, February 10, 2015). In April 2015, the initial strategic plan expanded slightly more on these roles as it identified, at least for some of the stakeholders, the interest they had in the programme, and for all the stakeholders, their potential contributions (Kids Greening Taupō, 2015a, pp. 9–10). Nevertheless, uncertainty about role clarity was identified as a source of the tension that developed between GT and DOC later in 2015. For example, during the interview with GT, one of its representatives explained:

> Tomorrow I am going to learn, because I have asked them, what involvement DOC wants to have…I have asked them the question 'what is DOC's role'… Now, I didn't get a response so I told them what

> I thought it was, as a funder, in the strategy, you know the strategic direction of it, and they have a role with the teachers, the steering group. But other than that, they should be focused more on outcomes and monitoring whether its meeting their goals…not involved in the day to day. Because they came to me and said 'we can't keep up, we are going to have to step back'. And fine, my initial reaction was fine, why don't you…I said you actually have to tell me what you want your involvement to be and then we will make sure we are meeting that (P2, interview).

In a sub-working group meeting held on the 23 October 2015, the main agenda item was to work through the tensions that had arisen between GT and DOC during stage three. Through the discussion held at this meeting, everyone agreed that there needed to be some time set aside for the representatives from the community organisations to restate their strategic positioning within the partnership (i.e., objectives and contributions). Through this meeting and my interviews, the idea was raised that making assumptions about the perceptions and understandings held by different stakeholders has been a cause of much of the uncertainty and tension. As put by one of the DOC representatives "We need to nail down assumptions and expectations. Really clear and honest communication and understanding and testing is really important" (P4, interview). Furthermore, the representative from TMTB said:

> Because in my view part of the 'ungelling' was that the people who were plugging the gaps and trying to fix the ungelling didn't understand how we had gotten to certain reasons, certain ways of doing things… And to tell you the truth, I was annoyed because of the things that were put in place as a result of our conversations were no longer as concrete as what they should have been… A lot got cast aside…If we had had a scribe, being able to document exactly what we think, why we think like that, what is important about it, the pros and cons we had. The [new people] don't have the context of that one line which really should be ten – 15 lines explaining why we are doing certain things in certain ways (P7, interview).

These excerpts identify assumptions made about stakeholders' understandings about the processes and structures of the pilot and a lack of role clarity as two elements which prevented a cohesive KGT partnership. Interestingly, although it was agreed at the sub-working meeting on 23 October 2015 to revisit role clarity, this task had not been completed by the end of this study, although it had remained on the SLG's 'to do list'.

The responses made by teachers with regards to interview questions about stakeholder role clarity and responsibilities were very mixed. EO2 was able to name all of the affiliated community organisations without any prompting from myself. EO5 saw the community organisations as contributing equally to the pilot whereas EO3 believed KGT to be a DOC project with some of the other community organisations stepping in when required. Interestingly, during their interview, EO3 explained how a pamphlet about a GT fundraiser dropped in their post box, resulted in their confusion about the role of GT in the pilot project. Because the pamphlet made no mention of KGT or DOC, "we decided, because we really did not know any better, that KGT was not part of GT" (T10, interview).

In summary, the EOs never expressed any dissatisfaction about not having a thorough understanding about the affiliated community organisations. As agreed by members of the working group, the education coordinator is identified as the key conduit between the EOs and community organisations (SLG meeting March 31, 2016; SLG meeting, March 8, 2016). Through this role, the coordinator holds the 'big picture view' and is expected to identify the opportunities for stakeholders to work together and help facilitate this interaction.

5.2.4 Summary of findings about strategic planning

Data gathered in relation to the KGT vision showed all stakeholders and the education coordinator perceived the vision to relate to the provision of opportunities for the young people of Taupō; however, their expectations about the outcomes to be achieved through these opportunities differed. When asked whether a collective understanding of the vision existed amongst the stakeholders, the representatives from the community organisations believed the views of all stakeholders and the education coordinator to be broadly aligned but with different depths of understanding and consensus about how to achieve the vision. The participating teachers felt they had inadequate interaction with the community representatives to

comment on whether there was a collective vision. Although the working group offered the teachers opportunities to be involved with the strategic process, they all felt that this was impractical as they did not have the time to participate in this manner. With regards to stakeholder objectives, the representatives from the community organisations provided clear and concise reasons why their respective organisations were participating in KGT. The data indicated that the majority of teachers and their respective EOs wanted to provide environmental education opportunities for their students. Lastly, with respect to role clarity, there was a wide range of perspectives amongst stakeholders about the programme's organisational structure and the roles and responsibilities of the affiliated community organisations. Only one of the EOs was able to name all of the key community organisations involved with KGT. On the other hand, the community representatives thoroughly understood what stakeholders were involved, but had differing opinions about the organisational structure of these groups within the context of KGT as well as uncertainty about each other's roles and responsibilities for collaboratively working towards achieving the KGT vision.

5.3 Structures and processes

As previously highlighted in Section 4.2, the design and implementation of KGT involved two sets of structures and processes, one set relating to those used by the working group/SLG and the other set used by the EOs. In this thesis, 'structures' refers to tangible elements comprised of people, resources and documentation and 'processes' refers to the activities undertaken by stakeholders and the education coordinator.

This section provides the findings related to these two sets of structures and processes as based on the perspectives of the stakeholders and the education coordinator. Section 5.3.1 relates to the working group/SLG, Section 5.3.2 relates to the EOs and Section 5.3.3 provides a summary of all the structures and processes discussed in the preceding two sections. In relation to the development of KGT, these structures and processes were categorised as an enabler, a barrier, or for some, as both an enabler and barrier as shown in Table 5.1 below.

Table 5. 1 – Overview of structures and processes categorised as enablers or barriers

Structures and processes of the working group/SLG	Structures and processes of the EOs
Enablers • Trip to Te Anau • KGT structure -as an impetus -high public profile -non-prescribed and flexible • Involvement from key organisations/ individuals • Communication	Enablers • Positive team environment • Use of different approaches to integrate KGT • Alignment with national curricula documents
Barriers • Lack of involvement from key organisations/ individuals • Lack of or inequitable support • Communication • Logistics -lack of advanced planning -structure of meetings	Barriers • Lack of buy-in • Lack of time • Lack of structural capacity • Physical nature of working outdoors • Behaviour management issues

5.3.1 The working group/SLG

This section is organised into the following five subsections: 5.3.1.1 observing the 'real' thing, 5.3.1.2 the KGT structure, 5.3.1.3 the process of communication, 5.3.1.4 logistics and 5.3.1.5 the 'right' organisations and individuals.

5.3.1.1 Observing the 'real' thing

The representatives from the community organisations who visited Te Anau in 2014 to see the Kids Restore the Kepler in action perceived this opportunity as an enabling process as it helped them collectively 'grasp' the ideological components underpinning the programme. As a DOC representative put it, "we had been and seen and we're totally converted, we all came back on the same song sheet" (P3, interview). Furthermore, one of the teacher representatives on the working group explained how the trip helped them 'transplant' the model to the Taupō context.

> We took that model from down there and just sort of stripped it back to its bare skeleton so to speak and made it fit our situation…We were looking at what our needs were…our opportunities…and wants. And what we can use from down there and rebuild this machine to suit what we have here. And we bought in the experts and I thought that was

> pretty good, such that we used it [the Kepler programme] like putty almost and re-moulded it (T11, interview).

5.3.1.2 The KGT structure

Findings from the interview data show the teachers perceived there to be a number of enabling opportunities through the structure of KGT. Firstly, four teachers from three separate EOs remarked that KGT had given them the impetus to get an environmental education programme up and running. As one teacher said, "It just gave us that actual 'umph' to make it work" (T2, interview). Secondly, six teachers from four different EOs thought the profile of the KGT 'umbrella' gave their own projects integrity. One teacher said the media releases generated a 'buzz' and some teachers thought parents and the 'powers that be' (e.g., Board of Trustees, TDC) were more supportive of KGT due to this publicity. Thirdly, support secured through the efforts of the working group/SLG (e.g., representatives from the community organisations assisting EOs and funding secured for the education coordinator) was identified by three teachers as an enabler. This idea that the KGT structure helped EOs facilitate the development of their environmental projects was highlighted in this interview extract:

> T13: It was that support that was about us being able to get this done. They [representatives from the community organisations] have the networks to TDC.
>
> T14: Our voices are probably heard louder.
>
> T13: By having all those people behind us and having action research of where it's been, it gives it a better push than them just thinking 'oh that's cute, but no' (EO5, interview).

As the proposed Take Action Fund never came to fruition during the pilot, some teachers were disappointed that no funding was available to help EOs pay for materials or expenses related to KGT in general (e.g., transporting students) or their school-based projects. Teachers from one EO, who at first expressed their disappointment about the lack of funding, later described the way in which their school pulled together and became creative for obtaining their own funds. This resulted in their school "owning their project and giving the PTA (Parent-Teacher Association) purpose" (T8, interview). Another teacher highlighted the fact that

EOs without a PTA will have extra pressures if there is no Take Action Fund to draw on. During her interview, this teacher emphasised the importance of equitable distribution of resources made available through KGT, including support from the community organisations. Lastly, another teacher said that her EO was not particularly bothered by the lack of funds because they saw it as part of their own responsibility to fund their project and teacher release.

Lastly, in relation to the KGT structure, six teachers remarked they appreciated the non-prescribed nature of the programme and the flexibility given to EOs by the working group. As one teacher said "I think the great thing is that KGT never said 'this is how you have to do it.'…So schools can make it fit their curriculums" (T1, interview). However, the education coordinator suggested during her interview that too much scope for EOs could have negative consequences. For instance, projects involving objectives beyond the vision of KGT (e.g., construction of playground infrastructure) or very large projects within their own school grounds could potentially take time and resources away from fulfilling the KGT vision or developing collaborative initiatives between EOs.

5.3.1.3 The process of communication

The importance of the process of communication was another key theme identified in the findings. Overall, four stakeholders in total provided specific accounts of communication as an enabling process, whereas 11 stakeholders and the education coordinator provided examples when inadequate communication resulted in a developmental barrier over the course of the pilot. The TMTB representative identified communication as an enabling process when he explained "Everything was done through consensus and if there was a problem we would keep talking about it until everyone agreed" (P7, interview). A DOC representative explained how effectively communicating with her managers helped balance workloads and obtain the necessary resources required for keeping the project going when pressures intensified during stage three. A teacher identified the value of communication for keeping the kindergartens informed as there was a risk of them becoming disconnected from the stakeholders since they were not involved with the SLT.

On the other hand, inadequate communication was identified by the stakeholders and education coordinator as a reason for a lack of understanding about various

aspects of KGT. Representatives from four of the five community organisations interviewed perceived inadequate communication as the cause of misunderstandings about role clarity as previously discussed in Sections 4.2 and 5.2 Similarly, comments by six out of 15 of the teachers interviewed from three different EOs identified a lack of or unclear communication as a barrier to understanding some strategic elements of KGT. A couple of examples highlighting confusion or assumptions made by teachers were as follows: "We got confused at the vision stage" (T5, interview) and "Because we did not get the kahunas and all those kinds of things, Mrs. Cynical pants decided that it [KGT] was probably all going to fizzle out" (T9, interview).

Additionally, data collected from the interviews and teacher planning meetings held in 2015 indicated the majority of teachers had a general understanding about the four structural principles underpinning KGT (i.e., real-life opportunity, collaboration, student leadership and a continuous learning journey); however, some confusion arose as there was a lack of communication by the working group about *how* the components of collaboration and a continuous learning journey would be achieved in the Taupō context. Nine teachers commented about the lack of capacity within the KGT for achieving collaboration. One such example was:

> How do we see what the other schools have done? And how do we say 'you can come and see what we have done'. And the community thing, how do we get it out into the community? How do we latch on to the umbrella of GT (T8, interview)?

Also in relation to the theme of communication, the coordinator spoke about the importance of regularly revisiting strategic elements and knowledge-based information. She said:

> Something I see that happens a lot with Enviroschools is that we do something here but by the time we get down to there we kind of forget that we have a whole new group and that you actually need to revisit the lot. You start assuming people know when they actually don't…So I think you have to keep going back and revisiting and that is a good lesson for the [KGT] vision as well (C, interview).

A similar message was given by a GT representative when he said:

> It's not [communicating] something you do once and forget about. These guys [teachers] have their own things, you've got to keep putting it out there and reminding people. But there is a limit to how much, before you become boring and a constraint (P2, interview).

Overall, communication was perceived to be a critically important process to the development of the programme as indicated by the large number of comments relating to it. As summed up nicely by a DOC representative:

> It is indicative of the complexity of a project like this. That there are going to be on-going challenges and that is just part of how we need to be as well. That you have to be in that problem-solving and very communicative head space to work around, and actually be talking to people and working through problems (P3, interview).

5.3.1.4 Logistics

Logistical planning, of which communication is a part of, was another critical process to the development of KGT, as identified by the education coordinator and a large number of stakeholders, especially the teachers. Examples alluding to poor planning were given by some stakeholders and the education coordinator. Two teachers from two different EOs made the point that dates for meetings and events should have been planned at least a term in advance. As one teacher said:

> I got the sense that it [the pilot] was evolving… but as teachers, you need a term by term structure so you can fit things in and we would have done justice to the job better if we had known these are the meetings and these are the things to get done by and when the visits to various places were (T7, interview).

Some teachers also remarked during their interviews that earlier planning would have enabled them to have been more organised in terms of their own logistics like arranging transportation and risk assessment management forms for students attending leadership meetings. One teacher said she would have liked to have been in a better position to use KGT events as a 'springboard' for lesson planning. One of the working group members thought that the collection of feedback from the teachers at the end of 2015 was too late to adequately prepare and implement changes for the first term of the new school year.

In relation to decision-making, all the teachers from one particular EO felt the working group had been too indecisive. As they discussed during their interview:

> T9: We were frustrated by the slow progress.
>
> T8: At the end of the day, please someone just make a decision. And maybe that's because there are so many stakeholders and they also want to consult us…But I just wanted to say 'someone just tell me'.
>
> T10: Sometimes you need to just draw the line and make the decision for the greater good (EO3, interview).

Being the furthest school from the DOC office where the majority of SLT meetings were held, these three teachers found the organisational logistics of getting their students to these meetings challenging. In saying this, these teachers also spoke about wanting to increase the number of their students on the leadership team as they believed four representatives from their approximate school roll of 500 students was inadequate for helping other students understand what was happening with KGT. These teachers felt ideally a bus organised by the working group could transport the students to these meetings, but they also understood the current financial constraints of the programme and recognised that for now they would need to resolve their transport issues.

The KGT meetings (both the SLT and teacher planning meetings) emerged as a prominent sub-theme in relation to the theme of the logistics. Six teachers and two representatives from the community organisations felt there were too many meetings, of which many were overly long and formal. As succinctly put by one teacher "Too much hui, not enough 'do'ey'" (T5, interview). The TMTB representative said "Certainly in stage three, I certainly struggled with having meetings in board rooms every five minutes. Especially when we are supposed to be an ecological care group" (P7, interview). With regards to the SLT meetings he said:

> If we are sitting in a board room or meeting room all having meetings, there is a wall. There is nothing to talk about [in relation to place and connectivity]. So if we put that wall up as part of our process…we have actually put that barrier up. I am not saying that the barrier does not need to be there in part, but it actually should be over there because they

> [students] need to get there. The simplest form is people going to place. And so how do we do that? We probably need to check ourselves and go back to the true context which is getting our people out and about, to understand and experience things and learning things, which they can then take back and enter into a place of knowledge, to talk to their friends about (P7, interview).

Aligning with this quote, one of the representatives from TDC pointed out the importance of "keeping it [KGT] interesting, fun and memorable" (P6, interview) and a teacher described the importance of ensuring there were some 'quick wins' so students did not get dragged down by the red tape of bureaucratic planning. Five teachers commented on enjoying and finding value in the educational workshops organised by the working group at the Waipahi Marae, Taupō Native Plant Nursery and Waipahihi Botanical Gardens. All these comments suggested a collective perspective that the KGT structure should provide participants with plenty of experiences in the natural environment that are enjoyable, meaningful and empowering.

5.3.1.5 The 'right' organisations and individuals

Having the 'right' organisations and people involved with KGT was another key theme that emerged through the interview data. One of the TDC representatives spoke about the importance of the stakeholders clearly identifying their priorities, then finding ways to link these priorities as funding was likely to go much further when synergies exist between organisations. The other representative from TDC suggested that funding for projects like KGT is likely to be successful through the council's long term planning process when there is a committed community group involved. A DOC representative identified a structural enabler as community organisations 'working to strengths'. In line with this perspective, one of the TDC representatives suggested numerous ways his organisation could help EOs with their project planning. For example, he spoke about helping EOs ensure the proposed size of their project was appropriate by helping students calculate the number of plants they would likely get planted, as well as teaching them about techniques to look after the vegetation once planted. Furthermore, he spoke about the importance of showing students previous restoration sites, enabling them to see what could be achieved.

In terms of the individuals involved with KGT, two teachers, two representatives from the community organisations and the education coordinator made reference to an individual's specific skill set (e.g., ability to make key contacts) or attitude (e.g., motivated) that significantly assisted the development of the pilot. Some interviewees identified representatives from the community organisations leaving their KGT role (e.g., TMTB representative) or the inability of the working group to fill key roles (e.g., having someone dedicated to finding funding) as structural challenges. Two representatives and one teacher also commented about the politics of collaborative ventures due to personality issues, differing agendas and a lack of trust between partners.

5.3.2 Kindergartens and schools

This section is organised into the following five subsections: 5.3.2.1 support and 'buy-in', 5.3.2.2 different approaches for integrating KGT, 5.3.2.3 alignment with the national curricula, 5.3.2.4 a lack of structural capacity and time and 5.3.2.5 other barriers.

5.3.2.1 Support and 'buy-in'

Similar to the theme about involving the 'right' organisations and people as discussed above, a theme about obtaining necessary support and buy-in from key people was identified in the interview data as an enabling process within the EOs. Four teachers from three different EOs spoke about the benefits of a supportive team environment. While reflecting on her own EO's team environment, one teacher said:

> Sometimes internally, I felt like 'ugh', this is too difficult, let's stop doing this. But these two ladies from what I can see never question that we should stop. So I think 'just keep going, right we are carrying on' (T2, interview)!

Some of the attributes of a supportive team environment as mentioned by these teachers included having a positive and enthusiastic vibe, a culture where resources and information were shared and the skills of different individuals well utilised.

With regards to this theme, some teachers perceived a lack of 'buy-in' from staff, administrators and parents as a structural barrier to the development of KGT within

the EOs. An example of a lack of buy-in arose for one of the kindergartens during their planning stage for establishing a bush-type kindergarten programme when unexpectedly, some parents voiced concern about the teacher's proposed location for the programme. This led the teachers to temporarily put the programme on hold until an alternative location could be found. Another example about a lack of buy-in was given by the two secondary school teachers as they described the inadequacy of being two 'lone rangers' trying to implement KGT within their school. They discussed the cross-curricula potential of KGT and the challenges they faced when trying to get the necessary buy-in from other teachers. These two teachers felt that the timetabling structure of 'isolated' disciplinary periods typically found at the secondary school level was a fundamental barrier needing to be resolved if cross-curricula learning opportunities like KGT are to be successfully implemented. The TMTB representative, who is also on the Board of Trustees at this secondary school, made the following remark:

> There still needs to be some certainty and strength and almost elevation of KGT's role within the college, commitment from the college about who the people are that will be involved, commitment to the bigger picture, this is how we are connecting the dots towards our students supporting younger students in their transition to being a Taupō citizen (P7, interview).

5.3.2.2 Different approaches for integrating KGT

A DOC representative identified three ways KGT could be integrated within an EO's curriculum. These were: (1) a whole-school approach, (2) an inquiry learning topic, or (3) as cross-curricula opportunities for project work. With regards to a whole school approach, the education coordinator commented:

> It's not just so easy as saying 'let's all just do a whole-school approach'. The whole-school approach is quite difficult…So it is the way to go if you want to, but be prepared how difficult it is to bring everyone on board and keep them on board…They need to go into that, eyes wide open, otherwise they are just going to burn out (C, interview).

The perspective of the teachers from EO3 who implemented KGT through a whole-school approach was similar to that of the coordinator's quote above. Overall, the

work they did preparing, implementing and sustaining KGT was an arduous undertaking, but they were also really pleased about the outcomes they believe to have resulted from this approach (e.g., majority of the school's classes taking action for the environment, increase in teacher's professional knowledge about environmental inquiry). This school would not attempt to undertake a second back-to-back year of a whole-school KGT inquiry as the teachers believed that "the excitement and passion would be lost" (T9, interview). On the opposite side of the spectrum, EO2 implemented KGT at a syndicate level. Through a syndicate approach, only a portion of the EO's students were involved with KGT, but the teachers perceived this positively as they believed this initial small-scale involvement would reduce the chance of a 'boom and bust' scenario. In saying this, these teachers also spoke about the challenges they faced implementing KGT at the syndicate level as it ended up being an 'add-on' to other curriculum topics as designated by their administrators. As one of the teachers explained:

> Here we have lots of mini things going on. It's getting all the planners and the projects pulled together, because instead of separate projects if you pulled them all together you could get more buy-in and ownership from everyone (T4, interview).

5.3.2.3 Alignment with national curricula

Nevertheless, whatever approach EOs took to implementing KGT, there was consensus amongst the teachers, the community representatives and the education coordinator that KGT provided an excellent teaching and learning context within the parameters of both *Te Whāriki* (Ministry of Education, 1996) and *NZC* (MoE, 2007). As said by a DOC representative "It [KGT] is a gift. It is, it does, bring the curriculum to life. It enables teachers to teach *NZC* in a real life, authentic, purposeful, meaningful way" (P3, interview). With regards to *Te Whāriki*, a teacher remarked "Because *Te Whāriki* is very much about the wellbeing of the child and belonging in the community and holistic development, it [KGT] really marries incredibly well" (T1, interview). In total, eight teachers from all five participating EOs made positive remarks about the 'fit' between KGT and their respective national curriculum document. The two secondary school teachers were particularly strong in their belief about the benefits, like increased student engagement, through a real life teaching and learning context like KGT. As one of these teachers said:

> I have always wanted to try and make things relevant. There is probably nothing more gutting as a teacher when asked by students how they are going to use this and you realise that most likely they will not…So yeah I guess with everything, all your teaching, you need to try and make your teaching relevant to the real world…that has been the big thing for me, is motivation to try to add context and things like that (T12, interview).

5.3.2.4 A lack of structural capacity and time

Although KGT aligns well with the national curricula, this does not mean the teachers were capable of effectively integrating KGT within the curriculum of their respective institution. The secondary school teachers who identified KGT as an excellent teaching and learning context also spoke about the barriers of the secondary school structure to integrating this programme into their respective curriculum, with the most significant barrier being described by them as the individual disciplinary class timetable. In relation to the structural capacity of primary schools, teachers from EO2 spoke about the pressures and challenges they faced as KGT became another thing to do on top of lots of other separate projects going on at their school. On the other hand, EO3's experience demonstrated that primary schools do have the structural capacity to predominantly focus on a context like KGT through a whole school approach. However, this approach was not without its challenges. For example, the process of leading the curriculum planning process for the whole school approach took a heavy toll on the teacher-in-charge in relation to the time and energy it took away from her own class. These teachers also felt that doing back-to-back years of a whole-school approach to KGT was unsustainable, mainly because they believed the enthusiasm of the students and teachers for the project would be lost over time.

The teachers also felt that there was inadequate time for the necessary planning to effectively integrate KGT into their curricula. Six teachers reported not having enough time to develop a coherent plan to fully implement KGT. This is highlighted by the excerpt below, taken from a conversation between teachers during their interview:

> T9: The people stuff, the day to day stuff takes your time. I love this [KGT] but…

T10: There is always something more important (EO3, interview).

Furthermore, one of the DOC representatives who has also worked as a primary school teacher said:

> I think to be fair, teachers are under such a huge amount of pressure with professional development, and national standards and reporting and lunch time duty and kids that turn up with no lunch. That you get so immersed as a teacher in the day to day detail of just surviving, that to actually, to take that big picture look and make those pedagogical connections is something you might do in the summer holidays…But to be honest, teachers on the daily basis do not have the headspace or time to do that big picture thinking (P3, interview).

5.3.2.5 Other barriers

There are two perspectives about barriers that are worth documenting even though they were each only identified two times within the data. The issue of behavioural management was identified by two teachers as a potential barrier to successfully implementing KGT. As a teacher illustrated with this example:

> My kids are very high needs. So it's like today, we are going to water the garden and the seeds, but of course what happens, the blimey water can ends up on the roof. And you think, oh yeah well that's all right [laughter]. But it is all those sorts of things that disrupt the flow of the day (T4, interview).

Around this conversation about managing behaviour, another teacher commented about the challenge of having enough gear on hand so all the children in her class could be engaged in hands-on activities relating to KGT, and therefore, potentially lessening the chance of students acting inappropriately.

Lastly, two kindergarten teachers reflected on the physical nature of working outdoors during bush kindergarten as being personally challenging. As explained by a teacher during her interview:

> For me personally, certainly the aspect of the physicality. Every Tuesday, rain, hail or shine we are going [to bush kindergarten]. And

so even though I believe philosophically, I still have to pick myself up and say 'It's raining and I am smiling and we are going' (T1, interview).

5.3.3 Summary of findings related to the structures and processes

This section described the structures and processes that either assisted the development of KGT (enablers) or impeded its developmental progress (barriers). The representatives from the community organisations and secondary school who visited Te Anau in 2014 perceived this opportunity to have been highly beneficial for improving their understanding about key components of the Kepler model and how they might be modified for the Taupō context.

For some teachers, the inception of the KGT pilot project was an impetus for starting an environmental initiative within their respective institution. All the stakeholders familiar with *Te Whāriki* and *NZC* believed KGT aligned well with these curricula. Teachers appreciated the flexibility and non-prescribed nature of the KGT structure as they were able to implement a programme that fitted their curriculum and preferred approach (e.g., school-wide approach, syndicate-level approach). Teachers thought the high public profile of the pilot generated through a number of media releases not only created a 'buzz' of excitement for those involved, but was also useful for validating the importance of their projects and increasing other's understanding of KGT. Nevertheless, teachers still provided a number of examples when a lack of buy-in from either staff, administrators or parents impeded using KGT as a teaching and learning context.

Many stakeholders and the education coordinator identified benefits when the 'right' organisations and individuals were involved with KGT. The support teachers received from the community organisations was very much appreciated as many teachers perceived this to be crucial to the success of their environmental projects. During the pilot, this support came mainly in the form of assistance from people rather than tangible resources. A number of teachers expressed their disappointment that there was no funding or materials made available through the proposed Take Action Fund, but generally, the lack of funds did not inhibit schools from participating in KGT or progressing their projects forward.

Lastly, in terms of the structures and processes related to the working group/SLG, the processes of communication and logistical planning were perceived to be

critically important to the success of KGT, as indicated by the high number of comments relating to these two themes. The need to frequently revisit important strategic elements or knowledge-based information was identified as an imperative for effective communication. During the interviews, some teachers indicated they had become confused about how the components of collaboration and a continuous learning journey were supposed to be achieved. The reality was the working group had not determined themselves how these components could be achieved in the Taupō context, but this was never made clear to the teachers. In terms of logistics, a large number of teachers believed there was inadequate pre-planning of dates and some teachers felt the working group/SLG could have been more decisive rather than trying to obtain consensus from all stakeholders. Many stakeholders perceived the teacher and student meetings as having been too formal and there was collective agreement that the meetings and events should be more hands-on and meaningful, similar to what the teachers experienced during the educational workshops.

During the interviews, teachers consistently remarked about the appropriate fit between KGT and the national curricula, and teacher feedback throughout the course of the pilot provided evidence that they saw many exciting cross curricula teaching and learning opportunities within the KGT context. But for some teachers, there were significant barriers that prevented them from effectively integrating KGT within their respective curriculum. As identified by many of the teachers, a lack of structural capacity and time were the main barriers preventing them from properly planning for and maximising the opportunities afforded by KGT.

5.4 Observed outcomes

The structures and processes implemented through KGT have had subsequent outcomes for the individuals and organisations involved with the pilot project. Although this study did not set out to empirically measure these outcomes, the observed outcomes of the stakeholders and education coordinator were explored by asking an interview question about how their involvement in KGT influenced themselves, their respective organisation or students in the case of the teachers. Some of the outcomes I observed during the course of the pilot through my participant observer role are also referred to in this section. These formative outcomes have been categorised into the themes of educational, ecological, social

and professional, and respectively organised into the subsections 5.4.1, 5.4.2, 5.4.3, and 5.4.4.

5.4.1 Educational outcomes

During the interviews, 11 out of the 15 teachers provided examples about the ways in which they perceived KGT to have had an educational influence on their students. Teachers of the younger children involved in KGT (ages three to seven) thought the programme expanded their students' sense of wonder, curiosity and imagination. In relation to bush kindergarten, one teacher said:

> For me, it's seeing children create and use their imagination at such an early age to such a high level with so little man-made resources. Nature provides the classroom (T15, interview).

With regards to this theme, a teacher from the other participating kindergarten commented:

> As time has gone on, I have noticed a lot more [children] looking down at things in the ground, lots of children looking more for creatures and finding things in logs (T2, interview).

Another kindergarten teacher also discussed the benefits of how they perceived the bush kindergarten setting to foster care and concern for one another, which included building a more trusting relationship between the teachers and students, as one said:

> It has really strengthened and bonded the relationships with the group, with each other and the environment. And then, that is brought back into the setting of kindergarten. Children that wouldn't normally give two hoots about each other when they were here, but when they are there, they have respect, trust and patience for one another…Being patient for 'so and so' to come up the hill, or helping them come up the hill; waiting because someone has found something that they really want to investigate and then everyone coming to investigate. And then you come back [to kindergarten] and you can see it transferred back ten-fold. Yeah, it's huge (T12, interview).

The teachers from these two kindergartens and EO2 also perceived an increase in the students' environmental awareness, knowledge and responsibility. This also included an improved connection with nature as teachers noticed over time the children growing more interest in their natural surroundings. This perspective is reflected in an excerpt from a conversation between the teachers from the respective primary school.

> T5: I walked around with my kids and they started noticing seedlings, kowhai and damaged things [plants]. And looking at the plants as living things rather than something to be played on.
>
> T4: …it's letting the kids wonder about stuff which is really important because they haven't [wondered much previously].
>
> T7: They never really thought about how long it will take things to grow or geminate, or where they will grow.
>
> T4: And to make connections. Because I remember when we looked at the flax, the harakeke seeds, one of them came with an apple and said 'Do you think this will grow?'
>
> T5: And I had children bringing harakeke seeds in and saying 'Oh I found these [seeds]'. It was really neat. It just heightened their awareness…as previously they had no awareness.
>
> T4: Even the real basics of growing a seed, what is needed to grow a seed (EO2, interview).

With regards to the older students (aged 9 - 17), seven teachers, the education coordinator and the DOC representative (who temporarily acted as the coordinator in the early stages of the pilot project) commented on how they believed KGT to have influenced these students. These stakeholders and the education coordinator believed KGT helped develop personal attributes like self-confidence, as well as some key competencies such as managing self and relating to others. Four of the teachers also referred to an increase in the students' sense of responsibility, ownership and achievement through KGT. As put by one teacher from the secondary school:

> It's the ownership part...that when we go down to Spa Park that they are quite proud and protective of the little bit we have done so far even though it's just a starting point…And already we can see it, what the opportunities of the student leadership team has made. At prize giving on Friday, our kids [KGT kids] going up time and time again…So like Susan [pseudonym] has gotten the principal's award and I am sure that is a reflection of the work she has done with KGT and the confidence they have gotten from the 'scary' things they had to do this year (T12, interview).

This teacher also perceived that the students from her science class enjoyed learning much more when they were learning outdoors at the KGT project area in comparison to being in the classroom environment.

The observed educational outcomes were not isolated to only the participating students, as teachers who commented on the education workshops unanimously agreed these opportunities increased their knowledge about the natural environment and cultural perspectives. As one teacher commented, the educational workshops added to her 'backpack of knowledge'. Similarly, the education coordinator described how her involvement had increased her knowledge of Taupō, particularly with regards to some of the experts who reside in the community and the affiliated organisations involved with KGT.

5.4.2 Ecological outcomes

During the interviews, neither the stakeholders nor the education coordinator identified any specific ecological outcomes arising from KGT. But in relation to this theme, a GT representative explained that the ecological goals of KGT had not been prioritised as much as he had envisioned they would be. In other words, he expected the programme would have placed a much greater emphasis on conservation outcomes compared to what had occurred to date. During his interview, he said:

> At this moment, it is early days, but I see quite a lot of it not being about the conservation goal. I see it perhaps more abstract than what I see at the Kepler. Now I might not understand the Kepler or I might just be overwhelmed by what I see the kids doing down there. Not the

> kindergarten kids, but I am talking about the other kids, trapping rats and stoats and really making a difference. I see this [KGT} being more about education, abstract, than not as much delivery of outcomes as what I perceived to be at the Kepler (P2, interview).

Nevertheless, some ecological outcomes were achieved as I observed through site visits to the EOs or from progress reports delivered at the teacher planning meetings. Four of the five EOs planted trees during the pilot project either within their institutional boundaries or within their project area, with one of these EOs planting approximately 500 trees. And although the remaining EO had not physically undertaken any restoration works, the students had developed a planting plan for their proposed project area (a public reserve area) in conjunction with a landscape architect. At the end of the pilot in May 2016, this EO was awaiting approval from TDC to commence the proposed works associated with their landscape plan.

5.4.3 Social outcomes

The majority of comments made about the social outcomes of KGT related to either community involvement or cultural awareness. Seven teachers perceived KGT as an opportunity to experience being part of a community. As two teachers commented on during their interview:

> T2: This really taps into stewardship, that caring for others and our environment, a fundamental principle of Steiner. It's such an important thing to teach our young people. And give that experience when in society it's all me, me and my desire. To feel what it is to give to the community or give local is so very important.
>
> T3: We need that, we need that in this age we live in. We need that for our youth (EO1, interview).

Some of these teachers identified the pilot as not only having impacted their students, but also the wider community affiliated with their respective institutions. Three of the seven teachers indicated there had been increased parent involvement as a result of KGT. In relation to a working bee held at one of the schools, a teacher remarked "We got a hell of a lot of parents, we got parents we would have never

have seen" (T4, interview); additionally, some of these parents made unexpected donations towards the working bee such as soil, plants, a greenhouse and money. Teachers from another school spoke about the way in which KGT led to collaboration between their staff and the Parent Teacher Funding Association.

With regards to cultural perspectives, three teachers from three different EOs believed involvement in KGT had increased both the students and their own awareness and knowledge about the local iwi, Ngāti Tūwharetoa. One teacher described feeling quite privileged when a parent invited her to her home in order to teach her more about Māori uses of harakeke. Another teacher spoke about the connection that developed between her students and the TMTB representative, and the importance she placed on this experience in relation to building the children's connection with the local iwi.

Overall, the majority of the social outcomes of KGT identified by the interviewees were positive except for two separate accounts, which resulted because the collaborative and continuous learning journey principles had not been fully realised by the KGT model. One interviewee perceived there to be a competitiveness between two of the EOs as a result of the current strategic focus being on the restoration of individual project areas rather than in a common area. The other negative account was in relation to the fact that a young person who was involved in KGT at kindergarten was unable to continue participating once enrolled at EO2. As understood by a representative from one of the affiliated community organisations and teachers from one of the EOs, the child could not participate in KGT because they had not yet incorporated the programme at the new entrant level. The community representative expressed his frustration about the reality of the current educational system which commonly prevents young people from engaging with their personal interests and his perception that often in the modern world "we are so confined by our work that we don't get to be people" (P7, interview).

5.4.4 Professional outcomes

In relation to the improved awareness and understanding of cultural perspectives as discussed in the section above, teachers from three different EOs indicated that KGT had helped them develop their bicultural teaching practice. As one teacher said during her interview:

> Working towards a more bicultural practice within the kindy has been a big thing for me. With the Waipahihi Marae visit and sort of being much more aware of bringing those things into our teaching and learning at kindergarten. The awareness of Māori values and things to do with the environment and caring for it. That's been a surprisingly nice connection for me (T1, interview).

KGT provided other teachers with new insights into their professional practice. In relation to her role as deputy principal, one of the secondary school teacher representatives said:

> What has had a huge impact on me…was just being the driver, and [listening] to the fun, the learning and everything, even the chit-chat that went on. Even one time we were only there for 20 minutes but it had a huge [emphasis on 'huge'] impact on me in terms of my teaching and as a school leader and maybe being able to direct some of this to timetable structure [changes to accommodate KGT] (T11, interview).

Teachers from another EO discussed during their interview how the planning and implementation of their KGT project helped to improve their staff's understanding about environmental education:

> T10: And now environmental inquiry is getting much broader [through KGT] than what everyone thought environmental inquiry would be.
>
> T8: Yeah like thinking it's only about tree planting.
>
> T10: Yeah it's become much broader.
>
> T8: Yeah like tracking and trapping and…
>
> T10: the obstacle course, the cycling, making a pump track, getting so people can get out in the environment.
>
> T9: And just taking notice about you know, our environment and where we are. This has definitely come to the forefront in my particular area in the middle school. Actually yeah, we are by

a lake and wanting to know about trees, and birds and bugs and ecosystems and that sort of stuff.

T8: Because I think before it was pitched at picking up rubbish and planting. And like now they understand it's about being kind to one another and our values…

T9: where we are from and how to nurture that…

T8: and healthy eating and looking after yourself and each other (EO3, interview).

Representatives from two of the community organisations felt KGT had positive impacts for other staff within their office or across their respective organisation as a whole. A DOC representative spoke about the value of the new connections they made with different people across the Taupō community and described the benefits that arose from the collaboration between different teams within the DOC office for the purposes of the launch. At the national level, this representative also perceived KGT as an enabler for transforming DOC's historical 'dial a ranger' approach to conservation education and dealing with school requests.

As explained below, KGT was the impetus for GT to expand the skill set of its executive board and also was a useful mechanism for helping the organisation obtain funding from the TDC:

> It's influenced us in terms of our spread of time, our structure, we are obviously taking more on…The most recent example is that we needed to strengthen up our executive and in doing that, in finding three new executive members…we needed certain skill sets and that we needed certain people from a business perspective to bounce ideas off because we are going to need people to support us…So it has definitely changed us. And it has had, KGT, has had a very positive influence for us getting our funding from Taupō District Council for the [GT] coordinator…So KGT is a good leverage, lever for us to obtain more funding…Yes it adds to the portfolio (P2, interview).

5.4.5 Summary of the observed outcomes

A number of the teachers, the education coordinator and the DOC representative who acted as the education coordinator early in the pilot project commented on educational outcomes they believed to have been associated with KGT. For the younger children involved with KGT, teachers perceived an increase in their (1) curiosity, wonder and imagination, (2) environmental awareness, knowledge and responsibility and (3) care and concern for one another. With regards to the older students, it was believed that KGT had developed some of the students' personal attributes (e.g., self-confidence) and competencies (e.g. managing self), as well as an increased sense of responsibility, ownership and achievement. Educational outcomes for the teachers were also identified, which related to an increase in their knowledge about the environment and an improved understanding about cultural perspectives.

None of the stakeholders nor the education coordinator identified any ecological outcomes of KGT; albeit there were some ecological outcomes through tree planting activities that occurred as part of four of the EOs' environmental initiatives. A GT representative explained how he had expected a much greater emphasis to be placed on generating conservation outcomes through KGT compared to what had occurred to date. Overall, he felt the outcomes being sought though KGT were much more abstract than the outcomes sought through the Kepler programme.

The main social outcomes of KGT identified by the stakeholders related to either the provision of opportunities for community involvement or experiences that led to a connection with the local iwi. There were also two observed negative outcomes relating to the theme of social outcomes, which were consequences of some of the foundational principles (e.g., continuous learning journey) not being fully realised through KGT.

Lastly, in relation to the professional outcomes of KGT, the programme provided teachers with some new insights into their teaching practice and it had some positive impacts for the affiliated community organisations.

5.5 Moving forwards – opportunities and challenges

A theme about the unrealised opportunities and potential challenges of KGT emerged from the data collected during the interviews. The two most prevalent sub-themes identified by the stakeholders and the education coordinator about opportunities and challenges were in relation to (1) establishing a continuous learning journey and (2) providing opportunities for collaboration.

Seven teachers, three representatives from the community organisations and the education coordinator identified an opportunity to establish a continuous learning journey, whereby the young people of Taupō can be involved with the KGT irrespective of what EO they are enrolled at. A TDC representative suggested that holiday employment or cadet internship positions with TDC could be linked to this learning journey. As the programme stands now, the KGT students are unable to participate in a continuous learning journey as no intermediate-level EOs (Years seven and eight) are involved. Towards the end of the pilot, an opportunity arose to get an intermediate-level EO involved with KGT, but stakeholders agreed that the pilot needed to be reviewed and a procedure put in place before bringing new schools on board (DOC representative, personal communication, May 4, 2016). If KGT cannot be incorporated into all of Taupō's EOs in the future, there will be challenges resulting from educational zoning, which could restrict some students from enrolling at a KGT affiliated school. As one of the GT representatives remarked, achieving a continuous KGT learning journey for Taupō's youth is always going to be fragile due to the many barriers which have the potential to impede fulfilling this opportunity. Through further contemplation, the GT representative remarked:

> In some ways I feel that the community might just be too big for it. You know, I look at Te Anau and it might be the optimum size community to easily achieve the goals of the project that are focused on a specific delivery like GT…and perhaps part of my comment was partly influenced by…the Kepler, Te Anau, everything is focused around the national park. It is the only reason why the town is there. So it has a very direct relationship with the community. Taupō is far different. There would not be anyone who lived in Te Anau who wouldn't know about the Kids Restore the Kepler, everyone knows about the Kepler

> track. Talking about conservation or something in Taupō is a little bit different. It is not quite the direct connection. So that probably, as well as my comment about size. It is probably easier to get all the education spectrum in Te Anau all heading in one direction than it is in Taupō (P2, interview).

This view by the GT representative highlights two additional barriers that must be considered if a continuous KGT learning journey is to be achieved. One barrier being the larger number of schools in Taupō compared to Te Anau and the second barrier related the level of understanding and value held by the town's residents about the importance of conservation.

The other sub-theme identified by a large number of the stakeholders (ten teachers and five community representatives) and the education coordinator was the potential for collaboration through KGT. As put by a DOC representative:

> It's about working through the process of building that big shared common goal and figuring out how we will work together and work to strengths to achieve it (P3, interview).

Five of the ten teachers who commented on the collaborative potential of KGT expressed the desire to have one specific collaborative project or focal point for all participating EOs to work together on. Extending the collaborative opportunity to the wider community (e.g., family and whanau) was also promoted by four teachers, a TDC representative and the education coordinator. As a teacher said:

> Because the kids all have parents and if they were involved it would give us more bang for our buck in a sense that the kids can be educating their parents too (T11, interview).

Three of the five representatives from the community organisations who commented about the collaborative opportunity perceived it to be an enabler for KGT participants to learn about different perspectives, both at an individual and organisational level. An example of this given by the TMTB, which he called the 'Tūwharetoa perspective', was:

> We [Ngati Tūwharetoa] are the largest land owner in the district and we have some very successful business ventures like Tuaropaki…different

> avenues that we have pursued based on kaitiakitanga [a way of managing the environment, based on a Māori worldview]. If you look at Tuaropaki, they have zero waste now…So it is so cool if we can grow some seeds towards that type of thinking (P7, interview).

These perspectives demonstrated the belief of many KGT participants that the collaborative opportunity between EOs is worth pursuing. Stakeholders identified the issues of transport and safety and the competitive 'climate' between Taupō's EOs as some of the main barriers preventing more collaborative projects. Reflecting on collaboration, the GT representative once again provided 'food for thought' during his interview:

> How much do they need to be integrated is a question. Yeah. That is a question of mine. Would it be a failure if they weren't? I think there is a great benefit in them sharing ideas etc. and their learning. But would it be a failure if they didn't integrate? Does it actually take a lot of time that is counter-productive by trying to coordinate that integration (P2, interview)?

A few other sub-themes about future opportunities came through the analysis of the interview data. Two of the community representatives, three teachers and the education coordinator felt that the potential for KGT to provide the students with a connection to the people and place of Taupō had not been realised. The teachers and the education coordinator believed this opportunity was important for enabling young people to 'just be' in the natural environment without "being rushed from here to here to here and then put in front of an IPAD" (T14, interview). The TMTB representative felt that connecting to place was also linked to changing the way the students think about the environment, or in other words, for them to gain an understanding about the 'connectivity of everything'. An example this representative gave about connectivity was as follows:

> So the stewardship connectivity is looking at how I escalate the view, my personal view, of my surroundings. Because at the moment, they are down here because it is a tree. But if it is a tree that gives life to you through oxygenation, water, shelter, through the canopy, to birdlife, the bird that lives in the tree…and feeds my puku {stomach]…Those

> connections are what I believe KGT is trying to celebrate, to show that a tree is more than a tree (P7, interview).

Although learning about connectivity may not be a tangible environmental outcome, the TMTB's representative's standpoint from a cultural perspective was that it would be the best possible outcome of KGT.

Four teachers spoke about the untapped potential to make connections between KGT activities and *NZC*, both in terms of content and key competencies. For example, one of the secondary school teachers explained:

> So that when we are out there, yeah, that it is also backed up with a bit more learning back here [at school], like why do we dig a hole that size? KGT is also really the context to teach the key competencies such as managing self, communication and understanding. I think that is where we need to make it more explicit and visible with the kids (T11, interview).

The final opportunity that was identified by both a teacher and a community representative was related to the opportunity for research, in terms of assisting the development of similar programmes based on Kids Restore the Kepler and KGT in other locations, as well as measuring the long-term outcomes achieved by these types of programmes. Teachers from EO5 spoke about their hope for potential research like this to influence government policy related to kindergartens and early childhood centres. Excerpts from this conversation were:

> T13: It is really important in this time in society…that it is not ok for a teeny tiny outdoor area for children to be in all day with fake grass…
>
> T15: Because we cannot have children in these environments where they do not see a worm, because worms don't survive in plastic grass. But that is the reality of our future…We talk about wanting our country and planet to survive, but our children…
>
> T14: They seem to get forgotten (EO5, interview).

During the interviews, some challenges other than those associated with the opportunities as highlighted above, were identified. In summary, these were:

- communicating effectively so that all participants have a common understanding about the proposed process to achieving critical strategic elements;
- sustaining the momentum of progress and stakeholder enthusiasm;
- achieving an on-going programme through succession planning;
- assuring equitable sharing of support; and
- overcoming the logistical issues and barriers resulting from the structure of the EOs.

5.5.1 Summary of findings related to opportunities and challenges

The two unrealised opportunities identified by the most number of stakeholders were (1) establishing a continuous learning journey and (2) providing opportunities for collaboration between the EOs, including their respective wider communities. One stakeholder questioned the practicality and feasibility of these opportunities, in particular in relation to the number of EOs involved and the conservation ethos of the location. Other stakeholders identified issues of transportation and safety, as well as the 'competitive climate' between Taupō's EOs, as limiting factors.

Other opportunities as discussed during the interviews were: (1) facilitating more experiences that connect students with place, including developing a greater awareness about the connectivity of everything, (2) improving connections between KGT activities and the *NZC* and (3) establishing research programmes about outcomes achieved through conservation education programmes like KGT.

Other challenges identified by the stakeholders and the education coordinator included achieving effective communication, sustaining project momentum, succession planning, and the provision of equitable support and logistics.

5.6 Chapter summary

The focus of Chapter 5 has been to explore, interpret and make meaning from the perspectives of the stakeholders and education coordinator about the structures, processes and outcomes associated with the development of KGT.

Firstly, in relation to the strategic planning of the pilot project, the data reflected that all stakeholders and the education coordinator perceived the KGT vision to be about providing opportunities for the young people of Taupō, but there were different expectations about the outcomes to be achieved. A number of representatives from the community organisations also believed there was a lack of consensus amongst the stakeholders about how to best achieve the vision. Each community organisation had specific objectives for being involved, while the majority of teachers and their respective EOs participated because KGT provided an environmental education opportunity for their students. The data also clearly indicated amongst all stakeholders that they did not have an accurate or complete understanding of role clarity in relation to the partnering community organisations.

Secondly, there were two sets of structures and processes used to design and implement the pilot project. One set of structures and processes related to the working group/SLG, whereas the other set were those used by the EOs to integrate KGT into their respective institutions. Through the analysis, these structures and processes were categorised as being an enabler, a barrier or both. The data reflected a collective belief amongst the teachers that their participation was largely enabled through the structure of KGT, particularly in relation to its non-prescribed and flexible nature and high public profile, as well as it simply being an impetus for starting an environmental education initiative. The teachers also perceived the involvement of key organisations and individuals from the community as being critical to the success of their environmental initiatives. Many stakeholders identified communication and logistical planning as vital to the success of KGT. Whilst teachers involved were clear about the alignment between the KGT opportunities for teaching and learning with the national curricula, they were concerned about the equitable provision of support and resources through KGT. There was also a collective point of view that it was difficult for primary and secondary teachers to effectively plan for KGT in their respective curriculums because of a lack of time, and for some, a lack of structural capacity within their institutions.

Thirdly, the formative outcomes of the pilot project, as identified by the stakeholders and education coordinator, were categorised into the themes of educational, ecological, social, and personal and professional. The data reflected three groups of educational outcomes as being: those within younger children such

as an increase in curiosity and environmental awareness; those within older children mainly pertaining to the development of personal attributes and competencies; and those for the teachers relating to an increase in their cultural and environmental knowledge. The majority of perspectives about social outcomes were linked to the benefits arising from the improved community and cultural connectivity that KGT gave rise to. A few negative social outcomes were also identified which related to disappointments for some participants because the programme had not yet realised its full potential in terms of developing its four foundational principles. Although the tree planting by the EOs equated to an ecological outcome, there was no mention of this outcome in the data. Professional outcomes identified by some teachers related to new insights into their teaching practice and some community representatives believed KGT expanded either their personal or respective organisation's professional capacity.

Lastly, the final section of this chapter pertained to perspectives about future opportunities and challenges of KGT. Throughout the interviews, it was clear that the stakeholders believed establishing a continuous learning journey and providing opportunities for collaboration between the EOs and the wider community were an imperative. Other opportunities identified through the data included connecting student with place, improving curriculum integration and establishing a long-term research programme to measure outcomes. There was a wide range of perceived challenges for the programme going forward, with logistical and safety issues, sustaining project momentum and the assurance of equitable support to name but a few.

The findings from Chapters 4 and 5 are discussed in Chapter 6, the final chapter of this thesis.

Chapter Six

Discussion, Conclusions, Implications and Recommendations

6.1 Chapter overview

In this chapter, the findings of the research are discussed. The discussion is explored through the research questions, the themes emerging from data analysis and the literature reviewed for this study. In the final section, conclusions are outlined, as are the implications of these and subsequent recommendations.

6.2 Research questions

This purpose of this research was to provide an in-depth study about the structures established and processes undertaken during the development of Kids Greening Taupō (KGT) over an 18-month pilot project. Furthermore, the study sought to explore the perspectives of the KGT stakeholders about these structures and processes, as well as the formative outcomes observed over the course of the pilot project. The research questions guiding the research process were:

- What structures were established and processes undertaken by stakeholders to design and implement a conservation education programme in a community?
- What are the stakeholders' perspectives in relation to the structures, processes and formative outcomes achieved to date?

6.3 Structures and processes

In this section, findings related to evidence about the structures and processes developed and utilised by the KGT stakeholders are discussed. The evidence was developed through thematic analysis of the observational notes I took at KGT meetings and events and relevant documentation I was privy to over the course of the 18-month pilot project. In this thesis, 'structures' refer to the tangible elements of the programme, comprised of people, resources and documentation, whereas 'processes' relate to the activities undertaken by the stakeholders and education coordinator.

6.3.1 Structures

6.3.1.1 A pilot of a conservation education programme

Following a trip to the Kids Restore the Kepler programme by members of DOC, GT and teachers from one school in Taupō, a decision was made to pilot a conservation education programme (KGT) based on the Kepler programme. This pilot programme was the impetus that brought people together with a purpose of delivering conservation education under the umbrella programme of KGT. The use of a pilot structure showed an intent to learn through developing the programme and that future modification and change was likely. Throughout the 18-month pilot project, the concept of KGT as a pilot was frequently referred to, which I believe, provided a bit of 'breathing space' for those involved when things did not always run smoothly.

The visitors to the Kepler programme brought back some key principles for the proposed conservation education programme in Taupō. Predominantly, these were identified as follows: (1) an authentic conservation teaching and learning opportunity enabling educational organisations (EOs) to provide their students with real-life learning experiences, (2) a collaborative partnership between EOs and community partners was presumed necessary to fully realise KGT's potential and (3) a student-led approach whereby the students would be the 'drivers' of the programme (Department of Conservation, 2014). Collectively, these principles are well aligned to both a 21st Century education (Bolstad et al., 2012) and an ESE approach (Tilbury & Wortman, 2008), calling for the use of authentic teaching and learning opportunities that are student-led for a transformative process (Sterling, 2001).

Broadly, the educational ethos underpinning KGT sought to be constructive and participative in the local context, rather than merely transmissive and instrumental (i.e., educating for specified ends). Although the literature indicates a number of benefits for teaching and learning programmes based on these approaches (Ferreira et al., 2012; Sanders & Lewis, 2005), there are also a number of philosophical and practical hurdles to overcome, with the majority derived from the fact that such approaches do not fit within the traditional education system (Bolstad et al., 2012; Sanders, 2001). As such, a collaborative structure based on school community

partnerships (SCPs) was seen as a key ingredient of KGT in order to help EOs overcome such challenges.

6.3.1.2 A partnership model

As a conservation education programme, KGT is placed within the environmental and education sectors. Partnership models addressing environmental issues have been increasingly used as the issues tend to be multi-disciplinary, and therefore, require cross-sectoral collaboration (Clarkson, 2015). On the other hand, partnerships in the educational context have been used less frequently even though theory suggests that the socialisation and education of children is best achieved through cooperative action and support between schools, families and wider communities (Epstein, 1987). The development of more SCPs is likely if a 21st Century approach to education becomes increasingly entrenched.

The SCPs used in KGT were a means for helping to achieve the two broad goals of (1) developing authentic teaching and learning opportunities in the local context and (2) assisting efforts towards ecological restoration. The value of these goals lie in the fact they are mutually beneficial (i.e., the ecological restoration opportunity provides an authentic teaching and learning context whereas student participation in the authentic learning context helps assist restoration efforts).

The term ‘stakeholders’ refers to the organisations who have joined together in partnership, and as suggested by Wei-Skillern and Silver (2013), the selection of these partners is of the utmost importance to partnership success. The right mix of stakeholders forms the foundation from which holistic, coordinated and realistic decisions may arise from, as well as shaping a culture of trust-based relationships (Israel et al., 2001; Wei-Skillern & Silver, 2013).

The KGT pilot involved a total of nine stakeholders comprised of four community organisations and five EOs. The community organisations were made up of an ecological restoration group known as Greening Taupō (GT), Department of Conservation (DOC), the Tūwharetoa Māori Trust Board (TMTB) and Taupō District Council (TDC). This diverse group of organisations held different perspectives which were all seen to contribute in some way to the overall objective of the project.

Overall, the KGT stakeholders were chosen largely because of their potential contributions. In terms of the community organisations, selection was largely in relation to the resources and expertise they potentially could offer, while the EOs essentially provided the target audience. After 18 months of involvement, the evidence provided in Chapter 4 demonstrates that all stakeholders had contributed to the pilot in accordance with their own objectives, which led to a mutually beneficial partnership and effectively fed into achieving the objectives of the project.

The findings suggest that stakeholder selection should also consider organisational capacity. As noted above, building trust-based relationships is an imperative for sustainable partnerships, but developing trust tends to be particularly time-consuming (Israel et al., 2001; Sanders & Lewis, 2005; Wei-Skillern & Silver, 2013). Thus, organisational buy-in and long-term commitment is considered another key ingredient for establishing successful partnerships, which in terms of SCPs, is a new concept, as historically they have been organised at an individual rather than organisational level (Bolstad et al., 2012). With regards to KGT, generally there was organisational buy-in as all stakeholders remained on board for the length of the pilot and representatives willingly and enthusiastically participated. But it should be noted that buy-in was not always straightforward. Some examples included one school's involvement in KGT being undertaken on-top of an already full curriculum, meaning the school struggled to commit resources, and a community organisation took over seven months to find a replacement representative to participate in the strategic leadership group (SLG). Stakeholder representatives had the right perceptions and attitudes, such that they genuinely valued the opportunity to partner with the wider community (Minkler et al., 2008; Sanders & Lewis, 2005).

6.3.1.3 People and documentation

From the start of the pilot, it was assumed that an education coordinator would be hired as soon as funding could be obtained. But temporarily, in lieu of a coordinator, a 'working group', comprised of representatives from three of the four community organisations was formed in order to 'share the load' of planning for and implementing the pilot. Participating teachers were asked to become part of the working group, but this offer was not taken up. The working group was effective as

a short-term measure for getting KGT up and running, but eventually, involvement at both an operational and strategic level took its toll. After some representatives suggested they could no longer continue working in this capacity (Working group meeting, May 11, 2015), funding was found to hire a coordinator. Without this funding, it is conceivable that the momentum generated could have severely stalled or potentially even led to the pilot's collapse. With a coordinator on board, the representatives were able to, over time, focus largely on KGT strategy, which subsequently led to a change in the group's name to the SLG (Working group meeting, December 16, 2015).

A student leadership team (SLT), comprised of four student representatives from each of the three participating schools was an important structure for the student-led component of KGT (Boyd, 2013). This structure was created through a *Terms of Reference to Establish a Leadership Team*, developed by the working group. The SLT meetings were held monthly, usually at DOC, which provided an opportunity for the students to connect and plan for some of the KGT events (e.g., formal launch). At these events, some of the students had roles that they perceived to be challenging and leading to personal growth. But because of the time pressures to complete planning tasks for these events, there were limited opportunities for a genuine student led approach, including the exploration of the future direction of KGT based on a youth perspective. Overall, the intent of the SLT to provide a learner-and-action-oriented approach was worthy and aspirational, but in reality, the majority of decision-making during the course of the pilot was undertaken by the working group/SLG and coordinator.

In terms of documentation, at the start of the pilot, a DOC communication advisor developed a KGT communications plan to help build a shared understanding of the programme's intent among the stakeholders, as well as organising a number of media releases to increase the pilot's public profile (see Appendix F). Approximately six months into the pilot, the programme's initial strategic plan was finalised. Based on the importance of early strategic planning (MoE, 2015b), it would have been beneficial to have developed the initial plan prior to the commencement of the pilot, including the provision of regular review periods in order to update this 'living' document as KGT developed (Chapin et al., 2012). Furthermore, the valuable information in the communication plan could have been incorporated into the strategy, through which it might have been referred to more

regularly. Next, a genuine attempt was made to develop an education guide for the EOs to assist integrating KGT into curriculum planning, but it was never completed due to a lack of time. The overall intent of the guide was to give teachers many detailed ideas about KGT teaching and learning opportunities based on the local context (including taking account for seasonal fluctuations). If this guide had been produced, linking the teaching and learning opportunities with the respective national curriculum was not deemed to be a priority as teachers are capable of identifying these links when required. Lastly, although funding issues were always prevalent during the pilot, specific documentation related to a funding strategy was not developed until near the end of the pilot. As funding is another key ingredient to partnership success (Thompson, 2002), this should have been built in from the outset of the initiative.

6.3.1.4 Environmental initiatives

With the help of TDC, each EO identified a location for developing an environmental initiative for their students to participate in. Broadly, the kindergartens found locations where their students could freely play in the natural environment and connect with nature, whereas the schools found project areas where their students could develop competencies and skills through opportunities to restore native vegetation. This approach, whereby EOs had their own separate project areas, differed from the Kepler programme which utilises one common area for all participating EOs to work in. The reason for the individual projects in KGT was because there was no immediate common area for all EOs to easily and fairly access. Hence, the stakeholders collectively agreed to use areas either within or in close vicinity to their organisation's boundaries (Teacher planning meeting, October 10, 2014). Nevertheless, the concept of collaboration was often at the forefront of stakeholder discussions about programme development. Teachers were keen for students from different EOs to work together (Teaching planning meeting, December 10, 2014) and the working group was concerned that competition between these organisations might increase without a collaborative venture (Teacher workshop debrief, December 11, 2014).

Collaborative approaches align with systems thinking, promoting the premise that integrated and collaborative systems tend to be more productive and resilient than independent entities (Capra, 1994; Falk et al., 2015; Sterling, 2001). Furthermore,

collaborative efforts between partners tends to improve economies of scale, which is particularly important in the conservation context where limited funding is continuously identified as a major obstacle (Clarkson, 2015; McMillan & Binns, 2011; Norton, 2009). The findings signal that collaborative restoration projects between EOs could be beneficial in terms of helping ensure the longevity of these projects, using resources efficiently and providing students with experiences working in partnership with others. However, as highlighted by a GT representative, there are challenges that arise from this endeavour such as the high level of planning and coordinating that will be necessary to ensure EOs have fair and equal access to a collaborative project area. This points to the need for the SLG to critically evaluate future projects with the specific outcomes as sought by stakeholders.

Nevertheless, it should be noted, that even with each EO focused on their own initiative for the time being, there was still plenty of on-going collaboration as the working group/SLG members worked together to develop the umbrella KGT programme, and teachers were assisted by community partners, local experts and business owners to develop their respective projects.

6.3.1.5 Special events

Four significant events took place over the course of the pilot project. These included two programme launches (one being a fairly informal local event and the other a more formal, official launch), a day spent with TV3 News filming and a visit from the New Zealand Governor-General. Generally, the SLT were heavily involved with planning these events. The SLT and all the KGT kindergarten students attended the events, and at times, student attendance also included some other students from the participating KGT schools (e.g., kapa haka students led the powhiri at the official launch). Planning for these events tended to divert significant amounts of time, energy and resources from other work associated with developing the KGT programme as a whole and the individual environmental initiatives. This was particularly evident while planning for the formal launch, which required approximately three months of stakeholder and student efforts. Nevertheless, these events increased the public profile of KGT and also equated to some unique experiences that the students would not have otherwise had. Additionally, these events also provided a means through which the SLT could collaborate and achieve

something together, although as noted previously, planning and decision-making was not always fully led by the students due to impending deadlines. Overall, such events are exciting and offer many benefits, but the decision to undertake them needs to be carefully considered with respect to the expected outcomes. In hindsight, it probably would have been better to have held the formal launch towards the end of the pilot, when it could have provided a chance for the students to gain more from involvement in planning and decision-making and to celebrate the end of the pilot and announce the next phase of the programme.

6.3.1.6 Funding

The pilot project was launched without having secured funding. From the outset, the working group discussed with teachers two key structures, these being the education coordinator role and a Take Action Fund, which would be established once funds could be obtained. But finding the funds proved more difficult than perhaps originally thought.

A few months into the pilot, some attempt was made to identify potential grants and three applications were made, but all were denied. DOC eventually provided a funding 'life-line' and a short time after, KGT was the recipient of a DOC Collaborative Community Partnerships Fund. These funds secured three years part-time salary for the coordinator and some money to put towards the Take Action Fund (although the majority of this money was used for expenses related to the formal launch).

Overall, there was no coordinated approach taken to finding funding for the pilot, which may have caused the difficulties the working group/SLG faced to secure the necessary funds. Although some teachers were disappointed by the lack of funds available for their environmental initiatives, traction was still made on their respective projects, typically through money raised by the EOs themselves via grants, fund-raising days and the assistance of their respective Parent Teacher Funding Association.

6.3.2 Processes

The literature review for this study identified three broad processes for developing SCPs as planning, implementing and maintaining. These three processes guide the discussion in this section with a number of other key processes, such as

communication and evaluation, also described herein. In this section, the four stages of the KGT pilot, as identified in Chapter 4, are used to illustrate when and how the key processes were utilised.

6.3.2.1 Planning

Planning sets the foundation for successful and sustainable partnerships (Minkler et al., 2008). Early planning provides the foundation for the development of partnerships that are effective and sustainable, meaning they will remain resilient, develop and evolve as changes and fluctuations occur.

The Ministry of Education (2015b) refers to steps taken to identify potential partners, connect with them and secure a relationship as 'taking stock'. The SCP literature highlights a number of significant barriers teachers and administrators face when trying to instigate and form on-going partnerships with the wider community (J. Roberts et al., 2009). However, in the case of KGT, it was two community partners (DOC and GT), with the assistance from two teacher representatives, who took the initial steps to identify partners, and subsequently, brought TDC and TMTB on board before approaching the EOs. Thus, in this way, the EOs were relieved from the issues they would typically face in relation to the taking stock process.

During stages one and two of the pilot project, a shared vision developed amongst the stakeholders through well-structured meetings and communication that was on-going and purposeful. Continuous communication aligns with an ecological perspective of partnerships which suggests it is vital for fostering cooperation and flexibility (Hands, 2005). Furthermore, strategic planning is important for identifying the shared vision, partner objectives and contributions and evaluation measures (MoE, 2015b). This planning should also provide an opportunity for partners to consider the leadership and culture of the partnership and the way in which these will be achieved through its operating procedure (Wei-Skillern & Silver, 2013). During this period, as evident from the many meetings I attended, it was clear the working group were 'close-knit'; they had planned and talked a lot about the KGT vision and I sensed they had a broad understanding about each other's respective objectives and potential contributions. Nevertheless, it was not until the start of stage three, when this information began to be formally recorded through the development of the strategic plan. Because the teachers were not part

of the working group, teacher planning workshops were held through which they contributed to developing the shared vision and any questions or inaccurate assumptions about the pilot were addressed (Teacher planning meetings, December 10, 2014 and October 10, 2014).

Overall, the findings indicate that the planning process undertaken for KGT was largely used to familiarise and explore with stakeholders (especially the EOs) about the Kepler programme model and how it would be reconfigured to fit the Taupō context. With this understanding established, the working group endeavoured to use a collective decision-making process to work through developing the programme's strategy. This process worked well to establish a shared vision, but other strategic components, such as partnership culture and evaluation measures, were not fully worked through. It seems that the main reason for this was due to a shortage of time, as focus rapidly shifted from planning to implementation once the EOs had identified their respective environmental initiatives. As there are many challenges faced by EOs to develop and implement cross curricula programmes, more time could have been set aside to help teachers with this task (McMillan & Binns, 2011).

6.3.2.2 Implementing

Following the planning stage, stakeholders collectively develop action steps and delegate responsibilities as part of the implementation stage (MoE, 2015). The implementation phase of KGT can be seen to have aligned with stage three of the pilot, when the working group members formed sub-committees to undertake certain tasks and the EOs began to actively carry out their environmental initiatives. To further support the EOs in the development of these initiatives, the working group helped educate and upskill the teachers on a range of conservation-affiliated topics. Logistical planning was also necessary, such as organising the transportation of students to and from SLT meetings.

The implementation stage tends to be characterised by arising 'hurdles' as issues of power, inequality and exclusiveness can crop up (Thompson, 2002). On-going and open communication between stakeholders remains essential for updating and supporting one another (Hands, 2005). Having a coordinator on board at this stage for facilitating interactions between stakeholders is identified as being extremely useful (Chapin et al., 2012). The development of KGT during this stage was characterised by change, busyness and tension as some working group members

left their KGT roles, the coordinator was hired, workloads increased with planning for the formal launch and the relationship between DOC and GT became strained. Amongst this period of transition, some temporary issues in relation to effective communication between stakeholders also arose.

6.3.2.3 Maintaining

In order to sustain an SCP over the long-term, an effective working partnership must be maintained which requires on-going commitment and enthusiasm from the partners. A crucial step in the maintenance process is to be found in the development of a system for monitoring, evaluating and reporting on progress against agreed outcomes, as well as updating strategy accordingly (Chapin et al., 2012). If undertaken regularly, the documented evidence of the activities undertaken and the outcomes achieved can help facilitate a culture of sharing success and celebration (Sanders, 2001).

The planning process for KGT did not involve establishing a monitoring and evaluation process. This changed midway through stage three with the hiring of the coordinator through funding obtained from DOC. As part of the funding agreement, GT took on a contractual role to manage the funds received and employ a coordinator. At this time, it was agreed by GT and DOC that they would consensually develop a reporting template and collectively identify key milestones for the coordinator's progress to be measured against. However, delays getting this reporting template established, amongst some personality issues, led to tensions between the two partners. Furthermore, there was also a lack of clarification about how, if at all, the SLG fitted into the monitoring and evaluation process.

The commencement of stage four of the KGT pilot was earmarked by the working group/SLG's decision to undertake a strategic review process. The SLG meetings held during the remaining months of the pilot largely focused on this review, through which the group developed a consensual understanding of the key components proposed by KGT based on the developing collaborative community education model (CCEM) (see Section 6.6) and the barriers preventing these components from being fully implemented in the Taupō context. A decision was also made to undertake an official review of the 18-month pilot before the programme would be opened up to more EOs. Establishing partner role clarity and

a collective understanding about KGT's monitoring and evaluation process remained on the SLG's 'to-do' list.

As illustrated through KGT, clarifying and understanding partner roles, which at times may only be learned by seeing what works and does not work on a practical level, requires time. Thus, as suggested by Woodhouse (2009), long-term commitment is a key ingredient necessary for transforming the ways of working for those involved and developing partnerships to their full potential.

6.4 Stakeholder perspectives

In this section, findings related to the second research question regarding stakeholders' perspectives in relation to the structures, processes and formative outcomes of KGT are discussed. These findings were generated through thematic analysis of data collected during interviews with all KGT stakeholder representatives.

6.4.1 Perspectives about the structures

The findings indicated the majority of teachers took part in the pilot project because they wanted their students to learn about the environment, connect with nature and/or have opportunities to be active community members. The inception of the KGT pilot project was an impetus for many of the teachers to establish an environmental initiative to deliver on these 'green' and civic concepts. Teachers believed the structure of KGT, which was characterised by many of them as being flexible and non-prescriptive, was useful for facilitating the development of environmental initiatives through which they could offer their students engaging learning experiences that were cross-curricular and relevant to real-life (Bolstad et al., 2012). Teachers also believed the high media profile of KGT validated the importance of their involvement with the programme, and therefore, helped to gain buy-in from administrators and the wider community (J. Roberts et al., 2009).

All the community partners identified specific objectives, relevant to their respective organisations, for participating in the pilot. Many of these partners and the coordinator felt strongly about KGT being a means to connect young people to 'place', in terms of both its people and natural environment (Gruenewald, 2003). In terms of the enabling features of the structure, the partners tended to focus on the synergies that could be developed between the stakeholders by involving the 'right'

organisations and individuals (Sanders & Lewis, 2005; Wei-Skillern & Silver, 2013). Broadly, this referred to stakeholders 'working to strength' and developing a mutually beneficial partnership in order to make progress towards achieving the KGT vision.

Although the stakeholders collectively agreed that the individual environmental initiatives for each EO were a good starting point for the Taupō context, there was also much interest in creating more opportunities for schools to work together. However, a couple of stakeholders questioned the feasibility of this proposal and thought 'outside the box' in terms of how and why this collaboration might or might not be accomplished. One teacher proposed multiple collaborative environmental initiatives, which would enable clusters of Taupō schools to work together within different parts of the town. A community partner representative said he could see the benefits of collaboration in terms of sharing ideas and learning, but he questioned whether the environmental initiatives should be integrated, asking "Would it be a failure if they didn't integrate?" (P2, interview).

Many teachers expressed their appreciation for the resources the community organisations had put into the programme, including the DOC funding for a coordinator. Teachers were aware of the large amount of time these organisations had allowed their respective representatives to spend on getting KGT up and running and were grateful for their sharing of expertise (McDowall & Whatman, 2016). A number of teachers felt that without this input, they would not have got their environmental initiatives 'off the ground'. A few teachers expressed their disappointment about the Take Action Fund not coming to fruition over the course of the pilot.

Lastly, the findings illuminated that teachers and stakeholders supported the structure of KGT to be further developed in order to provide Taupō young people with a continuous learning journey; in other words, this would enable children to participate in KGT from early childhood education to the completion of their formal schooling. The way in which this might be best accomplished had yet to be determined.

6.4.2 Perspectives about the processes

Findings from the data collected during participant observation and the interviews reflect that early planning for KGT helped create a shared vision amongst stakeholders and effectively led to the development of environmental initiatives, which EOs used as an authentic context for teaching and learning. However, these findings also indicate that the planning process was not thoroughly undertaken as there was a lack of consensus amongst stakeholders about other strategic components, like the roles and responsibilities of the community partners (Thompson, 2002). In addition, there was little evidence that stakeholders put much thought into planning for the leadership, culture and the operational procedures of the SCP (Wei-Skillern & Silver, 2013). In hindsight, this is potentially because the working group 'gelled' so well in the early days of the pilot project.

None of the participating teachers, except for the two teacher representatives on the working group, had any capacity to be involved with KGT at a strategic level. As such, the working group endeavoured to provide all EOs with opportunities to participate in a collective decision-making process about programme development, but eventually, a more directive and expedient approach was required to maintain the momentum of the project. This latter approach was accepted by everyone and was particularly pleasing for one EO who found the collective decision-making process frustratingly slow.

A lack of time, 'head space' and in some cases, structural capacity, were identified as barriers to integrating KGT through cross-curricular learning programmes (McDowall & Whatman, 2016; McMillan & Binns, 2011). As one community partner (who was a teacher formerly) explained "you get so immersed as a teacher in the day to day detail of just surviving…to take that big picture look and make those pedagogical connections….teachers on the daily basis do not have the headspace or time to do that big picture thinking" (P3, interview). Thus, the findings of this study indicate the need, where possible, to assist EOs with integrating KGT into their respective curriculum. Forward planning is critical, as EOs will have certain periods of the annual school calendar already taken up with other activities (e.g., report writing, school production) and the seasons should also be considered for restoration activities.

Along similar lines, many stakeholders viewed the processes of communication and logistical planning as being critically important to the success of KGT (Hands, 2005; Sanders & Lewis, 2005). The participating EOs found it difficult when dates for meetings and events were not scheduled at least one term in advance. Logistical matters, like transporting students and the use of gear, also needed careful consideration as tasks like these easily added to the teachers' already high workloads. With respect to any future resources and support, teachers highlighted the importance of allocating it as fairly and equitably as possible. As part of the communication process, stakeholders suggested that important strategic elements and knowledge-based information should be readily accessible through a website and specifically revisited at times through the coordinator. This also includes clearly communicating to stakeholders when not all the answers about programme development are known. A number of teachers found the educational workshops of value as they enjoyed the hands-on learning aspect (McDowall & Whatman, 2016; McMillan & Binns, 2011), whereas the KGT meetings (both the SLT and teacher planning meetings) were perceived by some teachers and community representatives as having been overly long and too formal.

With regards to maintaining KGT, there were concerns by some stakeholders about sustaining the momentum of the programme over the long-term. A consistent theme within the findings emerged as the need to keep KGT experiences "interesting, fun and memorable" (P6, interview), as well as ensuring there were regular 'quick wins', meaning that participants would be able to see progress made.

6.4.3 Perspectives about the observed outcomes

The findings about the observed outcomes were categorised into the themes of educational, ecological, social, and professional. Teachers involved with the younger children (aged 3-7) perceived there to be an increase in their imagination and curiosity, environmental awareness, knowledge and sense of responsibility, and care and concern for one another. With the older students, teachers and some stakeholders believed the students' personal attributes (e.g., self-confidence) and competencies (e.g., managing self) had been developed through their KGT experiences. Educational outcomes were not limited to the students as teachers noted an increase in their own knowledge about the natural environment and cultural perspectives. Interestingly, no stakeholders specifically identified any

ecological outcomes even though a number of trees were planted as part of the EOs environmental initiatives. However, one community representative discussed his view that KGT had not placed as much emphasis on achieving conservation outcomes as he had expected, but instead, he believed it focused largely on more abstract, educational outcomes. This point is significant in terms of establishing SCPs based on a shared understanding of the programme's purpose *and* expected outcomes by all stakeholders. As indicated by the findings, the outcomes perceived to have resulted from KGT were mainly associated with education rather than ecological restoration. If such a trend continued over the long term, this could be to the disappointment of partners with a focus in seeing tangible environmental change. Thus, consideration should be undertaken in relation to balancing the specific outcomes sought and the time periods required for them to be achieved. The main social outcomes related to the improved connections between participants and community members, including the local iwi, Ngāti Tūwharetoa. Finally, in terms of professional outcomes, it was perceived that the pilot led to new insights and ways of working, and for some teachers, they felt their experiences with the natural environment through KGT had led to personal growth.

6.5 Conclusions

The literature reviewed for this study indicates ecosystems are being highly degraded through human actions and the life-giving capacity of the Earth is diminishing. If a more sustainable trajectory for life on Earth is to be achieved, the socio-ecological reality of the problems must be addressed via transformational change to both self and society. Education is deemed to have a critical role in developing environmental awareness and understanding and enabling the widespread application of solutions to reverse the trend of ecological degradation.

Through this research, the KGT pilot project has provided an example of the development of a conservation education programme based on a SCP. This study sought to identify the structures established and processes undertaken by stakeholders for developing the programme. In addition, the stakeholders' perspectives about these structures and processes, as well as the formative outcomes observed, were explored.

Based on the findings of this study, a number of conclusions can now be drawn about these structures and processes, which are outlined below and then presented as part of a model for collaborative community education in Section 6.6.

Eight key structures were established over the course of the 18-month pilot and these significantly contributed to the outcomes of the project to date.

- KGT utilised an 18-month pilot project timeframe. The use of a pilot project structure was useful for establishing an understanding among participants that the conservation education programme would evolve over time as lessons were learned and modifications made.
- KGT provided an authentic teaching and learning opportunity for the participating EOs based on GT's ecological restoration vision. Significant educational and emerging ecological outcomes were attributable to this structure.
- KGT established an effective and mutually beneficial partnership between five EOs and four community partners, resulting in notable social and professional outcomes. This partnership structure enabled aspects of 21st Century education and ESE approaches as it helped achieve buy-in from the wider community and provided teachers with support and expertise for developing their respective environmental initiatives. A shared vision for KGT among all stakeholders acted as the 'glue' that helped hold the partners together during challenging times.
- KGT benefited from documentation about communication and programme strategy, but other important documentation related to a funding approach and curriculum integration were needed earlier in the pilot.
- KGT helped to establish environmental initiatives for each participating EO through which students experienced the natural environment and were actively involved in promoting and participating in real-life projects. Educational and ecological outcomes were supported by placed-based education through a learner-and-action-oriented approach. A collaborative environmental initiative between EOs was called for in the future.
- KGT management was able to get the project underway with a working group of stakeholder representatives but then began to struggle until funding was found for a dedicated coordinator. Once day-to-day management was

passed to the coordinator, the stakeholders were able to refocus their energy on strategic review and governance.

- KGT student leadership in the form of the SLT had appropriate intentions to enable students to collaborate and lead programme development from a youth perspective, but these were not fully realised as impending deadlines meant many decisions remained in the hands of the working group and coordinator.
- KGT's idea of a Take Action Fund to provide EOs with money and resources for their environmental initiatives was important, but did not eventuate due to a lack of funding. It would have been useful for providing/sharing class-sets of resources (e.g., equipment for plant propagation and pest tracking and trapping).

The development of the KGT pilot project can be viewed as having been achieved through the broad processes of planning, implementing and maintaining as follows.

Planning for KGT was influenced by:

- A trip taken by representatives from DOC, GT and a Taupō school to see first-hand the Kids Restore the Kepler programme in action, as this provided the visitors with ideas for 'up-scaling' a similar conservation education programme in the Taupō context.
- The positive stimulus of two community partners (DOC and GT) which then led to organisational buy-in via verbal agreement from the other stakeholder organisations.
- Stakeholders developing a shared KGT vision early on and project planning for the EOs' environmental initiatives; however, other strategic aspects, including leadership and the culture of the partnership, were not worked through. Thus, there was no consensual agreement about the partnership's abiding operational procedures.
- The extent to which the EOs fully integrated KGT into their curriculum, or used it as an 'add-on'. Teacher planning workshops and individual meetings with each EO during the early stages of the pilot were effective, but lack of an education guide may have hindered teachers' ideas about KGT teaching and learning opportunities in the local context, as well as project planning considerations, such as seasonal influence.

Implementing KGT was influenced by:

- Communication that was transparent and on-going between all stakeholders. This was of particular importance for keeping the participating teachers up to date about KGT as the majority of them were not on the working group/SLT.
- Logistical planning undertaken well in advance, especially in relation to any matters requiring attention from the teachers.
- Professional development opportunities for the teachers, as they were able to pass this learning on to the students.
- The decision-making process. Initially, the working group aimed to undertake a collective decision-making process with all stakeholders, but this was particularly time consuming. Eventually, the working group shifted to a more assertive decision-making approach that helped maintain the momentum of KGT development and found favour with the teachers.
- Meetings that were unnecessarily long and formal from a stakeholder perspective.
- Challenges that arose due to changing partnership dynamics and increased workloads. These challenges were overcome largely through the persistence of the stakeholder representatives to collectively work through them.

Maintaining KGT was influenced by:

- Long-term organisational commitment, as all stakeholder organisations remained on-board through the course of the pilot. On-going participation is significant as time is required to transform the ways of working for those involved and to develop partnerships to their full potential. Whether this commitment should be formalised through an agreement, like a memorandum of understanding, remains undecided.
- Undertaking a strategic review to gauge progress and suggest changes to either the KGT programme structure or the way in which the partnership operates.
- A lack of a consensual system for monitoring, evaluating and reporting on progress. Without specific evidence of the activities undertaken and the outcomes achieved, sharing and celebrating success would be difficult.

These conclusions suggest the following recommendations for the KGT project and future collaborative community education projects.

6.6 Implications and recommendations

A collaborative community education model (CCEM) has been developed through the experiences of the KGT pilot project, including stakeholder input and the literature reviewed for this study. This model is shown in Figure 6.1.

The model is based on the following underpinning principles:

- An authentic teaching and learning opportunity in the local context,
- Partnerships between schools and across the wider community,
- Student leadership through a learner-and-action-oriented approach, and
- A continuous cross-curricular learning opportunity.

The CCEM provides a framework that could be used for developing other education programmes based on a similar SCP organisational structure to that identified in KGT. Figure 6.1 was published through DOC as their intention is to upscale the model to other communities around New Zealand for the purpose of achieving conservation education outcomes.

Furthermore, an overview of the key structures and processes as utilised in the development of KGT are given in Tables 6.1 and 6.2. This may help assist the development or modification of other education programmes based on the CCEM.

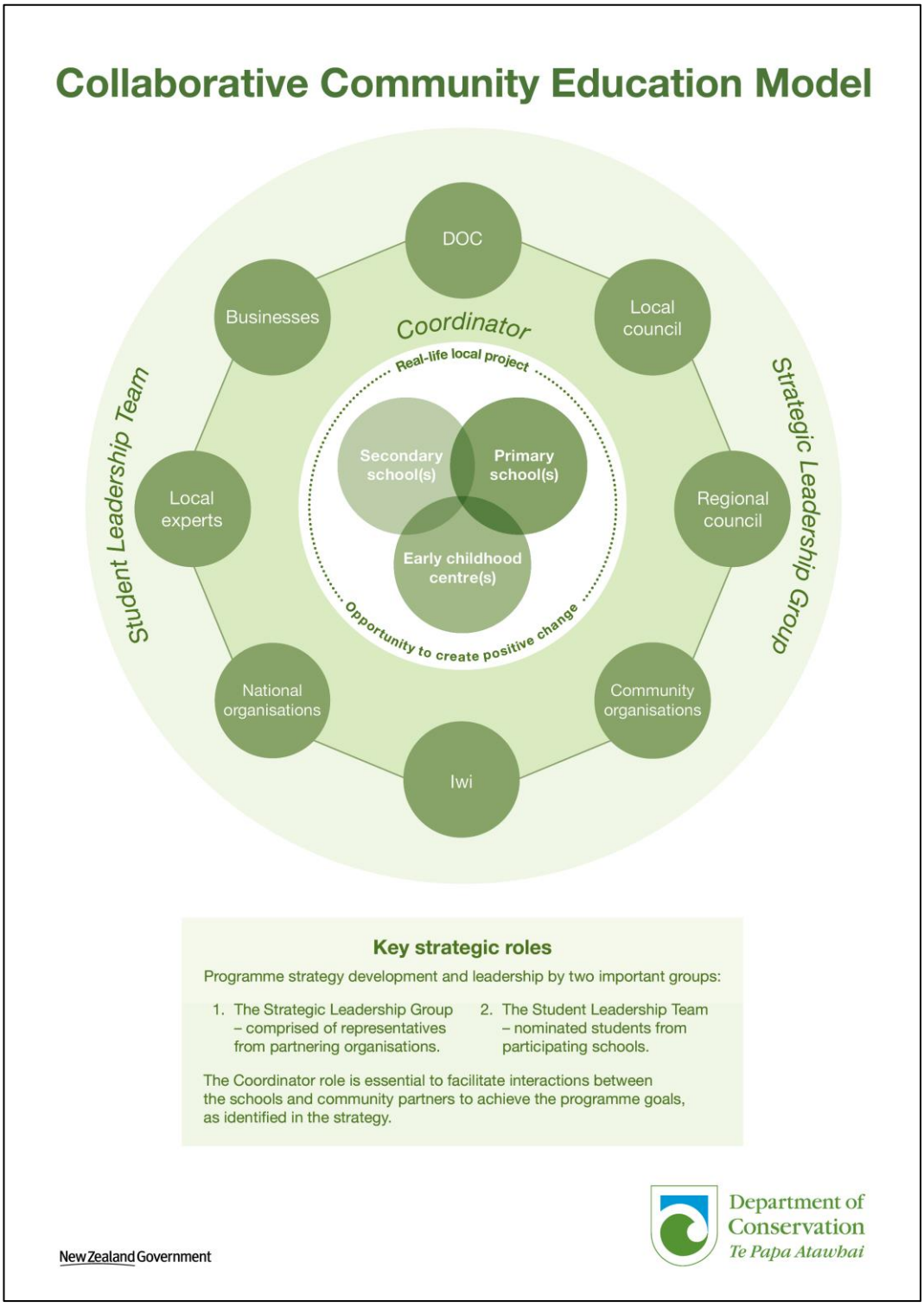

Figure 6.1– Collaborative community education model

Table 6. 1 – Key structures utilised during the development of KGT

Structures	**Pilot project** • Provides some 'breathing room' for mistakes and modifications to be made
	Authentic opportunity • Provides context for teaching and learning programmes
	Partnership • Provides teachers with support and expertise
	Strategic documents • Guides development of the education programme and the underpinning partnership
	Environmental initiatives • Provides real-life learning experiences for students
	Working group/strategic leadership group • Oversees operational, strategic and governance duties
	Coordinator • Facilitates interactions between stakeholders and the wider community, including the student leadership aspect
	Student leadership opportunity • Enables students to collaborate and lead programme development
	Take Action Fund • Supports EOs environmental initiatives

Table 6. 2 – Key processes utilised in the development of KGT

Processes	**Planning** • Observe first-hand • Obtain organisational buy-in • Develop programme and funding strategies • Identify leadership, culture and operational procedures • Project plan for environmental initiatives • Integrate KGT programme into curriculum
	Implementing • Communicate openly and regularly • Forward plan for logistics • Provide professional development for teachers • Balance collective and assertive decision-making processes • Make participation enjoyable • Persist to overcome challenges
	Maintaining • Obtain long-term organisational commitment • Undertake strategic review and make changes when required • Keep participation enjoyable • Achieve regular quick wins • Implement a system for monitoring, evaluating and reporting on progress • Celebrate success

6.6.1 Recommendations for KGT

The end to the pilot project signals a time to review next steps.

In terms of strategic considerations, it is recommended that:

- A funding strategy is fully implemented.
- The latest strategic review accounts for leadership and culture of the partnership.
- Structures and processes are identified and implemented for fully realising the potential of KGT in terms of collaboration between EOs, fostering genuine student leadership opportunities and delivering on a continuous learning journey.
- A mix of short and long term achievements are planned for in order to encourage momentum and also visioning.
- A procedure is established to acknowledge stakeholder commitment.
- A consensual system for monitoring, evaluating and reporting on progress is fully implemented. The role of the SLG (if any) in this process needs consideration.
- On-going research is undertaken to examine outcomes achieved over short, medium and long-term timeframes.

In terms of operational considerations, it is recommended that:

- The formality of the meeting structure is decreased.
- A greater number of experiences are provided for helping connect participants with Taupō's wider community and natural environments.
- An education guide is developed and teachers are given assistance to develop cross-curricular learning programmes.
- Key information about KGT, in terms of strategy, the partnering community organisations and conservation education, is identified and the structures and processes established for regularly revisiting this information with stakeholders.
- EOs are assured equitable and fair access to resources and expertise as they become available.

6.6.2 Final words

At a practical level, conservation education programmes based on the CCEM can help halt ecological degradation. They can be a mechanism for helping improve the welfare of communities through the rationalisation of local resources, leadership and networking, as well as helping to distribute money and expertise from regional and national organisations to grass-roots efforts. Increasing connectivity between people and place provides promise, as rather than feeling lost and helpless to the 'powers that be', participants can be empowered to take action and create positive change within their own respective communities.

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Appendices

Appendix A- Data collection summary

Date	What	Where	Time	Details	Data collected
Highlighted boxes indicate that I was unable to attend.					
10/10/2014	Teacher Workshop	DOC Taupo	9 am - 3pm	Teacher planning workshop - all stakeholders	observational notes
13/10/2014	Debrief Teacher Workshop	DOC Taupo	11:00 -1:15pm	Teacher workshop debrief and SWOT analysis	observational notes
24/10/2014	EO4 Planning Meeting	DOC Taupo	2pm - 4pm	Planning with teachers and working group representative	observational notes
28/10/2014	EO3 Planning	EO2	3:20 - 5pm	Planning with teachers and working group representative	N/A
5/11/2014	EO5 Trip	Kinloch	10:30 - 12:30	School trip to nature gulley	observational notes
10/11/2014	EO2 Planning	EO2	3:20 -4:30	Planning with teachers and working group representative	observational notes
11/11/2014	Working Group Meeting	DOC Taupo	3:30 - 5:30	Recap school progress to date + cultural perspective planning	observational notes
November	EO2 Planning	EO2		Planning with teachers and working group representative	N/A
November	EO5 Planning	EO5		Planning with teachers and working group representative	N/A
November	EO1 Planning	EO1		Planning with teachers and working group representative	N/A
November	EO3 Planning	EO3		Planning with teachers and working group representative	N/A
November	EO4 Planning	EO4		Planning with teachers and working group representative	N/A
27/11/2014	Comms Strategy	DOC Taupo		Develop communication strategy	N/A
28/11/2014	Working Group Meeting	DOC Taupo	1:45 - 4:30	Recap school progress to date + cultural perspective planning	observational notes
3/12/2014	Sub-Working Group Meeting	TDC		Discuss proposed locations for EOs environmental projects	N/A
8/12/2014	Onenekeneke stream visit	Site Visit	12:45	Look at possible project for Tauhara College	observational notes
9/12/2014	EO1 Bush Kinde Trial	Spa Park	9:00am	Trial day for bush kinde	observational notes
10/12/2014	Teacher Workshop	DOC Taupo	3:30 -5:30	Teacher workshop	observational notes
11/12/2014	Debrief Teacher Workshop	DOC Taupo	3:30 -5:30	Debrief workshop	observational notes
12/01/2015	Working Group Meeting	DOC Taupo	9:00-2:00	Follow up on unfinished tasks: funding applications, leadership team etc.	N/A
14/01/2015	Working Group Meeting	DOC Taupo	9:00-11:00	Funding applications	N/A
3/02/2015	Catch up with DOC rep	Doc Taupo	4- 4:30	Progress update	observational notes
					observational notes and
10/02/2015	Working Group Meeting	Doc Taupo	4 -6pm	Goals and Comms strategy	documentation
18/02/2015	Marae Prep	DOC Taupo	4 -6pm	Schools progress update	observational notes
					observational notes and
28/02/2015	Waipahihi Marae	Waipahihi Marae	9 - 1pm	Cultural perspectives	documentation
2/03/2015	EO2 Planning	EO2	3:20 - 4:20	Planning meeting with teachers and workig group rep	N/A
12/03/2015	Walking trip along lakefront	EO2	9am -2pm	It trained heavily but teachers left it up to parents to decide - they went!	N/A
25/03/2015	Working Group Meeting	DOC Taupo	3:30 -5:30	Prep for teacher workshop	observational notes
26/03/2015	Sub-Working Group	Taste Café	9:30 -12	Identify key components of student leadership team	observational notes
30/03/2015	EO3 Planning	EO3	12:30 - 1:30	Catch-up and observe enviro group at work	observational notes
					observational notes and
30/03/2015	Kindergarten conference call	DOC Taupo	3:30 - 4:30	Taupo kindergartens learning from Kepler Kindergarten	documentation
1/04/2015	Teacher Workshop	DOC Taupo	2pm - 5:15pm	Leadership Goup, time for sharing, upcoming professional development	observational notes
29/04/2015	Steering Group	DOC Taupo	3:30 - 5:30	Planning for upcoming SLT training day	observational notes
					observational notes and
30/04/2015	Native Plant Nursery Workshop	Native Plant Nursery	3:15 - 5:30	Native propagation	documentation
5/05/2015	Student Leadership Team Training Day	DOC Taupo	9:30 - 2:45	Training and introduction day for student leadership team (SLT)	observational notes
6/05/2015	EO4 Planning	EO4	3:30 - 5:00	Planning with teachers and working group including DOC comms expert	observational notes
11/05/2015	Steering Group Debrief - SLT	DOC Taupo	3:30 - 5:00	Debrief SLT workshop	observational notes
					observational notes and
12/05/2015	Botanical Gardens Workshop	Botanical Gardens	3:30 - 5:00	Tunneling and Trapping	documentation

Date	What	Where	Time	Details	Data collected
12/05/2015	Tauhara College	Tauhara College	7:50 - 8:00am	Presentation 1 to staff - What is KGT?	documentation
14/05/2015	Tauhara College	Tauhara College	7:50 - 8:00am	Presentation 2 to staff - What can KGT do for Tauhara?	documentaiton
19/05/2015	Student Leadership Team	DOC Taupo	12:45 - 2:45	Meeting conduct, ground rules and school report back	observational notes
27/05/2015	Steering Group Meeting	Tuwharetoa Trust	10:30 -1pm	KGT coordinator, planning, cultural perspectives, Tauhara College	observational notes
3/06/2015	Sub-Working Group - Meeting prep	DOC Taupo	?	Planning for upcoming teachers meeting	N/A
4/06/2015	Teacher Meeting	EO3	3:30 - 5pm	SLT and launches, coordinator, school progress	observational notes
9/06/2015	Steering Group - Interview Prep	DOC Taupo	9:30 - 11:15	Shortlist interviewees for coordinator position, interview questions	observational notes
15/06/2015	Local launch	Council Chambers	10:00 -12:00	Local launch of KGT	observational notes
21/06/2015	Informal Conversation w/ GT rep	My house	12 noon - 12:30	General discussion about KGT	notes
21/06/2015	Working Group Meeting	DOC Taupo	9:00 - 11:00am	Utilisation of new GT rep and next steps	observational notes
20/07/2015	Working Group Meeting	DOC Taupo	9:00 - 11:00am	Coordinatore on board, Planning for SLT Meeting next week in prep 4 launch	N/A
22/07/2015	Informal Conversation - DOC rep	Phone	10:00- 10:20	Update about the working group meeting	notes
28/07/2015	Student Leadership Team	Wairakei Resort	9:00 - 3:00	The Evolution of Taupo's Environment (ecologist) and planning 4 launch	observational notes and documentation
29/07/2015	Sub-working group -Hard Launch	DOC Taupo	?	Planning for the hard-launch	N/A
30/07/2015	Sub-working group	DOC Taupo	10:30 -1:00	Development of KGT educational guide	observational notes
31/07/2015	Sub-working group meeting	EO4	2pm	Progress to date and hard launch planning	N/A
3/08/2015	Sub-working group - Hard Launch	DOC Taupo	10:30 -12:30	Hard launch planning	observational notes and documentation
3/08/2015	Working Group Meeting	DOC Taupo	3:30 - 5:00	Hard launch planning	N/A
12/08/2015	Subworking group meeting	DOC Taupo	9:00 - 10:30	Handover to coordinator	N/A
12/08/2015	Kindergarden recce of spa park	DOC/Spa Park	3:30	To identify hard launch location and safety	documentation
18/08/2015	Student Leadership Team	DOC	1:00 - 3:00	Hard launch planning	observational notes
18/08/2015	EO4 meeting	DOC	3:00 - 4:15	Overview of KGT for new prinicipal	observational note
19/09/2015	Student leadership meeting	DOC	1:00 -3))	Hard launch planning	observational notes
20/08/2015	Teacher Workshop	DOC		Hard launch planning	observational notes
24/08/2015	EO2 Planning	EO2	3:30 -5pm	Finding ways to help support and planning for 2016	N/A
25/08/2015	Working group Meeting	DOC	3:30 -5:30	Hard launch planning	observational notes
31/08/2015	Sub-working group meeting	DOC	1:00 - 3:00	Hard launch planning	observational notes
9/09/2015	Working group meeting	DOC	3:30 - 5:00	Hard launch planning	observational notes
15/09/2015	Student Leadership Team	DOC	1:00 - 3:00	Hard launch planning	observational notes
16/09/2015	Working Group Meeting	DOC	3:30 - 5:00	Hard launch planning	observational notes
17/09/2015	Teacher Meeting	DOC	3:30 -4:30	Hard launch planning	observational notes
21/09/2015	EO3 Planning	EO3	4:00 - 5:00	Update and preparing display boards for launch	observational notes
22/09/2015	EO1	EO1	3:15 -5:00	Preparing display boards for launch	observational notes
23/09/2015	Evening with guest speaker	EO4	4:00 - 9:00	Meeting with guest speaker followed by presentation	observational notes
24/09/2015	Official Launch	Spa Park	8:00 - 2:00	Official launch	observational notes
24/09/2015	Collaborative Community Workshop	DOC	2:30 - 5:00	Discussion group with community collaborative education programmes	observational notes
25/09/2015	Meeting with Kids Restore the Kepler	Cafe	10:00 - 12:00	Feedback about launch and future collaboration between the 'couzies'	observational notes
7/10/2015	Sub-working group meeting	Cafe	10:00 - 12:00	Formulating plan of attack for launch debrief	observational notes
12/10/2015	Sub-working group meeting	DOC	9:00 - 10:30	Issues between partners	observational notes
13/10/2015	sub-working group meeting	Cafe	10:30 - 1:00	Meeting with 'Carol'	observational notes

Date	What	Where	Time	Details	Data collected
20/10/2015	Student Leadership Team	DOC	12:45 -2:45	Reflection on Launch - Thank you letters	observational notes
22/10/2015	Sub-working group meeting	DOC	10:30 - 11:30	Partnership Issues	observational notes
29/10/2015	KGT teacher meeting	DOC	3:30 - 5:00	Refelction of launch and bits and bobs	observational notes
5/10/2015	Meeting w/ DOC rep	DOC	10:30 - 12:00	Generate survey questions for teacher reflection	observational notes
10/10/2015	TV3 Filming	Spa Park/EO2	8:45 - 12:30	KGT documentary for TV3	observational notes
11/10/2015	Sub-working group meeting	Café 99	12:30 -1:30	Discuss strategic review	N/A
11/10/2015	KPI Meeting	DOC	2:30 -4:00	Sort out KPI's etc for coordinator	N/A
25/11/2015	Sub-working group meeting	DOC	9:30 - 12:30	Teacher survey questions and prepare discussion for strategic review	observational notes and documentation
26/11/2015	Sub-working group meeting	DOC	10:00-11:30	Strategic review	observational notes
30/11/2015	Interview w EO1	EO1	3:00-4:15	Thesis interview	Interview transcripts and documentation
30/11/2015	Interview w EO2	EO2	4:45 - 6pm	Thesis interview	Interview transcripts
3/12/2015	Risk and Resilence Presentation	EO1	7:30 -9pm	Parents evening - Building resilience	Observational notes and documentation
7/12/2015	Interview - EO3	EO3	12:00 - 1pm	Thesis interview	Interview transcripts and documentation
8/12/2015	Interview Greening Taupo	Rep's home	12:30 -2pm	Thesis interview	Interview transcripts
9/12/2015	SLT meeting/celebration	DOC	1:00 -5:30	Celebration	Observational notes
10/12/2015	Meeting w/ Kerryn - Sians student pres	DOC	10:30 - 12pm	Discussed key ingredients of collaborative community education model	observational notes
14/12/2015	Interview -EO4	EO4	10am - 11:30	Thesis interview	interview transcripts
15/12/2015	Jonathan Osborne Symposium	Wellington	All day	Systems thinking; discussions w/ others	observational notes
16/12/2015	Working Group Meeting	DOC	9 - 10:30	Strategic leadership team new way of working, pre-planning for 2016,	observational notes
17/12/2015	Interview w/ DOC	DOC	9am - 12 noon	Thesis interview	interview transcripts and documentation
22/12/2015	Sub-working group meeting + Cathy Bui	DOC	10:00 - 12:00	Summarise teacher survey notes	observational notes
2/02/2016	Meeting with Doc rep	DOC	9:30 -10:30	Conference presentation overview	observational notes
3/02/2016	Interview w/ TDC rep 1	TDC	9:00-9:45	Thesis interview	interview transcripts
3/02/2016	Interview w/TDC rep 2	TDC	11:00-11:45	Thesis interview	interview transcripts
4/02/2016	Meeting with Doc rep	DOC Taupo	10:30 -12:30	Student leaders	observational notes
9/02/2016	EE Conference	Auckland	Four days	Presented	observational notes
11/02/2016	Intereview w/ coordinator	Plateau	7:00- 8:30	Thesis interview	interview transcripts
18/02/2016	Strategic Leadership Group Meeting	DOC	3:30 - 5:00	Strategy/coordinator update	observational notes
24/02/2016	Outreach and education dinner	Lotus Thai	6pm	KGT progrress	observational notes
25/02/2016	Interview - EO5	EO5	3pm - 4:15	Thesis interview	interview transcripts
8/03/2016	Strategic Leadership Group Meeting	DOC	2:00-3:30	Strategy/coordinator update	observational notes
11/03/2016	Interview - TMTB	TMTB	11:00 - 12:30	Thesis interview	interivew transcripts
15/03/2016	Student leadership team meeting	DOC	1:00 - 3:00	Strategy/coordinator update/governor general planning	observational notes
31/03/2016	Strategic Leadership Group Meeting	DOC	1:00-2:30	Strategy/coordinator update/governor general planning	observational notes
31/03/2016	Teacher Planning Meeting	DOC	3:00-4:30	2016 planning	observational notes
1/04/2016	Visit from governor general	DOC	Time	Celebration	observational notes
12/05/2016	Strategic Leadership Group Meeting	DOC	1:00 - 2:30	Strategic review/cooridnator update	observational notes

Appendix B

Information and informed consent (community organisations)

25 November 2015

Tēnā Kōrua

As you may recall, in October 2014, I was granted verbal approval by all Kids Greening Taupo (KGT) stakeholder representatives to observe the pilot project. Through this approval, I was permitted to attend KGT meetings in order to observe and take notes. I am now conducting a study for my master's thesis at the University of Waikato. This study aims to understand the processes that were undertaken by the KGT stakeholder group to design and implement the pilot project from October 2014 to May 2016. My aim is that the findings of this study will lead to possible modifications being made to the KGT programme in upcoming years, as well as ascertaining whether the development of similar initiatives should be applied more widely across New Zealand, and if so, what are the enablers and inhibitors of developing such projects. As of June 2015, the research for my thesis officially commenced and I am currently preparing to start collecting and analysing data; therefore, I am writing to invite you both to participate in this research.

I would like to involve you in this study by gaining your consent to analyse the notes that I have collected from meetings you have attended for the KGT pilot project since October 2014 and for meetings that you may attend up until May 2016. I will be happy to provide you with a copy of these meeting notes upon your request. I would also like to involve you through your participation in a focus group session where you will be interviewed collectively. The interview will take approximately 60 minutes and be held at a place of mutual convenience. With your permission, I would like to audio-record the interview to obtain an accurate record of our conversation. I will provide you with a transcript and summary of key points of our conversation for you to check over. Upon your approval, I will use this verified data for my analysis and interpretation with regards to the study. Lastly, there may also be times when I wish to use a document that you produced or a general remark you made about KGT (i.e., collected outside of a meeting or focus group session) as data. In the event of such a scenario, I would provide you with a summary of the proposed data and seek your approval for its use.

Data collected during the study may be published in a master's thesis and may be used in scholarly publications or presentations. Pseudonyms will be given for all participant names, and for educational centres but not for the other agencies involved (e.g., Department of Conservation, Tūwharetoa Māori Trust Board, Taupō District Council and Greening Taupō). Please note that due to the small and intimate nature of the KGT stakeholder group, it may not be possible to ensure complete confidentiality. Should you agree to participate, please consider the data you provide with this in mind. An electronic copy of the thesis will be lodged permanently in the University of Waikato's digital repository (research commons) that is readily accessible to the public via the university's webpage.

Your rights as a participant are as follows:

- You can decline to be involved in the research without prejudice and withdraw from further participation at any time until data has been analysed;
- You can amend and withdraw any or all data you have provided during the focus group session for up to two weeks after being sent the transcript/summary for your review;
- You have the right to amend and withdraw any of your contributions made at meetings up to 31 January 2016, or for meetings thereafter, you will have two weeks from the date of the meeting to amend or withdraw contributions;
- If you were to withdraw, I will destroy any data gathered from you according to the conditions specified in the above points; and
- I will make sure that the data collected is securely stored and properly disposed of after five years.

If you are willing and able to participate, would you please read and complete the attached consent form.
Thereafter, please email or phone to arrange a convenient time and place for the focus group session. You can either post/scan the consent form back to me or bring it with you when we meet up for the interview.

If you have any further questions or concerns about the conduct of the research, please feel free to contact me. If I am unable to resolve your concerns, you may contact my supervisor, Dr. Chris Eames (email: c.eames@waikato.ac.nz or phone: 07 838 4357).

Ngā Mihi

Thea DePetris

Email: theadepet@hotmail.com
Phone: 0274 127 145 or 378 0015
Address: 69 Gillespie Place
Taupo RD5
3385

Kids Greening Taupō – Consent Form

I, _____, have read and understood the nature of the research project and agree to participate as requested.

I understand that my participation is voluntary and that I can withdraw from further participation at any until data has been analysed. ☐

I understand that I can amend and withdraw interview data until two weeks after being sent the focus group summary for verification. ☐

For meeting note data, I may amend and withdraw any or all of my contributions that I do not wish to have analysed until 31 January 2016.
For meetings held thereafter, I have two weeks to amend and withdraw any or all of my contributions from the date of the meeting. ☐

Due to the small and intimate nature of the KGT stakeholder group, I understand that confidentiality cannot be assured in publications or presentations arising from the use of my interview data or meeting note data. I understand that pseudonyms will be used for my name as well as for the educational centres involved in the study. ☐

I understand that my responses will be kept in a secure location for a period of five years before being destroyed. ☐

I understand the findings of this research could be presented at conferences and used in a published master's thesis and other academic publications. ☐

Signed_____Date_____

Your manager will be aware of your involvement in the KGT project. Please discuss my intentions for gathering data as described in the attached letter with this person and ask them to give their consent for your involvement as specified. If this person has any concerns about the data that may be gathered from you, please ask them to contact me.

As manager for _____, I consent to this person's participation under the conditions outlined in the accompanying letter.

Signed_____Date_____

Thea Depetris
69 Gillespie Place, RD 5
Taupo 3385
Email: theadepet@hotmail.com
Phone: 0274 127 145 or 378 0015

Appendix B

Information and informed consent (teachers)

25 November 2015

Dear (Teachers name)

As you may recall, in October 2014, I was granted verbal approval by all Kids Greening Taupo (KGT) stakeholder representatives to observe the pilot project. Through this approval, I was permitted to attend KGT meetings in order to observe and take notes. I am now conducting a study for my master's thesis at the University of Waikato. This study aims to understand the processes that were undertaken by the KGT stakeholder group to design and implement the pilot project from October 2014 to May 2016. My aim is that the findings of this study will lead to possible modifications being made to the KGT programme in upcoming years, as well as ascertaining whether the development of similar initiatives should be applied more widely across New Zealand, and if so, what are the enablers and inhibitors of developing such projects. As of June 2015, the research for my thesis officially commenced and I am currently preparing to start collecting and analysing data. As per our discussion last week, I am writing to invite you to participate in this research.

I would like to involve you in this study by gaining your consent to analyse the notes that I have collected from meetings you have attended for the KGT pilot project since October 2014 and for meetings that you may attend up until May 2016. I will be happy to provide you with a copy of these meeting notes upon your request. I would also like to involve you through your participation in a focus group session where you will be interviewed collectively in a group with another representative from your kindergarten. The interview duration will be approximately 60 minutes and will take place at a location of mutual convenience. With your permission, I would like to audio-record the interview to obtain an accurate record of our conversation. I will provide you with a summary of key points of our conversation for you to check over. Upon approval from you, I will use this verified data for my analysis and interpretation with regards to the study. Lastly, there may also be times when I wish to use a document that you produced or a general remark you made about KGT (i.e., collected outside of a meeting or focus group session) as data. In the event of such a scenario, I would provide you with a summary of the proposed data and seek your approval for its use.

Data collected during the study may be published in a master's thesis and may be used in scholarly publications or presentations. Pseudonyms will be given for all participant names, and for educational centres but not for the other agencies involved (e.g., Department of Conservation, Tūwharetoa Māori Trust Board, Taupō District Council and Greening Taupō). Please note that due to the small and intimate nature of the KGT stakeholder group, it may not be possible to ensure complete confidentiality. Should you agree to participate, please consider the data you provide with this in mind. An electronic copy of the thesis will be lodged permanently in the University of Waikato's digital repository (research commons) that is readily accessible to the public via the university's webpage.

Your rights as a participant are as follows:

- You can decline to be involved in the research without prejudice and withdraw from further participation at any time until data has been analysed;
- You can amend and withdraw any or all data you have provided during the focus group session for up to two weeks after being sent the summary for your review;
- You have the right to amend and withdraw any of your contributions made at meetings up to 31 January 2016, or for meetings thereafter, you will have two weeks from the date of the meeting to amend or withdraw contributions;
- If you were to withdraw, I will destroy any data gathered from you according to the conditions specified in the above points; and
- I will make sure that the data collected is securely stored and properly disposed of after five years.

If you are willing and able to participate, would you please read and complete the attached consent form.
Thereafter, please email or phone to arrange a convenient time and place for the focus group session. You can either post/scan the consent form back to me or bring it with you when we meet up for the interview.

If you have any further questions or concerns about the conduct of the research, please feel free to contact me. If I am unable to resolve your concerns, you may contact my supervisor, Dr. Chris Eames (email: c.eames@waikato.ac.nz or phone: 07 838 4357).

Kind regards
Thea DePetris

Email: theadepet@hotmail.com
Phone: 0274 127 145 or 378 0015
Address: 69 Gillespie Place
Taupo RD5
3385

Kids Greening Taupō – Consent Form

I, _____, have read and understood the nature of the research project and agree to participate as requested.

I understand that my participation is voluntary and that I can withdraw from further participation at any until data has been analysed. ☐

I understand that I can amend and withdraw interview data until two weeks after being sent the focus group summary for verification. ☐

For meeting note data, I may amend and withdraw any or all of my contributions that I do not wish to have analysed until 31 January 2016.
For meetings held thereafter, I have two weeks to amend and withdraw any or all of my contributions from the date of the meeting. ☐

Due to the small and intimate nature of the KGT stakeholder group, I understand that confidentiality cannot be assured in publications or presentations arising from the use of my interview data or meeting note data. I understand that pseudonyms will be used for my name as well as for the educational centres involved in the study. ☐

I understand that my responses will be kept in a secure location for a period of five years before being destroyed. ☐

I understand the findings of this research could be presented at conferences and used in a published master's thesis and other academic publications. ☐

Signed_____Date_____

Your line manager/principal will be aware of your involvement in the KGT project. Please discuss my intentions for gathering data as described in the attached letter with this person and ask them to give their consent for your involvement as specified. If this person has any concerns about the data that may be gathered from you, please ask them to contact me.

As line manager for _____, I consent to this person's participation under the conditions outlined in the accompanying letter.

Signed_____Date_____

Thea Depetris
69 Gillespie Place, RD 5
Taupo 3385
Email: theadepet@hotmail.com
Phone: 0274 127 145 or 378 001

Appendix C

Interview questions (community organisations)

1. How long have you lived in Taupo? What does this place mean to you?
2. Tell me about your organisation and your role. How long have you worked there?
3. How did your organisation become involved with KGT and what are its objectives for being involved?
4. What does the vision for KGT look like to you? Do you think a similar vision is shared by all the KGT stakeholders?
    i. How do you think this collective vision was developed?
    OR
    ii. Why do you think this vision has not been embraced by all?
5. Why is your organisation involved with conservation education?
6. Would your organisation have taken part in conservation education without this project? If so, please provide some examples of what you might have done without KGT?
7. Can you explain and/or draw which organisations you perceive to be involved in KGT and their respective roles? To date, how effectively do you think the partnership has worked?
8. How effective has the KGT communication been? How effective were the teacher planning meetings and learning workshops? Did you participate? Why or why not?
9. Are there any operational aspects that concern you?
10. Has your organisation faced any difficulties or challenges to participating in KGT? What has made participation particularly accessible or enjoyable?
11. Are there any changes required to improve the 'fit' between your institution and KGT?
12. Do you think this programme has a long-term future in Taupo? What do you require to ensure your long-term involvement with KGT?
13. What are your thoughts about any critical elements for getting a collaborative community education programme like KGT off the ground and sustaining it in the long-term?
14. Has involvement in the KGT programme influenced your organisation? If so, in what ways?
15. In what ways do you think KGT is important for kindergartens/schools?
16. In what ways do you think KGT is important for the wider community?
17. Are all the children you would like to see involved with KGT presently part of the programme? If not, please elaborate on who is missing out and why?
18. How has being involved with KGT helped meet your organisation's objectives? How important is the success of KGT for your organisation?
19. In hindsight, is there anything you would change about the partnership and/or KGT programme as it stands now?
20. Is anything else working really well that you would like to comment on?
21. What is in this for you personally?

Appendix C

Interview questions (teachers)

1. How long have you lived in Taupo? What does this place mean to you?
2. Tell me about your organisation and your role. How long have you worked there?
3. How did your organisation become involved with KGT and what are its objectives for being involved?
4. What does the vision for KGT look like to you? Do you think a similar vision is shared by all the KGT stakeholders?
    i. How do you think this collective vision was developed?
        1. OR
    ii. Why do you think this vision has not been embraced by all?
5. How important has KGT been for developing conservation education at your kindergarten/school?
6. Would your organisation have taken part in conservation education without this project? If so, please provide some examples of what you might have done without KGT?
7. Can you explain and/or draw which organisations you perceive to be involved in KGT and their respective roles? To date, how effectively do you think the partnership has worked?
8. How effective has the KGT communication been? How effective were the teacher planning meetings and learning workshops? Did you participate? Why or why not?
9. Are there any operational aspects that concern you?
10. Has your organisation faced any difficulties or challenges to participating in KGT? What has made participation particularly accessible or enjoyable?
11. Are there any changes required to improve the 'fit' between your institution and KGT?
12. Do you think this programme has a long-term future in Taupo? What do you require to ensure your long-term involvement with KGT?
13. What are your thoughts about any critical elements for getting a programme like KGT off the ground and sustaining it in the long-term?
14. How do you see the connection between the national school curriculum and KGT?
15. Has involvement in the KGT programme influenced your kindergarten/school's curriculum and/or pedagogy? If so, in what ways?
16. Has involvement in the KGT programme influenced any other aspects within your classroom, school or wider community (e.g., unexpected opportunities/outcomes)?
17. Are all the children you would like to see involved with KGT presently part of the programme? If not, please elaborate on who is missing out and why?
18. How has being involved with KGT helped meet your organisation's objectives? How important is KGT to your organisation?
19. In hindsight, is there anything you would change about the partnership and/or KGT programme as it stands now?
20. Is anything else working really well that you would like to comment on?
21. What is in this for you personally?

Appendix D

Memo of ethics approval

FEDU008/15 **Approved : 20 November, 2015**

Ethics Research Application

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

Kids Greening Taupo: Achieving effective partnerships between school and the community in conservation education

Thea DePetris

Te Kura Toi Tangata Faculty of Education

Overview

Principal Supervisor

Dr. Chris Eames

Research Team

Principal supervisor: Dr Chris Eames

Additional Personnel

Dr Mike Brown (secondary supervisor); Department of Conservation - Outreach and Community Education

Interest in Topic

My main professional interest is in relation to the interactions between humans and the environment and how education may foster a more sustainable relationship between the two. My work as a secondary school teacher, environmental educator and resource management consultant has provided me with relevant experiences and a foundation of knowledge and understanding that I wish to expand through the pursuit of postgraduate studies. It has been a fortunate coincidence that my desire to undertake studies in the field of environmental and sustainability education (ESE) coincided with the commencement of a pilot conservation education project 'Kids Greening Taupo' (KGT) in my home town. The use of KGT as the topic for my thesis aligns well with furthering my professional interest as described above, as well as hopefully making a contribution of new knowledge to the field and assisting KGT stakeholders to determine the future of this project and the potential to develop similar initiatives elsewhere in New Zealand.

Appendix E

Summary of all KGT works undertaken

Stage 1 – Inception of pilot project (April 2014 – September 2014)

- Trip to Te Anau to observe the Kids Restore the Kepler programme
- Evaluation report of Kepler programme produced
- Stakeholder group formed
- Presentations made to potential EOs

Stage 2 – Design and implementation (October 2014 – December 2014)

- Working group formed
- Meetings
  - -Five working group meetings
  - -Two teacher planning meetings (all EOs)
  - -Two planning meetings at each kindergarten/school
- Kindergartens and schools plan their restoration projects
- Media – Articles published in Education Gazette and Taupo Times
- Communication strategy developed

Stage 3 – Decisions and change (January 2015 – December 2015)

- Meetings
  - -14 working group meetings
  - -20 sub-working group meetings
  - -Six teacher planning meetings
  - -At least one planning meeting at each kindergarten/school
- Three teacher educational workshops
- Kindergartens and schools begin their restoration projects
- SLT formed
  - -Eight student leadership team meetings
- Education coordinator hired
- Working group renamed SLG
- Media – Articles published in Taupo and Turangi Weekender, Taupo Times and Go Gardening. Interviews with TV3 Story, Māori Television, and Newstalk ZB.
- Events – Local launch and official launch
- Education coordinator and/or DOC representative interview teachers in order to collect feedback
- Potential funding opportunities identified and four applications completed over course of the pilot, one of which was successful
- Strategic strategy developed

Stage 4 – A new phase (January 2016 – May 2016)

- Meetings
  - -Four SLG meetings
  - - One teacher planning meeting
- Education coordinator takes over operational role and SLG focuses on strategy and supporting coordinator.
- Two SLT meetings
- Event – student leadership team hosts New Zealand Governor-General
- Funding Guidelines and Strategy developed.

Appendix F

Media Releases

Kids' Restore Kepler project for export

Programme may go nationwide

One less: Tim Willans, of Fiordland College, Kids Restore New Zealand trustee Ruud Kleinpaste, Tauhara College maths and science teacher Amy Wake, Tauhara College assistant principal Andrea Mertens, Melissa McDuff and Sophia Humphries, of Fiordland College, and Jasper Carter with a stoat that will no longer be a threat to birdlife on the Kepler Track. Photo: BARRY HARCOURT 629492723

Neil Ratley

A Fiordland conservation project driven by the region's school kids is being lauded as a model that could be adapted nationally.

The Kids Restore the Kepler project aims to help Fiordland's young people, from pre-school through to college, develop knowledge, values and skills so they can be confident, connected and actively involved in caring for their environment.

Now the project – launched in 2010 – is becoming recognised widely as a model for how this kind of project might work in schools around the country.

Fiordland-based Conservation Partnerships ranger Caroline Carter said a group of northerners were in Fiordland to learn about the Kids Restore the Kepler project and how it could be adapted to get more Kiwi kids learning about their environment while at school.

Teachers from Tauhara College, in Taupo, Central North Island Department of Conservation education staff and the Greening Taupo are spending time in Fiordland speaking with the Kids Restore the Kepler project members.

The visit came out of conversations with the Ministry of Education around place-based education models and science curriculum changes.

"The visitors are coming to look at how the project works, the challenges and learnings, and how it might be adapted to meet others' needs," Carter said.

Kids involved with the project were very engaged which was often not the case in traditional text book learning, she said.

"They even get involved during their lunch times, after school and on weekends. This is real world learning with real world results."

Kids Restore New Zealand trustee Ruud Kleinpaste said the Kids Restore the Kepler project "has to be the most inspiring project on the planet".

New Zealand's Bugman has had a long association with getting youngsters into conservation and said the Fiordland project was a shining example of how to achieve that goal.

"What we have here is a solution for the future of conservation. These kind of projects are the new normal for our kids," Kleinpaste said.

Traditional classroom subjects such as maths, science and creative writing could be incorporated in real world situations, he said.

It was no surprise other schools wanted to "steal" the Kids Restore the Kepler project model, Kleinpaste said.

"It's inspiring, it's a new way of teaching kids and it is leading the way in protecting our natural environment and building conservationists of the future. I'm happy for anyone to steal the ideas."

Born in the Netherlands, Kleinpaste said he would love to see the model go global.

neil.ratley@stl.co.nz


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ENVIRONMENT
KIDS TO RUN NEW ENVIRONMENTAL PROJECT IN TAUPŌ

Kids to run new environmental education project in Taupō

A new environmental education project starting in Taupō next year will be led by the students it educates and empowers.

Kids Greening Taupō is an 18-month project involving five local schools, based on the Kids Restore the Kepler project in Fiordland. Kids Restore the Kepler is a conservation project with a difference. As well as having conservation goals – the project aims to bring back birds that have become rare in the area – there is a strong education focus.

The Taupō project aims to transfer the key ingredients of Kids Restore the Kepler to introduce greater biodiversity into the local Taupō urban setting.

The Taupō project is associated with a new community conservation initiative, Greening Taupō – a collaboration between the community, Ngāti Tūwharetoa, the Department of Conservation (DOC), local schools, businesses, and the district council.

Greening Taupō's objective is to improve the Taupō environment for people and native wildlife. This involves restoration planting and pest control to create ecological corridors, allowing native birds to flourish. Particular attention in this regard will be focused on access routes in and out of Taupō, which will create a sense of arrival for visitors to Taupō.

A team from Taupō – which included two secondary school teachers, the Greening Taupō Coordinator, and staff from DOC – headed south to Te Anau to check out the Kids Restore the Kepler project.

Led by DOC's outreach and education manager Sarah Murray, the team examined Kids Restore the Kepler in action, looking for ways in which the programme could be transplanted into a northern urban environment.

Five schools from the Taupō area – Tauhara College, Taupō Primary, Waipahihi Primary, Hinemoa Kindergarten, and Four Seasons Kindergarten – have now committed to the 18-month project.

The first teacher workshop was held in Taupō in the October school holidays to prepare for the 2015 school year and students will be involved from term 1 next year through to the middle of 2016.

More than 20 teachers from the five schools involved gave up the last day of the October school holidays to be involved in preparing for the project.

Bay Boocock of Hinemoa Kindergarten likened the project to the life cycle of the tree.

"We've been given a seed to plant and the children will be able to grow the tree. It will flourish, the seeds will drop and through the children the process will start again. This will go on for generations to come."

An appealing feature of the project, says Richelle McDonald, deputy principal of Taupō Primary School, is the focus on inquiry learning and action outcomes: "doing something that means something".

There are also great opportunities for sector-wide and community collaboration. Everyone will be working together: kindergartens, primary schools, high schools and the community.

Waikato University Master of Education student Thea Depetris will undertake research working alongside the pilot, measuring and monitoring its success.

What is Kids Restore the Kepler?

Imagine a 3000 hectare piece of prime habitat made safe for New Zealand birds, insects, lizards, and bats. Think about a reserve that happens to also be on one of the country's internationally renowned great walks. Now imagine the impetus behind this restoration project being the young people of New Zealand, who will take a passion for the preservation of our environment with them as they become the driving force in our society.

Led by the Fiordland Conservation Trust (with funding from Kids Restore New Zealand), the schools taking part in Kids Restore the Kepler are Fiordland College (Year 7–13), Te Anau, and Manapōuri Primary Schools, and two early childhood centres, Southern Stars and Fiordland Kindergarten.

The project aims to help Fiordland's young people, from preschool through to college, develop knowledge, values, and skills so they can be confident, connected and actively involved in caring for their environment.

Students working on the Kids Restore the Kepler project get involved with a wide range of cross-curricular learnings (see sidebar) that are transferable to any location in New Zealand. These have included:

- Collecting beech seed, which is then sent to Lincoln University as research source material.
- Working with DOC biodiversity rangers and community trappers in learning to set, monitor and maintain a pest control trap line.
- Students have given guided tours to visiting school groups at the Te Anau Wildlife Centre.
- Te Anau Primary School and Fiordland Kindergarten have collaborated on a native planting project.
- Students from three of the schools have worked together to set up night vision cameras to assess the movement of cats at the park entrances.
- A range of e-learning has been integrated into the schools' curricula, including the design of a logo and upgrade and maintenance of a website.
- Business studies students from Fiordland College won a contract to construct over 400 trap boxes for the project.

Through participation in the project, students are discovering the things that make the Kepler area special, but more importantly, they are discovering what it takes to protect these special things.

This project goes beyond a limited programme of learning, says Sarah Murray.

"These students are pioneers and their work, to bring back the bird song and keep it, will continue for generations to come."

Schools have an excellent opportunity to utilise the project as a real context for learning across a range of subjects, says Sarah.

"Conservation after all isn't just about controlling the pests. A broad spectrum of skill is needed to contribute to the overall success of the project. No matter what a child's interests and skills, they are all required and valued."

The uniqueness of the Kepler

Restoration projects of this size typically occur on off-shore islands, which provide an important 'life raft' sanctuary for New Zealand's threatened species. Usually these environments are inaccessible to the majority of people to experience or contribute to.

The Kepler Peninsula is different. While stoats, rats, possums, and cats have had a devastating impact on native plants and animals, the area is still home to kiwi, whio (blue duck), bats (pekapeka), and is one of the best sites in New Zealand for native yellow mistletoe. The whole area is enclosed by one of the country's great walks, providing easy access.

The project's principal sponsor is Kids Restore New Zealand, part of the Air NZ Environment Trust, which encourages leadership in young people through involvement in environmental issues. The projects they fund cover a wide range of activities and students are able register their interest in being a recipient of funding for a project at any time.

Kids Restore the Kepler ambassador Ruud Kleinpaste – the iconic 'Bug Man' – says Kids Restore the Kepler is a big step in the right direction.

"If we are serious about restoring our New Zealand, we have to be serious about

the control of introduced predators. There's no way our native animals can thrive with these carnivores sharing their habitat."

An education guide is available to support teachers in integrating the learning opportunities afforded by the programme.

"We don't want this to be a 'bolt-on' to a school's programme; we'd like to see it embedded in the school curriculum," says Jo Marsh, education coordinator for Kids Restore the Kepler.

The two early childhood centres involved use their local natural environment as part of their everyday approach to teaching and learning. Fiordland Kindergarten is in fact known as a world leader for their 'Nature Discovery' programme.

Fiordland Kindergarten's head teacher Claire Maley-Shaw knows that children "need to love the earth before we ask them to care about it and protect it. We know that for learning experiences to work they need to be relevant, contextual and project based with real-world outcomes."

A nationwide responsibility – and privilege

Sarah Murray says DOC has tried to create best practice conservation education programmes and resources, with authentic contexts for teaching and learning, and strong curriculum links. This will help to reinforce the idea among young people that we are all responsible for the maintenance and preservation of New Zealand's natural environment, she says.

"We need to get away from the old 'dial-a-ranger' model [when the environment needs attention], and work towards empowering teachers, their students and parents to get involved in programmes that generate quality education outcomes, as well as quality environmental outcomes."

"We think that Kids Restore the Kepler is a good example of best practice environmental education in New Zealand. We want to be able to learn from it, and adapt it for other locations, particularly urban landscapes."

Ngāti Tūwharetoa Māori Trust Board environmental manager Dylan Tahau says the board plans to support the project by helping to grow cultural understanding of the environment, through the concept of tuakana-teina, an integral part of traditional Māori society. Akin to a 'buddy' system, tuakana-teina originally entailed on older cousin or sibling guiding the development of a younger family member, of the same gender. In an educational context, this relationship can be reversed: for example, a student who yesterday was the expert on te wā and explained the lunar calendar may need to learn from her classmate today about how manaakitanga (hospitality) is practised by the local hapū.

"We will grow cultural environmental leadership through the students, who will then pass on that cultural view to younger students," says Dylan.

Kids Restore the Kepler takes a cross-curricular approach, using 'restoration at place' (the Kepler Peninsula) to provide an authentic context for teaching and learning. The project also hands leadership – and ownership – of the project to the students.

The professional development site visit to Te Anau by the team from Taupō was about schools collaborating and learning from each other, says Sarah, teachers learning from students and other teachers, as well as examining best practice and working out how the programme can be transferred to an urban environment.

Between now and early 2015, the Taupō working party will be busy getting the project underway, running another teacher workshop later in the year and looking at funding to appoint an education coordinator for the project, and to be able to eventually transplant this project into other urban areas.

"What we have here is a solution for the future of conservation. These kinds of projects are the new normal for our kids. It's inspiring, it's a new way of teaching kids and it's leading the way in protecting our natural environment and building conservationists of the future," says Ruud Kleinpaste. ✦

By Robyn Orchard

KEY TRANSFERABLE LEARNINGS

The key transferable learnings to come out of the Kids Restore the Kepler project, as examined by the northern team for their project, were around three key topics: authentic purpose for teaching and learning; students as leaders; and community collaboration.

Authentic purpose for teaching and learning:

- Fiordland College students collect beech seed which is then sent to Lincoln University for Beech Mast research.
- Business studies students from Fiordland College won a contract to construct over 400 trap boxes for the project.
- Students work with DOC biodiversity rangers and community trappers to learn how to set, monitor and maintain a pest control trap line (Trap line 7).
- Students have designed a logo for the programme, working with a local graphic designer.
- Fiordland College students are responsible for the project website, which is used daily by all five schools for the 'Meet the Locals' initiative.
- A website upgrade is about to get underway as part of Fiordland College's ICT curriculum, with specialist support in class from a local web designer.
- Students from three of the schools worked together to set up night vision cameras, to assess the movements of cats at the park entrance ways.
- Students have worked with a University of Otago cat researcher to look for solutions to the feral cat problem in the Kepler.

Students as leaders:

- Te Anau students have taught the Taupō teachers, their peers, community, and parents and whānau;
- Students have 'real-life roles' on the Kids Restore the Kepler leadership team, which meets twice a term.
- Fiordland College student Nicholas Humphries was appointed to the Southland Conservation Board (SCB) – SCB's youngest ever board member.
- Students give guided tours to visiting school groups at the Te Anau Wildlife Centre; a sanctuary for birds and great place to interpret their habitats and threats to survival.
- Te Anau Primary School students support Fiordland Kindergarten with a native planting project.

Community collaboration:

- Integration of the Māori perspective in partnership with tangata whenua.
- Heightened awareness in the community leading to reports of bats in the Kepler area. Previously unknown bat colonies were subsequently located in the Iris Burn Valley.
- Fiordland businesses have supported the project on many levels, including:
  - The 'Kiwi-cam' project (numerous business have supported the set-up of a camera on a kiwi nest in the Kepler Mountains.) This is live-streamed to the schools.
  - A graphic designer has supported students in branding the project;
  - Te Anau YHA have provided free accommodation for project volunteers and researchers.
  - Local nurseries have donated native plants to schools and germinate beech seeds that have been used for monitoring.

Kindergarten pupils back to nature

HINEMOA Kindergarten is getting its children back to nature by teaching them how to reconnect with the earth through the Kids Greening Taupo project.

Pupils and teachers recently set out on their programme with a trip to the Whanagamata Stream walk in Kinloch.

They said reconnecting to earth gave students opportunities to learn about their responsibility to the earth, and how they could care for it.

They discussed caring for the trees, exploring without harming the plants and how to show respect for papatuanuku.

NATURE: Hinemoa Kindergarten pupils are taking part in the Kids Greening Taupo project.

RESPECT: Pupils learnt about how to explore nature without ruining plants and the teachers said they were taught how exploring and discovery was all part of the journey, not just the destination.

LEARNING: Taking Hinemoa Kindergarten pupils out into nature helped them reconnect with the earth. Photo: SUPPLIED

Kids conserve nature

Laurilee McMichael

From a weekly bush kindergarten to an ambitious revamp of the school grounds, the kids of Kids Greening Taupō are making the town a better place.

Piggy-backing on the success of Greening Taupō, a conservation initiative which aims to increase the diversity of local plants and wildlife, Kids Greening Taupō allows students from three local schools and two kindergartens to get involved with improving the Taupō environment. It is being run as an 18-month pilot project which will finish in mid-2016.

Also involved are the Department of Conservation, Ngāti Tūwharetoa, the Taupō District Council and local businesses.

Students from Tauhara College, Taupō Primary School, Waipahihi School, Hinemoa Kindergarten and Four Season Kindergarten have all committed to the Kids Greening Taupō project. Each of the schools involved has a student leadership team which will have responsibility for the project in their own schools, and last week the Kids Greening Taupō members from each school or kindy presented their plans at a special launch at the Taupō District Council chambers.

Four Seasons Kindergarten and Hinemoa Kindergarten are both running regular bush kindergartens, where they transport the children to a bush area for a session of learning and exploring in the outdoors, whether rain or shine. Regular trips to the same place allow the children to observe changes in the natural environment and builds a connection with nature. Hinemoa Kindergarten also has plans to plant its own bush area on a nearby reserve.

GREEN PLANS: Taupo Primary School's Kaitiaki ō te Whenua leadership team presents its plans at the Kids Greening Taupo project launch at the Taupo District Council chambers last week. From left: Rebekah Porteous, Tajshan Ram and George Simpson.

PICTURE: LAURILEE McMICHAEL

Taupō Primary School's leadership team went on a nature walk, collecting seeds from local kowhai trees and harakeke which they are now growing in pots, and some students collected blackberries and made jam. Back at school, they used their learnings for maths problems, predictions, wonderings and artwork and are planting out the school's gardens. The students said they had "a long list" of new skills they had learned.

At Waipahihi School the students have plans for a three-year project called He Manu Whenua, which will revamp unused areas of the school with paths, artworks and tree plantings and feeders to encourage birds. The project got underway last weekend with the first earthworks taking place and the students hope the local community will get involved, offering help and expertise.

Tauhara College's Kids Greening Taupō leadership team aim to restore a gully in Spa Park, planting trees to bring back birds and make Taupō a greener place. In future, the group would also like to restore the Onekeneke Stream.

The group of four year 9 students said the best thing about being involved was meeting and working with the younger students in the Kids Greening Taupō group, and helping to make Taupō a better place for future generations. The next step for Kids Greening Taupō is the project's official launch in September.

THE CONSERVATIONISTS

SARAH THORNTON discovers a Taupō conservation project that is being led by the same students it is educating.

Students attending bush kindergarten

"The important thing about Kids Greening Taupō is that kids are actually running the programme."

Kids Greening Taupō is a conservation education programme that is bringing biodiversity back to the town, but unlike other community-run projects, it is the children of Taupō who are running the show.

Based on the 'Kids Restore the Kepler' project in Te Anau, which has successfully reduced the number of pests and brought back many species that were close to extinction, Kids Greening Taupō shares the same approach as the Fiordland project with its strong emphasis on youth involvement and leadership.

Tania Wells is the Department of Conservation's (DOC) local ranger and has been instrumental in getting Kids Greening Taupō off the ground.

"A group travelled to Te Anau to see how the Kepler project was run and how they worked collaboratively," says Tania. "Following that visit, a local working group was set up comprising representatives from Greening Taupō, Tauhara College, Tūwharetoa Māori Trust Board and DOC."

The project become a reality in late 2014, with an 18 month pilot programme now running and involving two kindergartens, two primary schools and one college. Earlier this year an education co-ordinator was appointed, funded by DOC locally. Additional funding for a further two years has been secured through the DOC Community Conservation Partnership Fund.

"We started conversations with schools and funding groups around using conservation as a context for learning. Next we recruited schools and it was evident there was a huge

thirst for this type of programme. We are running the pilot programme with five schools initially and the hope is it will be replicated throughout the country," adds Tania.

The student-led programme is aligned with the work of Greening Taupō, a community organisation that aims to increase the native flora and fauna of the town for the benefit of its people, businesses and natural environment. Kids Greening Taupō provides the link between local schools and Greening Taupō, where students are actively involved with conservation projects to increase native bird life as well as solving real life environmental problems.

"The important thing about Kids Greening Taupō is kids are actually running the programme," says seven year-old Tajshan Ram from Taupō Primary School and a member of the student leadership team.

"We make some of the decisions. Not the adults. We vote for things we need to decide on because we work together as a team," he says.

Each school has taken on a specific green or environmental project, as Tania explains. "One school has eco-sourced kowhai seed and planted them up to seedling stage, which we'll then take and plant kowhai throughout their school and the region. I should mention planting is not restricted to using only native species. A local ecologist highlighted the benefits of also using non-local trees like eucalypt [flowering gum] that provide food for birds over winter."

"Four Seasons and Hinemoa kindergartens are connecting students to nature by going into the bush each week for an entire day. These 'bush kindergartens' enable children to witness changes in the seasons, learn about plants and how their natural environment works. For one day a week, story time on the mat takes on a new meaning!"

These 'bush kindergartens' enable children to witness changes in the seasons, learn about plants and how their natural environment works.

Teacher education is a priority, with seven workshops having been held to date to ensure teachers are confident in the skills and techniques required for a conservation education programme. One workshop was held at the Taupō Native Plant Nursery, teaching harvesting, propagating,

Below: **Kids Greening Taupō student leaders planting and caring for their adopted site at Spa Park, Taupō**

planting and dividing, and another at the Botanic Gardens to show how trap- lines work. "Teaching the teachers to teach the children is vital," says Tania.

Kids Greening Taupō extends well beyond planting and weeding, and 'green fingers' are not a pre-requisite for participation.

"Any skills can grow conservation regardless of gardening prowess. Students can contribute in a number of ways including I.T. (computer) skills to develop the website and social media, storytellers to populate the blog and graphic designers. These children may not be planting trees, but that's how we are getting this project across the school curriculum."

Waipahihi Primary pupil Alana French says that the work Greening Taupō does is important for a healthy environment.

"We need to help nature along. Because when the birds are gone they are gone forever"

– Alana French, Waipahihi Primary School.

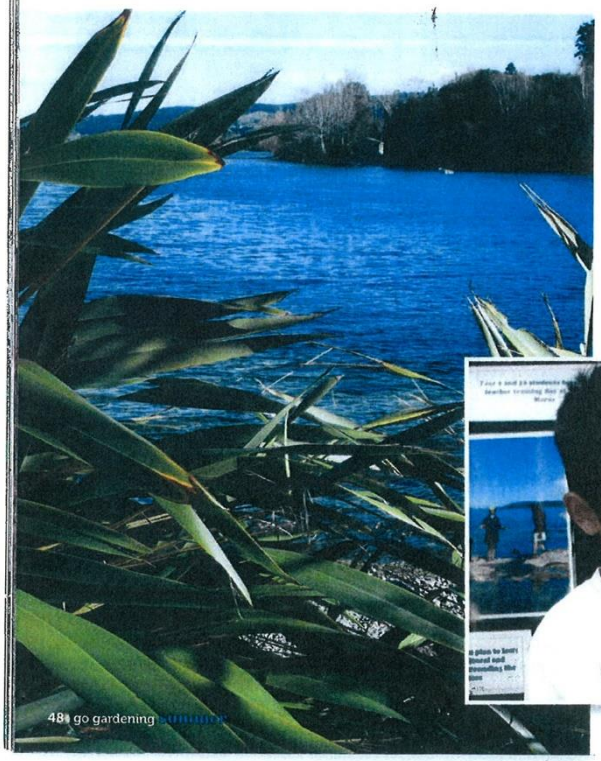
"We are bringing back the native birds by creating lots of green nature spaces. We might be kids now but when we are grown up we want our kids to be able to see real live kiwi, kea, kereru and tui. We need to help nature along. Because when the birds are gone they are gone forever," she says.

A unique difference between the Kepler and Taupō projects is the involvement of local Iwi in the latter, who provide guidance and support.

"Having Iwi involved means we are able to learn traditional ways of planting and harvesting and we get local stories and the Māori perspective on conservation," explains Tania.

"For example we held a professional development session for teachers at a local marae to learn the correct way to harvest harakeke flax. A flax bush is a 'family' and as such when it's harvested it must be cut on a certain angle to protect the 'babies'. We also learnt how to use left-over flax to form a simple flax band that we can use instead of plastic covers to protect newly planted or young trees. To have this cultural understanding is bringing huge value to the project."

Already there is high demand from other schools around the country to be involved in a similar programme. It's an exciting time ahead for the team. Taupō Primary School teacher Karen Watson says: "Through environmental education we are giving children the knowledge and skills to make a difference."



Below: Tajshan Ram from Taupō Primary School

Story reporter Lachlan Forsyth interviewing Tajshan Ram, George Simpson and Rebekah Porteous, Taupō Primary School's Kids Greening Taupō student leaders at the school on Tuesday.
Photo: Sian Moffitt 121115twgreening

TV time for kids greening Taupō

It was TV time for Kids Greening Taupō last Tuesday when a crew from TV3's *Story* came to town to see the environmental project in action.

Kids Greening Taupō, which involves three local schools and two kindergartens, is about children and young people connecting to nature, working on conservation projects and involving their communities. It is led by a team of students aged between seven and 14 and the aim is to bring biodiversity into Taupō's urban setting.

The news crew visited Taupō Primary School where the Kids Greening Taupō student leaders demonstrated how they eco-sourced seeds from the lake front and grew them in student-made paper pots for eventual planting around the school.

The film crew then joined Four Seasons and Hinemoa Kindergarten children at Bush Kindergarten at Spa Park where they filmed the children taking part in some adventurous outdoor activities. Tauhara College students were weeding and mulching the plants they have been planting as part of their Kids Greening Taupō projects, and Waipahihi School students set predator tracking tunnels, explaining why it was important to track predators.

The children had a chance to talk about what they have done, what makes Kids Greening Taupō special and what they had learned so far

The film crew was planning to put together a three to four minute news item to run on *Story*, which screens at 7pm Monday to Thursday, but there was no word on when it would air.