He pukenga wai, he nohoanga tāngata. He nohoanga tāngata, he putanga kōrero: The Whanganui river, people, knowledge, technology and place.

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Gabriel Baron

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Dedication

Ki tōku awa me āna uri katoa

Abstract

Many indigenous cultures are facing the struggle of language revitalisation. The need for constant effort and contribution has resulted in assessment and experiments in use of modern technologies. This research seeks to explore how emerging technologies can aid in the process of revitalising a tribal variation, within the iwi (tribe) of Te Atihaunui-ā-pāpārangi, located in the Whanganui area in the North Island of New Zealand. The main research questions asked how technology can support the revitalisation of te reo o Whanganui (Whanganui tribal variation). Additional supporting questions focused on the current utilisation of digital resources to promote the Māori language and to justify the positive effects of technology for language revitalisation and cultural promotion. An Indigenous framework with Kaupapa Māori research theory was developed and a Whanganui methodology was constructed to guide the research to produce authentic Whanganui data. The participants were all active and respected members of Te Atihaunui-ā-pāpārangi, with areas of expertise in the Whanganui tribal variation and tikanga Whanganui (Whanganui protocols). The findings revealed interesting and, at times, contradictory attitudes of using technology to transmit, promote and create tribal knowledge. The role the Te Atihaunui-ā-pāpārangi diaspora plays in cultural and language transmission was an unexpected theme and it is argued that all members of the iwi can actively contribute in the retention of Whanganui's cultural heritage. Further research on community development initiatives and supporting technologies can aid in connecting all groups of Te Atihaunui-ā-pāpārangi.

Karakia

Tū ana Te Kāhui Maunga i te pito o Te Ika-a-Māui Tikitiki a Taranga,

Takawai rā te mātāpuna, me ngā kōrero, me ngā whakapapa,

E rere kau ana ngā tikanga o ōku tūpuna, i rō ngā riporipo,

o ngā ngaru o te awa o Whanganui.

Tae atu koutou ki te puna wai, ki te puna ora, ki te puna aroha a Tangaroa,

Tuturu o whiti whakamaua kia tīna

Tīna

Haumi e

Hui e

Tāiki e!

Mihimihi

Ki ngā atua, Māori mai, Katorika mai. Tēnei tō mokopuna, e mihi atu nei. Nā koutou katoa tōku whaiao me tōku taiao i hanga, me whakanui ka tika.

Tū motuhake mai rā Te Kahui Maunga i te pito o Te Ika a Māui Tikitiki-a-Taranga, haruru ana te whenua, haruru ana te moana, haruru atu rā a Taranaki.

Hua mai nei ngā rohe e toru o tōku awa, ko Hine Ngākau ki uta, ko Tama Ūpoko ki waenga, ko Tupoho Pōtiki ki tai. E rere kau mai te awa nui mai i Te Kāhui Maunga ki Tangaroa, ko au tōku awa, ko tōku awa ko au.

Tau ana te whanaketanga o tōku whenua, o tōku hapū o Ngāpaerangi, o tōku iwi o Te Atihaunui-ā-pāpārangi anō hoki. Ko ōku tūpuna e kōkiri nei i te kaupapa, me pēhea e mihia mō ngā mahi kua tutuki i a koutou? E ōku tini whetū ki te rangi, piata iho tonu mai ki runga i ahau, tē wareware.

Heke iho mai ki a tātou ngā kānohi ora o Te Awa Tupua o Whanganui. Tō tātou waimārie hoki.

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Attestation

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the reference list), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher education.

Ethics application 18/295 Approved 25 September 2018 [Appendix A]

Preface

"He pukenga wai, he noho a ngā tāngata. He noho a ngā tāngata he putanga kōrero."

This whakataukī (proverb) was said by my late Koro, Te Anatipa Morvin Simon. It speaks of water being the source of life, saying that where there is water, there are people and where there are people, knowledge generates. Koro Morv refers to our awa (river) of Whanganui and refers to the many marae situated along the banks and bends. Te Awa Tupua is our ancestral river and a core feature of our identity. This thesis considers people, knowledge and place as interconnected elements of earth which Koro Morv has also identified in this whakataukī. As a descendent of Whanganui/Te Atihaunui-ā-pāpārangi myself and conducting this research for my iwi, I feel it is appropriate to use past and present material constructed by the iwi.

Throughout this thesis is a mixture of te reo o Whanganui and English. Te reo o Whanganui is referred to as the Whanganui tribal dialect. Some New Zealand readers will notice the use of Whanganui, in contrast with the more well-known spelling of Wanganui. In our dialect, it is spelt with the initial 'Wh', but pronounced without the 'wh' sound.

Where Māori terms are use, its initial use will include an English translation in brackets immediately after. Thereafter, they are not italicised.

Te Atihaunui-ā-pāpārangi is the tribal affiliation within Whanganui, both these terms are used to when appropriate, however both are identical geographically. The natural blend between these terms is located within the appropriate sections. The importance of fluency between these terms show understanding of the river and provide an authentic Whanganui worldview. The spelling of Te Atihaunui-ā-pāpārangi is identical to the iwi school, Te Kura Kaupapa Māori o Te Atihaunui-ā-pāpārangi, which I attended.

The conclusion chapter is a written piece from myself which speaks directly to my iwi. This includes what my findings mean to me and what I think these findings mean for us as Te Atihaunui-ā-pāpārangi. This chapter was constructed as if I was speaking the words to my iwi and I felt most comfortable using te reo o Whanganui to do so.

Chapter One: Introduction

Introduction

Initially this research investigated the relationship between indigeneous knowledge and technology. In te ao Māori (the Māori world) the tradition of kānohi ki te kānohi (face to face) communication is a key principle of cultural knowledge transmission. In other words, the transfer of cultural knowledge (including language) is done person to person through tangible practices and not through technology. This research is located in the tradition of kānohi ki te kānohi and the use of emerging technologies is explored through the tribe of Te Atihaunui-ā-pāpārangi from the Whanganui river, who share a common language variation with other tribes of the Taranaki and Ruapehu regions. In this research, emerging technologies are a possible avenue to developing the current status of Te Atihaunui-ā-pāpārangi's tribal variation. However, as I found out, over half of Te Atihaunui-ā-pāpārangi are living outside of the iwi (tribe) (Te Puni Kōkiri, 2013) and are referred to as the Te Atihaunui ā-pāpārangi diaspora.

One of the issues this thesis attempts to address is the use of technologies to cater to cultural and language transmission to those who live outside of the tribal area. It also seeks to respond to concerns with the combination of digital resources (Tiakiwai, S & H, 2010) and tribal knowledge transmission as well as provide an alternative to effectively utilise digital resources to benefit in tribal language development.

The following research questions were developed to explore these issues:

1. How can digital resources support the use and revitalisation of te reo o Whanganui?
2. What is the present status of te reo o Whanganui?
3. What technologies exist to support indigenous tribal language development?
4. What features of a tribal dialect are best be developed through emerging technologies?
5. How are Māori world views embedded into digital technologies?
6. How can technology serve the content, so the Māori worldviews and knowledge are not compromised in the use of technologies?

Researcher position

Ko Aotea te waka

Ko Ruapehu te maunga

Ko Whaganui te awa

Ko Te Atihaunui-ā-pāpārangi te iwi

Ko Kaiwhaiki te marae

Ko Ngā Paerangi te hapū

I am a descendent of Te Atihaunui-ā-pāpārangi. I was born and grew up in Whanganui. My education was through the medium of the Māori language and I am a student of Kōhanga reo, Kura Kaupapa Māori and Wharekura in Whanganui. Therefore, I am an insider researcher, and the Whanganui river is central to my worldview. This study is to contribute to my community's future development, and the topic is interpreted though a Te Atihaunui-ā-pāpārangi lens, prioritising our voices with the aim of benefitting Te Atihaunui-ā-pāpārangi. Therefore, this study only speaks for and to Te Atihaunui-ā-pāpārangi and not the entire Māori culture.

Research framework

A Whanganui methodology is applied within a Kaupapa Māori Theory framework. Using Kaupapa Māori Theory is appropriate to ensure that the study is for, with and by the iwi, and acknowledges the holistic, interconnected nature of the study, including the participants, outcomes, themes and contributions. Qualitative interviews were utilised to capture authentic Whanganui opinions and attitudes towards tikanga and emerging technologies. The participants are all active and highly recognised members of Te Atihaunui-ā-pāpārangi so sharing a Whanganui worldview with the participants was an important aspect and guided the study with Whanganui values and protocol.

Significance

This research seeks to provide effective solutions to tribal language revitalisation and propose further actions of tribal knowledge transmission. However, with already over half of our tribal population living out of the iwi it is important to consider the role Te Atihaunui-ā-pāpārangi diaspora play in preserving tribal traditions and the potential of technology in the transmission

of tribal knowledge. This research is significant as it can contribute to the literature on the potential role of the diaspora in maintaining a tribal dialect.

Thesis structure

In the early sections, the thesis considers the relevant research within this field, identifies existing attitudes towards technologies and tikanga and reviews important statistics of Te Atihaunui-ā-pāpārangi. The research framework is then outlined and how it was used to frame, understand and approach the study, including how a Whanganui methodology is applied with Kaupapa Māori Theory. The following sections outlines the methods as appropriate to the research framework. The later parts of the thesis discuss the thematic analysis process after the interviews. The findings are interpreted through a Whanganui worldview and the connected themes are highlighted in a return to the research questions. The final chapter discusses limitations and areas of further study. Finally, there is constructed as a personal message to my iwi and explains what these findings mean for us and suggest further actions of community development.

Conclusion

As insider research, this study speaks for and to Te Atihaunui-ā-pāpārangi and explores modern avenues of tribal language revitalisation and its impact on tikanga and investigate digital resource's potential as tools to aid language revitalisation. The following literature review contextualises the research themes and reviews attitudes towards the combination of technology and tikanga.

Chapter Two: Literature review

Introduction

This chapter backgrounds language revitalisation in my tribal area of Te Tai Hau-ā-Uru (the western coast of the North island) and, in the Te Atihaunui-ā-pāpārangi tribe of Whanganui. Both Western and Māori views were utilised to examine the current relationship between modern technology and traditional Māori knowledge and the current status of te reo o Whanganui.

Te reo Māori revitalisation

Prior to the 1840s, te reo Māori was the dominant language of Aotearoa New Zealand. Benton (1991) observed that te reo Māori has been spoken in Aotearoa for as long English had been spoken in England. At one point, te reo Māori speakers were more literate in comparison to English speakers in Aotearoa at the time (O'Carroll, 2013). In 1816, the first missionary school was established in the Bay of Islands for Māori and focused primarily on reading, writing and arithmetic skills. However, while the curriculum was structured in the English, it was taught and completely transmitted in te reo Māori (Kura Whakarauora reo, 5-7 July 2019). After the Treaty of Waitangi was signed in 1840, European settlers arrived, which led to the decline of te reo Māori. The 1847 Education Ordinance Act, for example, insisted that the delivery of all subjects in publicly funded schools was only to be in the English language (New Zealand Legal Information Institute, n.d), and this excluded te reo Māori from being spoken within the classroom. Twenty years later, the 1867 Native Schools Act banned te reo Māori being spoken both in and outside the classroom and ultimately removed te reo Māori in schools. This caused major struggle for those with te reo Māori as a first language (New Zealand Legal Information Institute, n.d.). Physical punishment was used to enforce these rules on the children (Benton, 1991). An example of this is from Mihi Edwards (cited in Benton, 1991) who recalled being punished physical at school for speaking Māori. Kingi (2005) encapsulated the Māori situation in the 1800s with three words; despondency, despair and de-population (p. 8).

Between 1900 and 1950, Māori men and their communities participated in two world wars and resulted a significant decrease in the amount of male te reo Māori speakers (Ka'ai, 2004). In this period, Māori families were encouraged forced to integrate into urban mainstream society and consequently Māori speaking families were located within or next to non-Māori speaking

communities. This policy was known as the "Pepper Potting", which intended that te reo Māori also be declined within homes (Te Mātāwai, 2019, p. 10). Many responded to rapid urbanisation and acted on the belief that English was the language of modernity and success and one result was many children whose first language was English. In the 1970s, universities became one platform from which Māori could assess politically the cultural imbalance of Aotearoa and reflect on the relevance of the Treaty of Waitangi (Te Mātāwai, 2019).

In this period, a national, coordinated effort from Māori followed to revitalise, take back ownership and acknowledge te reo Māori. Organisations such as Ngā Tamatoa from Victoria University of Wellington, Te reo Māori Society, Te Ātaarangi, Kōhanga reo, Kura Kaupapa, Kura-ā-Iwi, Ngā Kaiwhakapūmau i te reo, the Waitangi Tribunal, Te Taura Whiri i te reo Māori and the first Māori radio station, Te Upoko o Te Ika. These organisations were all major milestones for the rejuvenation of te reo Māori within Aotearoa. Further efforts included an order from the Privy Council in England to the New Zealand Crown that vigorous action must be undertaken for the protection of te reo Māori, this established Te Māngai Pāho, the Māori Broadcasting Agency (Te Mātāwai, 2019).

In the early 1980s, the relationship between te reo Māori and technology was firmly established primarily with the growth of Māori media. This included Māori radio stations, Māori Television and the Māori language channel Te Reo were all launched following the establishment of Te Māngai Pāho. Māori Television and Te Reo were paid for by the taxpayer but there was no cost for viewers, so they were accessible across the entire community. Te reo Māori radio stations were also highly accessible and remain important parts of communities even today. More recent actions include the joint strategy between Māori and the Crown, that is the Maihi Māori for Te Mātāwai and the Maihi Karauna from the Crown, which aims to revitalise Māori language proficiency within regions, communities and ultimately, homes (Te Puni Kōkiri, 2006). At the time of this research there is a major review of the Māori media field and its use of digital technologies (Mahuta, 2018). It is important to note that the recent Te Mātāwai initiative proposes that te reo Māori be revitalised first within smaller groups such as whanau, iwi, hapū but controlled and funded by a national body.

However, despite the effort of these initiatives over the last forty years, te reo Māori is still classed as 'vulnerable' in UNESCO's Atlas of the Worlds Languages in Danger (UNESCO, 2010; Kura Whakarauora reo, 5-7 July 2019).

Te reo o te Tai Hau-ā-Uru

Throughout the late 19th and early 20th century, Te Tai Hau-ā-Uru people remained living in small communal groups within hapū and marae and many of these communities only spoke te reo Māori ((Te Mātāwai, 2019, p.10). Urban migration, particularly after the second world war to Wellington and Auckland, caused te reo Māori to decline within our region. Although te reo Māori was not the common language spoken between whānau and iwi, Māori protocols were still practised and led in te reo Māori. Therefore, te reo Māori was never completely lost, but mainly used only in formal settings within Te Tai Hau-ā-Uru ((Te Mātāwai, 2019, p.11).

In 2006, the government's Ministry of Māori Development, Te Puni Kōkiri produced a report on the health of the Māori language in Te Tai Hau-ā-Uru (Te Puni Kōkiri, 2006). The report assessed the proficiency of te reo Māori using speaking, listening, writing and reading skills. Writing and speaking were considered active skills while reading and listening are passive. This report recognised that te reo Māori in Te Tai Hau-ā-Uru, like the rest of New Zealand is more proficient in the passive skills rather than the active skills of talking and writing (Te Puni Kōkiri, 2006). According to the report, the majority of the proficient te reo Māori speakers are over 55 years of age, many of who were raised in te reo Māori and 93% of those under 55 also acquired the language during childhood, which can account for Te Mātāwai's emphasis on the importance of intergenerational transmission in the home. Over half of the region's adult population (51%) claimed they were dissatisfied with their level of te reo Māori (Te Puni Kōkiri, 2006). The effects of both world wars left the region with more female speakers, and the transmission of te reo Māori to children was done primarily by women. The Te Kohanga reo Trust is the country's largest employer of Māori women (Rei & Hamon, 1993). However, 66% of the region considers te reo Māori to be a high priority and our region has centres created to support te reo Māori including Massey University, Western Institute of Technology, UCOL, Te Wānanga o Aotearoa and Te Ātaarangi. Furthermore, within Te Taihāuauru there are sixty-nine Kōhanga reo and ten Kura Kaupapa Māori who are all deliver content with our distinct tribal variation of te reo Māori. The potential to manifest an iwi proficient in te reo Māori is promising and is linked to our region's strong sense of identity, which is connected inextricably with the natural world and one major feature in particular.

Te Atihaunui-ā-pāpārangi identity
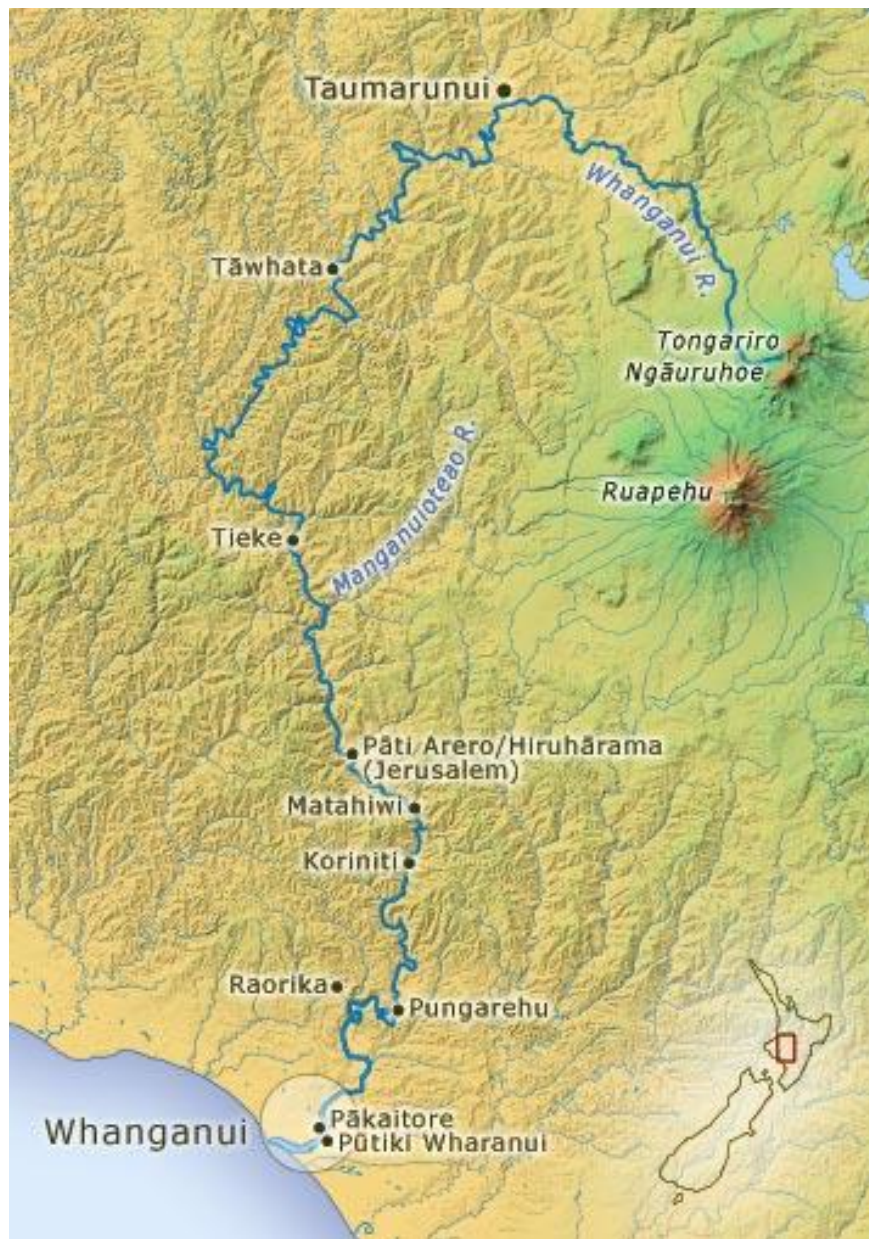
Image 1 Map of the Whanganui River showing major settlements [Source: TeAra.govt.nz. Used with permission]

My iwi's identity, like all iwi and hapū (sub-tribe) of the region, is linked inextricably to our awa tupua (ancestral river), which flows for 290 kms from the mountain Tongariro in the North Island's central plateau to the west coast (Image 1). My people use different terms to refer to the three main regions of the Whanganui river, the top of the awa (closest to the mountain) is known as Hinengākau, the centre as Tama Ūpoko and Te Atihaunui-ā-pāpārangi live in the estuary known as Tupoho Pōtiki. After 140 years of struggle by my people, the river's spiritual and cultural significance to the region was acknowledged in the Te Awa Tipua Bill 2017,

recognising the Whanganui river as a living entity with its own rights and values (Taylor, 2017). The Whanganui river and the mountains are the regarded by all of Aotearoa as the most significant feature of our iwi.

Numerically, Te Atihaunui-ā-pāpārangi is a small iwi. In the 2013 Census, nearly 11,700 people identified as Te Atihaunui-ā-pāpārangi (Statistics NZ, n.d.a). There are indications of a strong core sense of Te Atihaunui-ā-pāpārangi identity though, as nearly 50% of respondents gave it as their sole tribal identity (45.2 %), while a slightly higher number affiliated with another iwi (57.7%) (Statistics NZ, n.d.a). As a small tribe we make up only 1.7 % of the total Māori population. By comparison, the largest tribe, Ngāpuhi, in the north of the North Island, is nearly a fifth of the total Māori population[1] (125, 000 members) (Statistic NZ, n.d.a). The smallest iwi number only in the hundreds. However, a tribe's mana (authority) and strength is in its connection and relationship to their land, not in the numbers of people.

Te reo o Whanganui

According to Te Puni Kōkiri (2006), urban migration from rural living to populated towns had less effect on the upper isolated areas of the Whanganui river. For example, my hapū of Ngā Paerangi still inhabit the lands around our marae of Kaiwhaiki. The estimated house count is over 20, and all the families are from the marae. This aided a natural reinforcement of the language and culture within the community as my hapū are also active members of our hapū and the wider iwi.

The introduction of religion has had a major impact within my iwi. Nearly a fifth of the Whanganui community population are Catholic (24.2%), followed by the Ratana faith (12.7%) Anglican (9. 1%) (Te Puni Kōkiri, 2006) and a smaller number are Ringatū. Both Ratana and Ringatū are Māori religions. Every year the connection between Catholicism and Māori life is reinforced at the Hui Aranga (Easter gathering), an annual, week-long event run by the Catholic church but the values and protocols of te ao Māori. Church services are mainly delivered in te reo Māori. Other important activities at the Hui Aranga include Māori performing arts competition (kapa haka) for all ages, sports, speeches, religious quizzes, and parades. This

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[1] In 2017, Statistics NZ estimated that the total Māori population to be 734, 200 of NZ's total population of around 4 million. Source: https://www.stats.govt.nz/information-releases/maori-population-estimates-at-30-june-2017

event brings whānau home back to Kaiwhaiki as they reconnect with the river, our lands, our people and most importantly our language. Te reo o Whanganui is strongly represented at the Hui Aranga by the five tribal groups affiliating to Whanganui.

In 1900, the first wānanga held for the region was focused on transmitting tribal knowledge, focusing specifically on whakapapa (genealogy) and kōrero tuku iho (ancestral knowledge) of Whanganui (Te Puni Kōkiri, 2006). This could be one of the first recorded revitalisation efforts of Te Atihaunui-ā-pāpārangi for, with and by the iwi. However, more recent statistics remain the 2013 Census using the self-reporting questions on Māori language use and in specific current data on Te Atihaunui-a-pāpārangi living in New Zealand, due to the limitations of the 2018 Census. Since the 2001 figures, Te Atihaunui-ā-pāpārangi has had a higher percentage of speakers who "could hold a conversation about everyday things" but there has been a small but steady decline since then. In 2001, the figure for Te Atihaunui-ā-pāpārangi was 36.6% (21.1 percent for the total population of Māori descent). The 2006 Census was slightly lower (33.8%), although still higher than the total for population of Māori descent (20.0%). In 2013, the number of can hold an everyday conversation (31.4 %) was nearly double that for the total population of Māori descent (18.4 %).

Statistics NZ's iwi profile (Stats NZ, n.d.a) provided details of Māori speakers' ages (Figure 2). This indicates that that 27.6 percent were under 15 years, 66.0 percent were aged 15–64 years, and 6.4 percent were aged 65 years and over, reflecting the efforts of bilingual and immersion education in the region. Finally, the profile notes an imbalance in the number of female (37.9%) to male speakers (42.1%) (Te Puni Kōkiri, 2006). This is interesting if more women are involved in inter-generational transmission within iwi. Most kōhanga reo are facilitated by kuia (elderly women) and the Kohanga reo movement itself was founded by women (Tāwhiwhirangi, 2014).
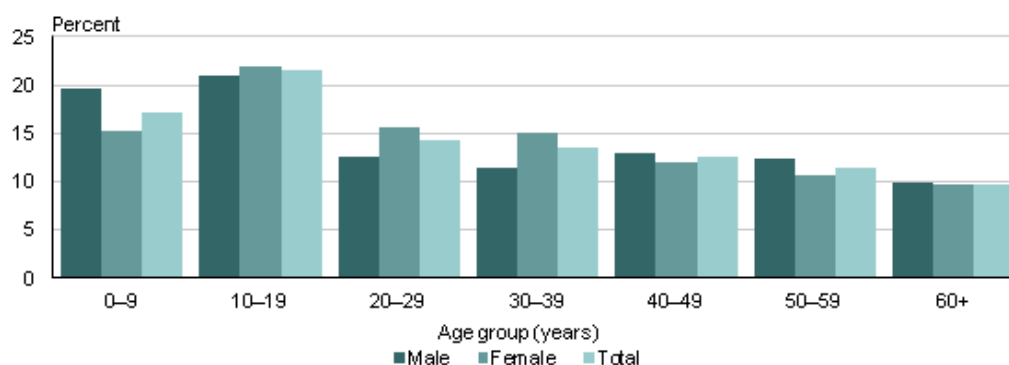
Table 1. Census, 2013. Te Atihaunui-ā-pāpārangi who can hold a conversation about everyday things in te reo Māori, by age group and sex.

The lack of employment opportunities within Whanganui have contributed Te Atihaunui-ā-pāpārangi people migrating to urban Aotearoa and Australia and this group of people are now a significant part of the iwi's population

The diaspora of Te Atihaunui-ā-pāpārangi

The cornerstone of Māori identity, despite significant urbanisation since World War II, is land (Durie, 2017) and is expressed in tribal connections to significant spiritual and geographical places, such as a marae (sacred house), mountains, rivers, lakes and ancestors, which feature in cultural narratives (Rangihau, 1992; Warren, Forster & Tawhai, 2017).

In contemporary New Zealand society, the tribal structure is less subject to change. But, as Haami (2018) points out, Māori migrations are not a recent phenomenon. Since the first migration from the Eastern Pacific around 800 years ago, groups have ebbed and flowed along New Zealand's shores, moving between the interior and the coast to find food, grow crops and forge alliances to share resources and ensure survival (Haami, 2018). What is different about the 'second great migration' (Haami, 2018) since World War Two is its scale and pace. The social, cultural, linguistic and political implications of this are covered in several different texts (Metge, 2004; Ka'ai, Moorfield, Reilly & Mosley, 2004; Anderson, Binney & Harris, 2014; Haami, 2018). However, despite urbanisation many Māori whānau retain close connections to their tribal homelands; attending tangihanga (funerals), hui (tribal meetings) and other social events. But the figures are clear: significant numbers of an iwi do not live in their tribal region (for some iwi the majority).

In general, the Māori diaspora is in metropolitan New Zealand or Australia. Only 44% of Te Atihaunui-a-pāpārangi population live in the Whanganui region of. But over half of Te Atihaunui-ā-pāpārangi people live in an urban centre outside of the tribal area (66%). While many live in Wellington, the closest major urban centre to the Whanganui (13.2%), 10% live in Auckland (Statistics NZ, n.d.a), nearly half of Te Atihaunui-ā-pāpārangi's diapora (43%) are located elsewhere.

Moreover, these figures do not include members of Te Atihaunui-a-pāpārangi living in Australia, where one in six Māori now living (Hamer, 2009; Haami, 2018) and as Haami observed, "more Māori live in Southern Queensland that in 10 of New Zealand's 16 regions" (Haami, 2018, p. 199). According to Te Puni Kōkiri (2013), using figures from Australia's 2011 Census, there were nearly 130,000 Māori living in Australia and furthermore, in the previous ten years there had been a 76% increase in Australia's Māori population (Te Puni Kōkiri, 2013, p. 1). In the earlier 2001 Australian Census, New South Wales had the highest proportion of Māori (35.5%) and of those who gave their iwi affiliation the main groups were Ngāpuhi, Ngāti Porou and Waikato (Haami, 2018, p. 199). Harmer (2007) claims that most Māori move to Australia for better job opportunities and once there, they begin to appreciate te reo Māori more. According to Haami (2018), Whanganui families who migrated to Sydney in the early 1970s led to an 'enclave' of Whanganui living on the Cronulla coast (p. 215).

According to Meredith (2006), a quarter of the 84% of urban Māori live in Auckland (p. 246), which now has the largest Māori population of any region in New Zealand and 81% of them retain affiliations to at least one iwi (Auckland City Council, 2017). Ngāpuhi have the largest tribal population in Auckland but their ancestral region is further North (Auckland City Council, 2017). A number of iwi are acknowledged as mana whenua of the greater Auckland region, including Ngāti Whātua ki Orakei, Ngāti Whātua ki Kaipara, Te Kawerau a Maki and Tainui (Taonui, 2017). The urban diaspora is a permanent feature of Aotearoa New Zealand's metropolitan and tribal demographics. Therefore, the figures for Te Atihaunui-a-pāpārangi, and for many iwi, are clear. The urban Māori diaspora can contribute a major part of an iwi's total population.

If we consider the promotion of traditional knowledge within digital resources designed specifically for Te Atihaunui-ā-pāpārangi, it is more probable that users will be outside of the tribal area than within it. Therefore, it will most likely be used to reconnect, locate and explain tribal distinctiveness. It cannot be assumed that users will have an inherited knowledge of it or even be aware of their iwi's tribal distinctiveness. Paradoxically, even if most of its users are

from the diaspora its legitimacy will rest on an authentic tribal voice. My people of the Whanganui express our identity through acknowledging ancestral, spiritual and geographical links with their tribal region. However, there is another less tangible but equally important expression of our tribal identity in our variation of the Māori language

Tribal variation of te reo Māori: reo-ā-iwi

Te reo Māori is part of the Tahitic and Austronesian family of languages, with Cook Island Māori and Tahitian (Higgins & Keane, 2015). These languages all share roots in the Proto-Austronesian language (Johnson, 2006). According to Benton (1991) there was never one variation spoken in New Zealand, but the dialects of the country were intelligible with the inter-iwi migrations. In a broad sense, the language has regional variation between the Eastern and Western North Island Māori and the South Island (Harlow, 1979; Higgins & Keane, 2015). Harlow (1979) describes regional variations in Aotearoa having seven dialects with te reo o Whanganui being one (Harlow, 1979) and he was doubtful on the assumption that tribal variations are extinct. However, Tīmoti Kāretu and the late Wharehuia Milroy (2018), both extremely influential in the Māori language community, refer to tribal variations as "reo ā-iwi" (tribal language, language of a tribe). In their opinion, tribal variations are not thriving or even known by most members of the tribal community. They suggest that language revitalisation be focused on a generic version of te reo Māori rather than reo ā-iwi, although, Milroy (Kāretu & Milroy, 2018) does acknowledge te reo o Whanganui and Taranaki as a most accurate resemblance of a tribal dialect, "E kī ana au ko ngā iwi e kaha ana ki te mau ki tō rātou mita i tēnei wā, ko ngā iwi o Te Hau ā-Uru, o Taranaki, o Whanganui, o Te Tai Tokerau (p. 152)."

The term reo-ā-iwi is used in refer to tribal variations of the language that still allows for mutual intelligibility across tribal groupings (Anderson, Binney & Harris, 2014, p. 452). However, reo ā-iwi or tribal variation "must be considered as iwi taonga (gifts) in the same way that te reo Māori (the Māori language) is a taonga to Māori generally" (Waitangi Tribunal, 2011, p. 442) and that these variations are "the traditional media for transmitting the unique knowledge and culture of those iwi and are bound up with their very identity" (Waitangi Tribunal, 2011 p. 442). In the WAI 262 claim on Māori intellectual property, various English equivalent terms for reo ā-iwi such as, 'tribal language', 'iwi dialect,' 'tribal dialect', 'iwi language' are all used interchangeably in the report (Waitangi Tribunal, 2011). It is important to reiterate that the term reo ā-iwi is used here to indicate a tribal, not regional, variation.

The other term to refer to tribal variation is mita. According to one description, "each tāngata whenua tribal grouping has its own distinctive mita/dialect. Within each mita are words, metaphors and aphorisms specific to the local natural environment and the local culture (Te Puna Mātauranga o Whanganui, 2005, p. 38). This definition neglects phonological differences in pronunciation, which is one of the most overt signifiers of mita. Prior to European settlement in Aotearoa, mita was a way to register a tribal identity with other speakers of Māori (Bauer, 2010). For example, members of my Whanganui iwi, can be recognised by our use of the consonant 'w' to replace the digraph 'wh', followed by a glottal stop (Higgins & Kean, 2015). The glottal stop derives from Proto-Polynesia and adopted by the Te Tai Hau-ā-Uru people of New Zealand and remains in the Tonga language (Benton, 1991). Both Bauer (1993) and Harlow (2001) agree that 'f' is the most commonly pronunciation for 'wh' but still agree that there is still a great deal of variation. According to Moorfield and Johnson (2004) there are lexical differences and anecdotal indications of syntactic variation (p. 39) but phonological differences are the most easily signalled and recognised form of reo ā-iwi or mita.

A lack of understanding about the value and place of reo ā-iwi, meant that the 'Whanganui' was spelt as 'Wanganui' for 150 years (Bauer, 2010). This was due to the distinctive pronunciation of the Whanganui mita, the letter 'wh' echoes the soft sound of a 'w' instead of the harsh 'f' in comparison to most other tribal dialects of te reo Māori. In 2009, a spelling change was proposed by the iwi to the Crown. My Māori tūpuna (ancestors) named landmarks according to the "geographical features, or the events that took or takes place there" (Bauer, 2010, p.8). In this instance, 'whanga' means the harbour and 'nui' meaning big, Whanganui then translates to 'the big harbour' (Wainwright, 2015). In addition to the spelling error, it is linguistically regarded that "spelling is usually decided by convention and not by law" (Bauer, 2010, p.187). Implying that what is considered correct to the majority can result in a re-construction of the spelling and the pronunciation. To spell Wanganui without the 'Wh' decreases the significance of the geographical landscapes of the area. Eventually, the Government passed legislation validating both Wanganui and Whanganui as equally legitimate, although, it was agreed that Crown agencies must spell the city name as Whanganui (Bauer, 2010) when referring to the area, although the pronunciation according to the reo ā-iwi of the region is without the 'f' sound remains.

Fighting for the correct and traditional spelling of Whanganui is only one of many actions the Whanganui people have taken to sustain and preserve te reo o Whanganui. One of the major initiatives to retain the area's reo ā-iwi are the 17 Kohanga reo (preschools) within Te

Atihaunui-ā-pāpārangi. Kohanga reo are te reo Māori immersion preschools, which nurture and teach children through Māori values and pedagogies (Tāwhiwhirangi, 2013). Currently, there are two total immersion primary schools (Kura Kaupapa Māori), which are guided by the Māori education system of Te Aho Matua (Māori philosophical base for Kura Kaupapa). There is one Kura-ā-Iwi (tribal school), which caters to local iwi and hapū education needs and one Wharekura, a high school structured under Te Aho Matua. Higher education institutions within Te Atihaunui-ā-pāpārangi include Te Wānanga ō Aotearoa, an indigenous tertiary education provider. All these educational institutions endeavour to retain te reo o Whanganui and Te Atihaunui-ā-pāpārangi tribal knowledge. They have major roles in exposing and sustaining the essence of Whanganui and Te Atihaunui-ā-pāpārangi identity. According to a 2011 Waitangi Tribunal report relating to the intellectual and spiritual property of indigenous New Zealand, which included an unfavourable picture of the Crown's language revitalisation strategies, the preservation of reo ā-iwi must be included in the preservation of the Māori language (Waitangi Tribunal, 2011). Another key contribution to the exposure and perseverance of te reo o Whanganui is the strong presence of Kapa Haka (Māori cultural dance). Kapa Haka uses te reo o Whanganui to showcase Whanganui tribal knowledge. Kapa Haka is practised within all Whanganui education systems, the majority of marae along the Whanganui river and is a main element of competition at the Hui Aranga.

In the 1990s, Te Kōpae at Rangahaua marae in Whanganui was the hub of Māori studies in our region. It was run by Koro Morvin Simon, who taught te reo o Whanganui to the people of Whanganui, in Whanganui (Hond, 2013). Tribal knowledge and community engagement flourished in the iwi, which led to promotion of te reo o Whanganui within other platforms like technology, an iwi radio station. In 1991, Awa.fm began to broadcast te reo o Whanganui (AwaFM, n.d.a). Years later, te reo o Whanganui Trust was established by leaders of the iwi for the use and retention of te reo and tikanga Whanganui (Hond, 2013). The purpose of te reo o Whanganui Trust was to create language initiatives for the iwi. According to Hond (2013), large groups of the Whanganui diaspora returned from within New Zealand and from overseas (p.203), to take part in weekend courses on Whanganui reo ā iwi, history and tikanga. He noted there is the need for iwi members to be located within the region for tribal knowledge to be transmitted traditionally. However, it is obvious here that Te Atihaunui-ā-pāpārangi have been active in trying to retain our reo ā-iwi, which is distinctive to our region. It is an intrinsic part of the Whanganui, Te Atihaunui-a-pāpārangi identity and connects us to our tribal land, knowledge and to our ancestors. The location of efforts to retain our language, traditions and

knowledge has been in the Whanganui region, close to our ancestral river. This required the diaspora to travel back to their tribal are, but this assumption and expectation could be challenged in the use of digital technologies in the dissemination of tribal knowledge.

The Māori language, tikanga and technologies

This section considers the role of technology in the transmission of tikanga and ancestral knowledge. Initially, the following section focusses predominantly on digital resources used in Māori language learning. The role of media in language revitalisation was not seen as a positive one as there were concerns that technology and media could interfere with mother-tongue transmission and a preference for traditional Māori methods of transmission kanohi ki te kanohi (face to face) (Tiakiwai S & H, 2010). According to O'Carroll (2013), kanohi ki te kanohi sits in the centre of Māori concepts of communication, however Moriarty (2011) argues that the relationship between media and endangered languages is of paramount importance to language revitalisation. With a sophisticated oral tradition of transmitting knowledge, te iwi Māori (the Māori community) are apprehensive of other formats of knowledge cultural transmission and according to Hond (2013), "language revitalisation is a process of empowerment of families, the affirmation of identity and the promotion of cultural value associated with language use" (p. 94). With cultural protocols such as kanohi ki te kanohi valued so highly, technology could be against tikanga (protocol) Māori. Galla (2009) highlights forms of indigenous scepticism, such as how technology could possibly aid in revitalisation and if it is even worth the time and investment. He suggests that incorporating traditional knowledge with modern technologies could be a key part to language revitalisation. If we consider that this generation lives digitally, and technology is a ubiquitous part of modern life, he believes that digital resources should be utilised within indigenous communities as a tool for modern language development and has observed that, "the Hawaiian language has found its way and place on the Internet, learners can search the Internet for an array of Hawaiian language websites" (Galla, 2009 p.172). Technology is by no means the most important or effective pedagogy to produce speakers but can be utilised in various ways to provide students with a variety of engaging systems to communicate and interact using the language (Galla 2009). Meskill and Anthony (1996) add that teaching languages online focuses on fundamental concepts and exercises practice of a safe language learning environment. "Language teaching research has increasingly focused on the impact of mobile learning, where the learner is not fixed in a permanent location" (Kukulska-Hulme cited in Te Huia, 2019, p. 47), which challenges the belief that people must

return home to learn their tribal knowledge. Major questions are raised about how the knowledge is then passed on and the accessibility to the digital resources as it could be passing on tribal knowledge without being in the tribal area itself. Our ancestors embraced the new technology and welcomed the challenges these offered our people to develop (Te Huia, 2019). According to Cash and Penfield (2012), more "endangered language communities are beginning to adopt advanced audio, video, and multimedia technologies as a means of revitalizing their languages" (p. 11). The Waitangi Tribunal report (WAI11), references Māori adoption and adaptation of new technologies to suit their needs and Te Huia (2019) notes that technology has been taken up in numerous educational contexts in Aotearoa (p. 46).

However, some writers have concerns on the use of digital components to articulate the Māori culture online (see Brocklehurst, 2014, p. 10). Questioning the effective and authentic portrayal of culture, he canvases the historical relationship between Māori and technology, the practices of Māori radio stations and Māori television, the promotional aspects of Māori on social media and the interactive Māori art that populate most national museums. These have been beneficial to the Māori language and community as a service of promotion and normalisation of te reo Māori in less formal and a broader range of contexts or domains. In contemporary Aotearoa New Zealand, many iwi have their own iwi radio, Māori Television now has an on-demand option allowing viewers to access archival footage. The Māori performing arts or Kapa Haka is promoted through social media generating many international exchange opportunities. Both domestic and international museums now include digital enhancements of Māori artefacts and taonga (treasure). For example, Lisa Reihana's work 'In pursuit of Venus [infected]' is a panoramic video that reflects on the first encounter of Polynesia and Europeans (Te Papa Tongarewa, 2015). This exhibition has been experienced in countries such as Aotearoa, Australia and Canada (Te Papa Tongarewa, 2015). These technological platforms now play an important role in the documentation of te reo Māori, reo ā-iwi and Māori history. If we consider the numbers of the tribal diaspora in New Zealand and abroad, digital technologies can be used to sustain, assist and modernise the Māori language while connecting those away from home back to their tribal heritage.

There are other concerns about the use of technologies to solve language loss and promote language use. One issue is the danger of Information and Communication Technologies (ICT) becoming just another tool of colonisation and that digital spaces are another area of contestation around control and resistance to colonial attitudes (Institutes of Technology and Polytechnics, 2005).

In 1999, Tipene Bright stressed that the use of Māori knowledge on the internet must include a face-to-face component as "humanity has primacy over technology" (Bright, 1999, p. 38). He questioned Māori views of how knowledge as a taonga tuku iho (something that is treasured and handed down from the ancestors) and tapu (something which is revered, restricted and sacred) can be protected within online environments if "technology is able to be used in a way which is consistent with the Māori learning contexts and principles of learning" (Bright,1999, p. 39) and more specifically to the idea of kanohi ki te kanohi or 'face to face' learning still being an important way of transmitting knowledge and skills (1999, p.38). It remains a challenge to construct digital tools that combine Māori values, customs and world views in the delivery of Māori language and tribal knowledge. How Māori knowledge, language and tikanga is accessed and viewed in digital environments and retains its integrity and authority must remain with and be determined by Māori. As Duder (2010) argues, "the challenge will be to construct a pedagogy that implements Māori values, customs and world view in the delivery of Māori language, incorporating digital and online learning" (p. 27).

Māori Access to new and emerging technologies
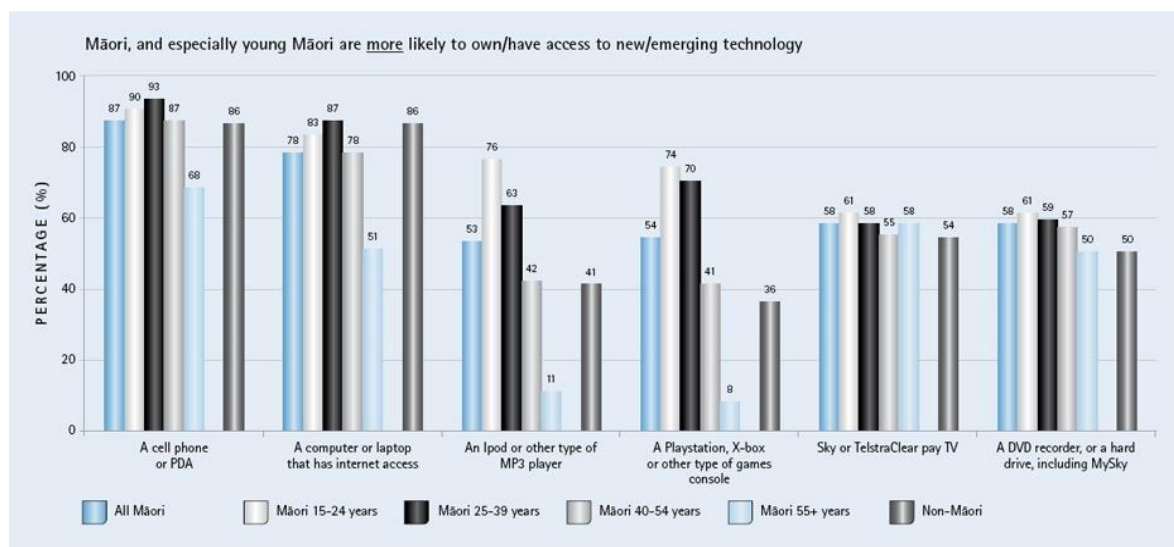
Table 2: Māori access to new and emerging technology (Te Puni Kōkiri, 2010, p.6)

In 2003, Parker (2003) observed the 'rapid uptake of technologies' (p. 458) in Māori households particularly with mobile phones and gaming consoles. Māori ownership of these was higher compared to non-Māori (p. 458). According to a later Te Puni Kōkiri research (2010), younger Māori and non-Māori were still accessing handheld-media players and cell phones more frequently (Table 2). Unsurprisingly, this trend is repeated in 2015 research, which found that Māori are comparable to the national average in terms of accessing the

internet via a smart phone but continue to be above the national average in accessing internet via games machine and other devices (Ministry of Business, Innovation and Employment, 2015). The authors account for this in the younger Māori demographics (p. 15). These statistics are evident within Te Atihaunui-ā-pāpārangi, it is evident that the younger generation of Māori are already tech savvy. For people living within Te Atihaunui-ā-pāpārangi, 68.4% have internet access from their homes and 85.6% have cellphones (Statistic NZ, 2013). This suggests that providing access to Māori knowledge on mobile devices can respond to Māori ways of accessing of digital information, tools and content. It indicates too the ongoing need to use emerging technologies to not only appeal to new and younger speakers of te reo o Whanganui, but to provide resources that are accessible to as many of the iwi's members as possible, including the diaspora.

Digital resources of te reo Māori

Since the 1990s, the use of educational technologies in Māori language learning has catered for two main audiences. The first audience is adult L2 learners of Māori, and second, children from Māori language immersion education. While both these groups have been essential to Māori language revitalisation and are closely interlinked, each audience has quite different social and linguistic needs. But in catering for these two pan-tribal groups, resources that focus on dialectal variation, or mita, are rare.

An exception is Joseph Te Rito's (2013) audiobook, text and digital resource for his iwi of Kahungunu. The book includes phrases and conversations narrated in the Kahungunu dialect which is complemented by a Compact Disk (CD). To express the unique features of Kahungungu dialect or mita, Te Rito uses the voices of two Kahungunu women who use the Kahungunu mita naturally. This has been an effective resource for the diaspora of Kahungunu because transmits authentic Kahungunu mita from elders within the iwi, and his CD features two kuia in particular. The reason of using kuia to transmit te reo o Kahungunu could link back to having more proficient women te reo Māori speakers and the major role they play within inter-generational iwi transmission. Although, the use of CD rom players has significantly decreased in recent times, leaving minimal tools to access and learn from the technological resource provided.

One of the most comprehensive set of tools for L2 learners are the Te Whanake resources, almost all of which are available online[2]. The online interactive dictionary[3] is one of the set's most used resources, but it is also available as an app for Apple and Microsoft mobile devices (Image 2). The site also includes a digital form and access to the app of He Pātaka Kupu (Te Taura Whiri, 2008), the first monolingual Māori dictionary.
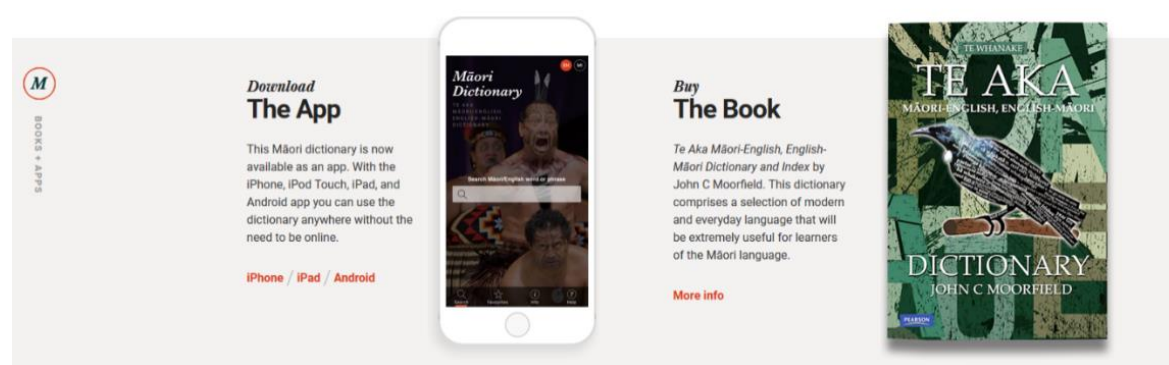
Image 2: Mobile app and print version of the Online Māori dictionary. Source: http://maoridictionary.co.nz

The range of resources on the Te Whanake builds on the use of educational technologies and print resources over the last 30 years as they have transformed from analogue tapes, podcasts and video clips to interactive online, digital tools. The most recent development uses Augmented Reality (AR) in the mobile app Kupu (Image 3), in which users can hold their phone's camera to an object to generate the Māori word on the phone's screen. The use of AR has largely been feasible because of Māori language scholar John Moorfield's extensive print and online dictionaries, which he has compiled over the last 40 years. This development in digital tools has the hallmarks of successful use of Māori language and emerging technologies: it can be used on any mobile device with a camera and the internet; it capitalises on popular existing technologies; it is extremely user-friendly and is based on an authentic, credible source of the language. Most critically, it appeals to younger emerging audiences. Like the dictionary and the Te Whanake series, Kupu's target audience are L2 learners of Māori. It is assumed that the app does not cater to variations in tribal mita, but some entries in the Te Aka online dictionary acknowledge tribal variation due to mita. Visual representation of this app includes

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[2] See http://www.tewhanake.maori.nz/

[3] See http://maoridictionary.co.nz/

the picture of a young Māori women, expressing mana wāhine (women prestige) not only within communities but on a national scale also.
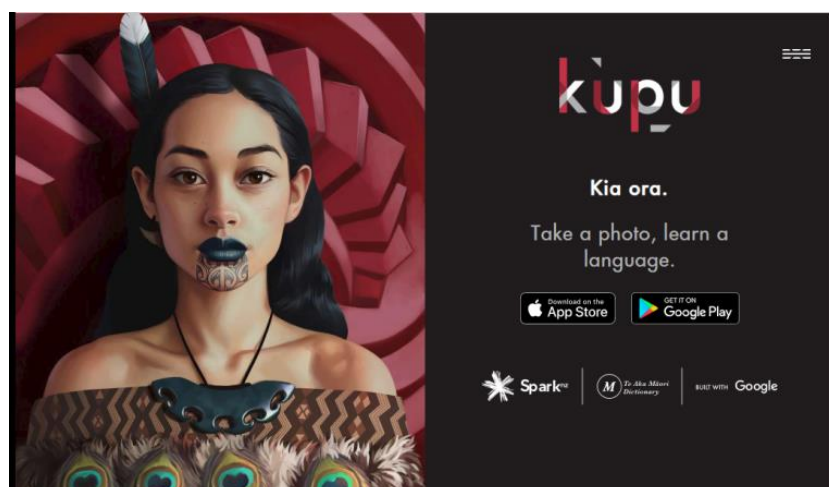
Image 3: Kupu app. Image source: https://kupu.co.nz

The second major audience in digital resources are students in Māori language immersion education. Although statistically only a very small proportion of young school-aged Māori children are in Māori medium education (less than 4% of all Māori children) they are a very important group in language revitalisation terms and the language's future[4]. Most of the material aimed at young Māori speaking students has been targeted for use in schools and educational contexts and includes a range of online interactive resources based on Māori knowledge e.g., cooking a hāngi (earth oven) and Māori weaponry. There is a very small range of apps that use Māori language and Māori content. Cost is the main barrier in providing digital material development for young Māori speakers. Until 2015, the largest funder of Māori language materials was the Ministry of Education, but Neoliberal education policies view Māori language publishing as economically unavailable as the relative cost of a tiny readership take precedence over the potential value of and use of quality digital material in New Zealand's endangered Indigenous language. This contrasts with the telecommunication company Spark's significant sponsorship of the Kupu app, which includes expensive advertising on national TV stations. In short, there are Māori language learning tools for L2 learners and a limited, but generally high-quality range of digital apps for use in Māori medium contexts.

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[4] Readers interested in the social and polictical reasons for such a small percentages are directed to: Duder (2016); Waitangi Tribunal (2011).

The wider use of technologies in the use and promotion of te reo Māori includes Facebook pages (Te Mana o te reo for example), You Tube channels which feature Māori content, such as Marae and Waka Huia (TVNZ) and Māori Television's unique series aimed at L2 speakers of te reo Māori L2, Ako. Te reo Māori and technology already share mutual ground and new ones are developing as the participants indicated in Chapter Three. However, there is still ongoing tension between the technologies driving the content and diminishing an authentic Māori worldview.

Conclusion

Te reo Māori has potential to thrive within Te Atihaunui-ā-pāpārangi and especially the wider region of Te Tai Hau-ā-Uru and as this review shows, technology can also be considered as beneficial for not only the revitalisation of te reo Māori but other Indigenous languages as a tool to promote and enhanced language learning. Emerging digital technologies are key to 21st century communication. Face-to-face communication is now classed as unusual, when using devices such as an iPad or mobile phones can be used on a daily basis. Intertwining emerging technologies, Māori values, customs and language could be a key part in the retention of the language. These technologies have the potential to connect the diaspora access tribal knowledge without having to be physically present.

Chapter Three: Research design

Introduction

This chapter outlines the research design. First by establishing a foundational paradigm grounded in a Māori ontology and epistemology. Then, the research methods are outlined and how they were used to answer the research questions. This chapter will ultimately position a Whanganui view within Kaupapa Māori Research Theory to explore utilising technology in a cultural and tribal sense to promote te reo o Whanganui.

Paradigm and methodology

According to Hond (2013), "a 'paradigm' is a perspective of reality that enables a person to make sense of the world" (p.170), which helps a community or individual, determine what is real and legitimate. For Giddings and Grant (2002) a paradigm is a system of thought and how people organise outputs of thought (p. 11). For example, if one was asked to describe a fish and responded with adjectives such as 'slimy', this would indicate that the individual has therefore been in physical contact with a fish as opposed to another who may have only described the fish as 'food'. The importance of recognising paradigms is accepting the existence of alternative perspectives about the nature of reality and the knowledge derived from it (Hond, 2013). A paradigm can be understood within four terms, which all influence one another and impact the research processes used by the researcher. These are ontology, epistemology, methodology and methods (Denzin & Lincoln cited in Hond, 2013; Giddings and Grant, 2002).

The first term ontology refers to the nature of reality (Hond, 2013) and, as Giddings & Grant (2002) explain, "it refers to our most basic beliefs about what kind of being a human is" (2002, p.12). Therefore, ontology is theories of what exists (Hond, 2013). In research, ontology is often seen as two sides of a coin, realism at one side and relativism at the other. Realism represents the world as an independent being to the interpreter, meaning the world is able to be observed and studied from a distance while relativism seems to have no absolute truth but instead being a construction of the interpreter's worldview (Hond, 2013).

An epistemology is driven by an ontological framework, but more specifically, "defines the nature of the relationship between the interpreter and the known, what counts as knowledge and on what basis can we make knowledge claims" (Giddings & Grant, 2002, p.12). Hond's

(2013) views are linked to Cram's (1995), who describes two sides of another coin, subjectivism and objectivism (p.171). Within a realism interpretation, the observation of reality as it physically occurs is considered knowledge, emphasising objectivity and detailed observations. A relativism ontological worldview tends to consider knowledge as our own construction and based on past and present experience.

The third word, methodology is described similarly by Hond (2013), Giddings and Grant (2002) and Denzin and Lincoln (1994), as how "we know the world or gain knowledge from it" (1994 p.13). Giddings and Grant (2002) go on to explain methodology as a guide to how the interpreter frames the research questions and decides the most appropriate process for the considered study. Thus, constructing a research process through the researcher's ontology and epistemology a framework for how the research should proceed and importantly this means the "outcome of the research does not only reflect the researcher's paradigmatic positioning, but also their theoretical stance" (Giddings & Grant, 2002, p.12).

Finally, the methods are the practical means and tools utilised within the research for collecting and analysing data (Giddings & Grant, 2002). Methods must consider an ethical approach to data collection. The methods are most likely to either fall underneath quantitative or qualitative approaches to research This means that their worldview and cultural stance are considered and valued throughout the research process.

Decolonising research

Positivism, a term that appeared in the 19th century, was a concept that developed scientific methods of researching the truths of the world (Giddings & Grant, 2002). According to Giddings and Grant (2002), a positivist paradigm plays with numbers (p.13) and they argue that positivism is deeply embedded into a Western way of thinking and emphasises objectivity, being value free, systematic observation, the testing of hypotheses through experimentation and the finding of facts which are equated as realism or truth (Giddings & Grant, 2002, p.13). However, Hond (2013) argues that, "positivism has been strongly questioned as to the appropriateness of its use to interpret the social world" (p.172) and post-positivism argues for multiple truths and competed with the view of scientifically constructed knowledge (Guba & Lincoln, 1994). Therefore, this research was able to be guided not by numbers but by the research topic and researchers' own social, political and cultural contexts.

Post-positivism paradigms are related to a constructivism approach, which centres attention on subjective social knowledge from a relativism perspective (Hond, 2013), Rather than seeking scientific truth, a post-positivism worldview is constructed from a researcher's own theoretical contexts "to understand what it is to be human and what meanings people attach to the events of their lives" (Giddings & Grant, 2002, p.16). Rather than just observing, this perspective allows the researcher to relate and interact with their participants to focus on understanding experiences and their explanations of them. Although both the researcher and participants can be involved in collecting data, the researcher's interpretation is key in the analysis process. The data analysis process in this research will therefore locate and construct from the participants sharing of their experience to produce our own knowledge and understandings.

Other paradigms arose from these perspectives, including Critical Theory (CT), which contains a critique of traditional Western positivism by politically motivated academics in disciplinary resistance (Denzin & Lincoln, 2005). According to Hond (2013), "Critical Theory has been most instrumental in the critique of historical hegemonic structures of society in its attempt to free academic thought from control by capitalist thought (p.173). This paradigm stands apart from constructivism in a sense that it maintains a realist perspective on history with a purpose to emancipate dominated sections of society (Hond, 2013). These social explorations and expansive theoretical frameworks, led to an Indigenous paradigm known as Kaupapa Māori Theory, with methods in relation to cultural sensitivity and reliability and useful outcomes for Māori (Cram cited in Haig & Marie, 2006). Kaupapa Māori Theory has created an academic space for Māori researchers to produce authentic cultural knowledge, guided by Māori values and protocol. Kaupapa Māori Theory is an appropriate framework as the foundations of a Māori worldview lie at the core of this research.

Kaupapa Māori theory

Giddings and Grant (2002) observe how indigenous approaches to research are currently appearing in many post-colonial societies such as Australia, Canada and the United States (p.23). In *Decolonising Methodologies: research and indigenous peoples*, considered a pivotal text in this field, Linda Smith (1999) argued that, "Kaupapa Māori Theory is a localised viewpoint which draws on key assumptions of critical theory but situates them within a Māori world-view" (p.24) so theoretically there is still critical engagement with colonial Pākehā culture but it is installed within Māori culture using social justice questions at its core (Giddings & Grant, 2002). Kaupapa Māori Theory began with internal and external influences, one of

them being the Māori renaissance which articulated Māori cultural aspirations (Bishop 1998). Henry and Pene (2001) examine the Māori Renaissance as a place where Māori researchers are challenging western models of knowing and therefore constructing knowledge. Duder (2010) evaluates Kaupapa Māori as the centre of Māori worldview, values and customs in the research process with the research being expressed in those terms (p. 41). At Kaupapa Māori theory's core is that all traditional and cultural beliefs are held equally valid to Western knowledge. This position has been challenged by New Zealand researchers (see Haig & Marie, 2006). Kaupapa Māori theory "provides a space for a Māori voice to be expressed (Corscadden, 2003, p. 3)" and the intention is that Kaupapa Māori research be for Māori people, done with Māori participants (Henry & Pene, 2001). However, this does not necessarily preclude non-Māori researchers from being involved and undertaking research within this framework (Giddings & Grant, 2002), but the researcher must declare their position him/her in relationship to the research paradigm (Duder, 2010).

Validating Kaupapa Māori Methodologies has been, and remains, a continuous struggle for Kaupapa Māori researchers. This is due in part to the lack of validation of Māori culture and history in the academy. Haig and Marie (2006) critique kaupapa Māori research and urge Kaupapa Māori researchers to reconsider the merits of scientific realist methodology in the light of its strengths and suggest an alternative for further Kaupapa Māori researchers. According to Haig and Marie (2006) the Pragmatic realist methodology is a more valid alternative to Kaupapa Māori research methodology as it can utilise between the methods of various theoretical frameworks to produce the acquired knowledge. Cooper (2012) argues kaupapa Māori research occupies its own space in the epistemic wilderness and one of the reasons it has to continue asserting its own validity is that Māori research has previously been regarded as producers of culture rather than knowledge. He claims that "Māori epistemology should be taken for granted, similar to the way that science takes for granted its own epistemological assumptions as a universal position against which all other knowledges are assessed" (p. 67). He believes that colonisation and hegemony is the root of why Māori knowledge is denied status as 'real' knowledge by Western methodologies. Henry and Pene (2001) observe that the process of colonisation created an alienated mode of consciousness that has tried to take away a fundamental principle of life from indigenous peoples (p. 156). Bishop (1998 as cited in Henry & Pene, 2001) validates Kaupapa Māori as a way of knowing, that is different to the western ways of thought. We know about a way that is born of time, connectedness, kinship, commitment, and participation (Pene & Henry or Bishop, p. 157).

According to Cram (1993), the purpose of Māori knowledge is to uphold the mana of the community, Pākehā, on the other hand, view knowledge as cumulative, whose component parts can be drawn together to discover universal laws. Kaupapa Māori Research Theory, together with research of other traditions and cultures of research, not only challenges western research paradigms, it also critically examines the role of the academy as an implicitly western institution. Kaupapa Māori challenges the political, cultural and intellectual capital that universities 'own' and 'distribute'. Thus, for Māori, the Western 'university' is as problematic as the knowledge it constructs and perpetuates. Ultimately, Māori seek to establish an 'academy' that is more representative of our traditional world view (Henry & Pene, 2001).

Māori ontology

Ontology has previously been described as theories of what exists, in other words the nature of reality (Hond, 2013). According to Williams (2001), Māori demonstrate the ability to order and retain whakapapa (genealogy) within a consistent system which orders well past ten generations (p. 62). Māori have divided the phenomenological world into three states of existence. The first is Te Kore (the void), the second Te Pō (the dark) and last, Te Ao Mārama (the world of light) (Walker, 2004, p. 11). Walker (2004) explains that the creation narratives begin with the sequential recital of the various names for the first state of existence (p.11). Gregory (2014) argues that most Māori believe that Te Kore is where the ultimate reality can be found. According to Walker (201), from Te Kore came:

> Te Kore Te Whiawhia (the void in which nothing could be obtained)
>
> Te Kore Rawea (the void in which nothing could be felt)
>
> Te Kore I Ai (the void with nothing in union)
>
> Te Kore Te Wiawia (the space without boundaries) (Walker, 2004, p. 12).

These numbers and generations of Te Kore signify the aeons of time in which the universe generated earth and sky. Te Pō, the second state of existence also has qualifying gradations. From to Pō came:

> Te Pō Nui (the great night)
>
> Te Pō Roa (the long night)
>
> Te Pō Tē Kitea (the night in which nothing can be seen)
>
> Te Pō Tahuri Atu (the night of endless turning) (Walker, 2004, p.12).

Te Pō signifies the aeons in time when the universe came into being. Both Te Kore and Te Pō signify dark and emptiness, "because there was no light, there was no knowledge (Walker, 2004, p.12)."

From whence came Ranginui (Sky Father) and Papatuānuku (Earth Mother), the primal parents of all that exists in the realm that we live in today, and Te Ao Mārama (the full light of day) (Ruru, 2004, p. 114). Walker (2004) explains how the proactive powers of Ranginui and Papatuānuku brought into being their sons (p. 12), Tāne Mahuta, "lord of the trees, and the birds which feed thereon" (Hongi, 1907). Along with countless brothers, these offspring of Ranginui and Papatuanuku became the Atua (Gods) Māori (Te Kawana, 2004).

The marital embrace of Ranginui and Papatuānuku blocked all outside light from entering between their bodies, meaning all children were left battling for space and sight (Walker, 2004, p.12). This caused the children to plot against their parents. "The task of separating earth and sky was accomplished by Tāne, who praised them apart with his shoulders to the ground and his legs thrusting upwards" (Walker, 2004, p.12).

Embedded in this narrative are key markers from which notions of Māori identity and belonging are drawn. The resistance and search for more are evident in the offspring of Ranginui and Papatuānuku and importantly, "within this narrative and acknowledge our closeness to Papatuānuku using the term 'tangata whenua', meaning people of the land and 'tūrangawaewae' one's sacred special place of belonging" (Forster et al. 2017, p. 54). The era of the demi-gods followed the opening of Te Ao Marama. It is clear here that Māori ontology is holistic and involves interplay of physical, spiritual and human world.

Māori epistemology

In the Māori context, our epistemological history is framed by the adventures and pursuits of demi-gods and our early ancestors and particularly the achievements of Tāwhaki and Māui (Cooper, 2012; Forster et al. 2017). But Io, who lived in the upper most realm of the 12 heavens, was the guardian of ngā kete o te Wānanga (the three baskets of knowledge), "they contained the knowledge of things celestial, terrestrial, and ritual" (Hiroa, 1926, p. 183). Tāwhaki ascended to the highest heavens despite many obstacles and retrieved Ngā Kete o te Wānanga, and when he returned to the land, he gifted the knowledge within the three kete to people (tangata whenua) (Cooper, 2012). Tāwhaki represents a profound respect for inter-generational knowledge transmission and the "pursuit of knowledge in order to reach one's goal and fulfil one's potential (Forster *et al*. 2017, p. 56). Cooper (2012) argues that Maui and Tāwhaki,

"represent stability and instability in social phenomena" (p. 64), and Māui lived his life challenging the origins and limitations of knowledge and this reflected in the narratives of Māui retrieving Te Ika a Māui (the North Island of New Zealand), slowing the pace of the sun, obtaining fire from Mahuika and in his last feat, attempted to defeat death by venturing through Hine-nui-te-pō, which led to his death and human mortality (Forster *et al.* 2017, p. 56). Māui's epistemological legacy is to pursue knowledge but to challenge its boundaries, discover new horizons and pursue advantageous situations which were only limited by mortality (Forster *et al.* 2017).

Countless other regional heroes leave legacies that have been passed down through inter-generational transmissions of living narratives of "great expeditions across time and space, remarkable relationships with the natural world, determination, strategy, intuition and intellect" (Forster *et al.* 2017, p. 56). This approach towards knowledge has inspired me to learn more about the Whanganui view and how it is articulated and shaped in research.

Whanganui methodology

If a methodology is described as the nature of investigation and evidence (Hond, 2013), my Whanganui methodology draws on Māori ontologies and epistemologies grounded in the Whanganui world view. Being born and having grown up in Whanganui, I attended Māori immersion education from Kōhanga reo, to Wharekura and have been living unconsciously in a Whanganui paradigm. I knew nothing else and did not consider this as unusual. This has shaped the theoretical framework of this research and contributes to a Whanganui-based methodology, concentrated on local information, tribal knowledge and language variations and features and practices that distinguish and assert the identity of the people inextricably linked to our river, which is "the aortic artery of the Atihaunui heart. Shrouded in history and tradition, the river remains symbolic of Atihau identity" (Waitangi Tribunal, 1999, p. 13). Our traditional narratives help us to appreciate the *awa* (river) "as the main access route to the numerous communities distributed along its side from the inland cluster of mountains referred to as te kāhui maunga" of which "Ruapehu, the most western peak of the cluster is a vital point of cultural connection, linking people spiritually, physically and socially (Hond, 2013, p. 200).

This tribal saying is how my people, including our diaspora claim our Whanganui identity:

> E rere kau mai te awa nui, mai i te kāhui maunga ki Tangaroa.
>
> Ko au te awa, ko te awa ko au.

<center>The river flows from the mountains to the sea.</center>

<center>I am the river and the river is me (Te Ara, 2011).</center>

This lies at the core of a Whanganui worldview, as it links the people to the land and affirms our identity not only by name but by location, essentially giving the river a 'human' or conscious identity. In addition, the length of the river is embedded with spiritual and ancestral connections, meaning that without the river, there would be no people of Whanganui.

The river grounds a Whanganui Research Methodology, which begins at Ruapehu and the other mountains of te kāhui maunga (the cluster of mountains). The mountains are ancient figures and as they can be considered as the beginning of Whanganui ontology, representing our nature of reality. The well-known proverb, "whatu ngarongaro te tangata, toitū te whenua – as man disappears from sight, the land remains" (Mead & Grove, 2003, p. 425) acknowledges the temporal nature of people but long after our ancestors disappeared the mountains remained and will remain. This is similar to tikanga, which remains the same throughout the iwi and an example of this is te reo o Whanganui.
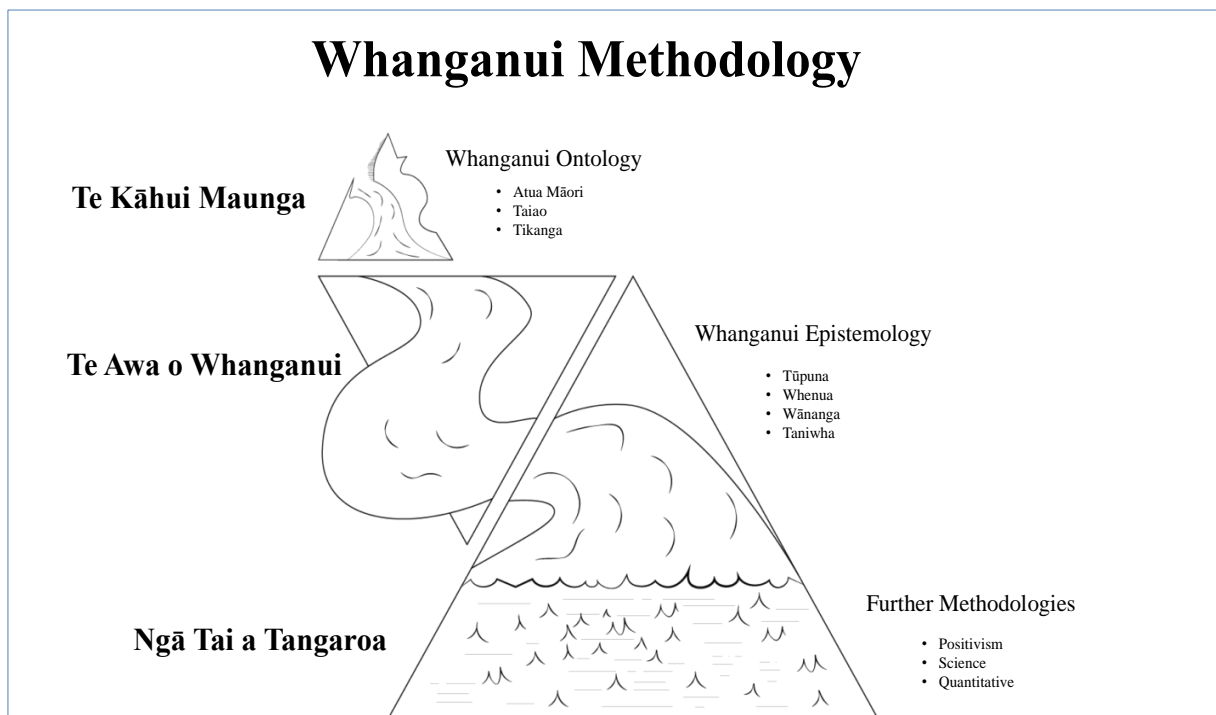
Figure: 1 Whanganui methodology

Te reo o Whanganui is strongly influenced by the taiao (environment), including the significance of our kāhui maunga. Connecting the mountains to the sea, the Whanganui river represents the inter-generational transmission of resources between the mountains, the people and the land. The river provides food, transport, connection for people settled along the awa.

This is articulated as Whanganui epistemology, the nature of knowledge, how we learn from the river (Figure 1). The current of the Whanganui river goes one-way from the mountain to the sea with over 200 rapids (Land, Air, Water Aotearoa, n.d). The current along the length of the river represents essential aspects of our culture such as tapu (sacred), noa (freedom), mana (authority), kotahitanga (connections), reo ā-iwi (tribal variation), tikanga (customs), kawa (protocol), tika (integrity), pono (discipline), aroha (respect), whānau and the actions of constant progression.

According to our tribal narratives, a taniwhā (large water creature) living within the Tūpoho region of the Whanganui known as Tūtaeporoporo, represents the challenges river people will face and a validation that when all expertise is acknowledged, all the challenges are able to be overcome.

As can be seen in Figure 1, the river flows to the sea, which represents the endless possibilities of knowledge and ways of being, which is inclusive of Western knowledge and resources (such as the uses of technologies) can be gathered from outer influence and brought within the Te Atihaunui-ā-pāpārangi, ensuing that our worldview is implemented appropriately.

Research methods

Qualitative research methods

Research questions

The questions developed for this research sought to understand how technologies can be used in the revitalisation of our variation of te reo Māori, te reo o Whanganui. The main question asked how can digital resources support the use and revitalisation of te reo o Whanganui? Table 1 gives the research questions and the methods used to explore those questions.

Research methods

1. Literature review.
2. Interviews. Individual, face to face interviews communication with five participants.
3. Attendance at a Te Mātāwai-funded Kura Whakarauora reo Te Mātāwai wānanga on language revitalisation with community from the 5-7th July 2019.
4. Attending tribal events. Such as the annual Hui Aranga (Easter festival), regional kapa haka competitions, tribal tangihanga (funeral) and further whānau commitments.

5. Transcribing and analysing participant interviews. Applying a kaupapa Māori theory and Whanganui methodology to the data.

Although all the research methods contributed to the wider project, Table 1 indicates which method contributed specifically to which question and shows that the literature review and the qualitative interviews were the main methods which gave understanding on all research questions.

Literature review

A review of both international and local literature drew interesting, challenging and different perspectives to the study. Particular attention was given to Te Tai Hau-ā-Uru and Te Atihaunui-ā-pāpārangi language statistics with a focus on the technology that currently exists to either promote, expose or normalise the use of te reo Māori. The main tools used to locate this data were online databases, university library catalogues, the wider internet and recommendations from authors' reading lists. The attention was then centred to the effects of technology on traditional Māori protocols.

QUESTIONS AND DATA COLLECTION METHODS				
	MAIN QUESTION	METHODS		
		Lit review/ research	Interview	Participation in tribal events
1.	How can digital resources support the use and revitalisation of te reo o Whanganui?	✕		
Sub-questions				
2.	What is the present status of te reo o Whanganui?	✕	✕	Kura Whakarauora reo
3.	What technologies exist to support indigenous tribal language development?	✕	✕	Tangihanga, kapa haka practices, kura whakarauora reo.

4.	What features of a tribal dialect are best be developed through emerging technologies?	×	×	Tribal events, tangihanga, hui Aranga
5.	How are Māori worldviews embedded into technology? How can technology serve the content, so the Māori worldviews and knowledge are not compromised in the use of technologies?	×	×	

Table 3: Questions and data collection methods

Participant recruitment

The initial contact with participants was made using existing whānau relationships to approach an elder's whānau or caregiver, or requesting support in a whānau hui, marae, kapa haka or church contexts. The participants were approached differently using a mix of text messages, phone calls and Facebook messages. They were firstly acknowledged and then asked to participate in the research. For the researcher, this meant committing to multiple return trips from Auckland to Whanganui, for the interviews to take place. The participants themselves had many tribal commitments so the aim was for the interview to fit into their routine rather than interfere to give the interviewees a clear space for mental, spiritual and physical preparation. The demographic profiles of each participant are given in Chapter 4.

Qualitative interviews

Face-to-face interviews are crucial to access tribal knowledge as so much is not in written form but in song, whaikōrero and in discussion with elders. All of the elders I approached are active iwi leaders with expertise in te reo o Whanganui, aspects of tribal knowledge and I was interested in their opinions on the use of technology in tribal knowledge as a tool to help guide the revitalisation of te reo o Whanganui. The intention was for them to speak openly and to discuss any concerns. Initially, the proposition was to interview both male and female iwi members, however, due to various circumstances, it was only males who were interviewed (n= 5). All face to face interviews were held in Whanganui, the specific location depended on the interviewee and followed the tikanga as set out in the Researcher Safety Protocol [Appendix B].

Tikanga and research: The Researcher Safety Protocol

As part of the development of appropriate research methods within a kaupapa Māori paradigm, a protocol was developed to guide the spiritual, emotional and physical safety of the researchers, participants and the research process [Appendix B]. As the protocol notes, it is not possible to separate participants' spiritual, emotional and physical safety from the process, so the guidelines were referenced under key cultural concepts and practices within tikanga Māori (Māori customs and values), these were: Tapu (spiritual, sacred and restricted knowledge); noa (common and free of restrictions); mana tangata (recognition of a person's whakapapa, their knowledge and wisdom, their influence, authority and status within the community) and mana kaupapa (recognising the integrity, value and importance of the topic and the research process within a Māori paradigm).

The reciprocal concepts of tapu and noa are guiding principles of tikanga Māori. Therefore, karakia were used before and at the end of the interview session to express tapu, to provide spiritual comfort and safety for the research and acknowledge the strong whakapapa (ancestral) connections between the researcher and the participants.

Mana tangata was expressed in the use of te reo Māori, however participants could choose which language they would like to speak in the interview. All interviews and discussion were within a whānau context chosen by the participant, e.g., a marae, the participant's home or a kōhanga reo. Mana tangata was respected in assuring participants of the confidentiality of their material and requests for anonymity. The concept noa was used to release tapu and recognise the close ancestral and community bonds between participants and to enact expressions of manaakitanga (hospitality, reciprocity and respect).

A person's mana was recognised in the concept of whakaiti, which is to show humility and respect. The relationships with whānau, such as the tuakana/teina (older and younger or expert and novice) relationships were valued through the concepts of tika, pono and aroha (being correct, truth and love respectively). As a young member of my community I took a support person where appropriate to guide tikanga practices.

A final aspect of protecting all participants was respecting the integrity of the topic and the process. This was done by clear understandings of the role of the interview in the research purpose. Among other things, this includes informed consent and understanding that the use of participant's knowledge and kōrero was for this research only. Any further use of the data or tribal knowledge would require separate permission.

Kura Whakarauora reo ki Whanganui

During the later stages of the data collection phase, I was invited to a Kura Whakarauora reo being held in Whanganui by regional representatives of Te Mātāwai, the central agency to lead Māori language revitalisation. The weekend wānanga was held to encourage local iwi members to construct their own plan to revitalising te reo Māori and the Whanganui dialect. Attending the hui allowed me to hear first-hand Te Mātāwai's Maihi Māori strategy and be part of discussions on how our people can seek funding from Te Mātāwai for language revitalisation plans. This was beneficial in the clarification of the current status of te reo Māori in general, and Whanganui in particular. There were discussions on technology, but it was limited to how it can be used in the home and included the method of translating the Pokémon Go app and Fortnite. According to the wananga, these digital resources are given as rewards to children within homes. The wānanga contributed to the research by gathering local iwi members and sharing discussion on revitalisation processes (Te Whakarauora i te reo, 2019). The dialect was not discussed but was used by both the attendees and speakers, indicating that te reo o Whanganui and even te reo o Te Tai Hau-ā-Uru are used by speakers of the community and region when discussing in te reo Māori.

Analysis

The data analysis was the final stage in the research process, and I followed the thematic analysis process from Braun and Clarke (2013) closely. The first step was the transcribing process. My main data set was transcripts of all the recorded interviews on my Apple iPhone. After the first interview I tried to use the Trint transcribing service. This was not successful as the interviews were in a mixture of Māori and English and the transcribing software could only read the English parts. Even manually modifying the first batch of transcript proved too time consuming so from this point on I developed verbatim transcripts by listening carefully to the interviews. This was time consuming but meant I could start to code as I transcribed. I referred frequently back to the research questions to establish key themes and opinions from each individual interview.

Once each individual interview had been transcribed and the data categorised into their specific theme, all data was then combined. At this point I reworked the codes and themes using the research questions, kaupapa Māori themes, a Whanganui perspective and themes constructed from the data to develop a whakapapa of the themes and related, interconnected subthemes. I viewed my participant group as a connected whole and related their words and worlds carefully

to see how they spoke both a whole and individually. This part of the process is discussed in the following chapter and reflection on this process is in the final chapters.

Conclusion

A Whanganui paradigm was constructed within Kaupapa Māori Research Theory, highlighting what is important to the people settled along the banks of the Whanganui river. The challenges of conducting traditional, cultural and tribal research were discussed. Having discussed the rationale and significance of this research (Chapter 1) and the literature that informed the research (Chapter 2), this chapter outlined the methods and the steps considered most appropriate to answer the research questions. The next chapter combines both the analysis and the findings before discussing the implications in the final chapter.

Chapter Four: Analysis and findings

Introduction

This chapter concentrates on the responses of the interview participants. I discuss the participants and the reflect on some of the interview processes. The analysis and findings are presented together in this chapter, which is appropriate considering the theoretical framework. The findings are presented thematically and show how other additional themes became an important during the analysis process.

Participant profiles

The participants were specifically chosen on their status, knowledge of tikanga Whanganui and proficiency of te reo o Whanganui. Although ten interviewees were approached, only five participants were able to be interviewed. Because this number of interviewees is small, this research defends the quality of the participants, rather than the quantity. As Baker and Edward (2012) argue, the appropriate number of interviewees depends on the context. Four male pakeke (mature or adult) and one kaumātua (elder) were interviewed. The interviews took place in locations chosen by the interviewee, in a safe and comfortable environment. The interviews were opened and closed with karakia and this provided a space for using spontaneous blends of both English and te reo o Whanganui.

All the participants affiliate closely to Te Atihaunui-ā-pāpārangi and three of the five interviewees associate specifically to my marae Kaiwhaiki, situated just north of Whanganui township, along the eastern banks of the Whanganui river and populated by our hapū of Ngā Paerangi. My marae continues to practise traditional community living and the inter-generational transmission of our knowledge and language.

All the participants sit on various boards and work for organisations associated with the local iwi of Te Atihaunui-ā-pāpārangi and are deeply engaged in their communities. Between them, they have years of skills, knowledge, expertise and experience in areas such as the Whanganui education system, the Whanganui River Claims, the Whanganui City Council, local iwi radio stations, Whanganui mental health, Whanganui Land Settlements and the Raukotahi Rangatahi Summit. Two of the interviewees are Crown negotiators on behalf of Whanganui.

All five participants are male who fulfil speaking (kaikōrero) and spiritual (kaikarakia) roles not only for Te Atihaunui-ā-pāpārangi but for other marae, schools and professions in the wider tribal area. Each participant has important and vital roles within their whanau, hapū and iwi.

It is acknowledged that this research lacks the Whanganui female voice. However, it is important to emphasise that I approached female participants. Interviews were arranged but, due to different personal circumstances, the interviews did not take place. This impacts on the scope of the research but not on the authenticity of Whanganui tribal knowledge, nor the opinions provided as all of the selected interviewees are highly recognised and acknowledged by Te Tai Hau-ā-Uru as iwi leaders. As the research focused specifically on Whanganui tribal knowledge and sought to promote te reo o Whanganui with technology, it was appropriate to speak to our elders (ideally both women and men), first to discuss matters of tribal importance and then to seek their permission to promote our tribal knowledge in this way. It is vital when combining traditional tribal knowledge and digital resources to approach those who speak for the iwi.

The research process

Initially, the aim of the research was to explore the potential of technology to revitalise a tribal variation of te reo Māori. The purpose of the interviews was to gather the appropriate data to propose a digital resource. The resource was to document traditional tribal knowledge of Te Atihaunui-ā-pāpārangi and to share it with the entire iwi, including the diaspora, as a resouce to help connect our people home and for them to understand aspects of Whanganuitanga, such as te reo and tikanga o Whanganui. The major elements of the digital resource were to reflect a Whanganui worldview and provide examples of tikanga Whanganui and te reo o Whanganui. The interviews were to explore the technologies being used in Whanganui and what aspects of tribal knowledge and language are best developed using technology. The indicative questions were the initial interview questions for all interviewees and focused on te reo o Whanganui, tikanga Whanganui and the use of technology from Te Atihaunui-ā-pāpārangi. These intentions are reflected in the proposed interview questions grouped thematically below.

The interview questions

The following list of questions was drawn up in the initial stages of the research and were used in the interviews and while some were answered directly, most participants referred to the questions in undirect ways.

Te reo o Whanganui

- Describe some unique aspects of the Whanganui mita?
- How far does the Whanganui mita stretch in terms of region?
- Where did our mita come from?
- What are some ways people have already tried to preserve the Whanganui mita?
- How do you think a good way of preserving the mita would be?
- Is it commonly spoken between rangatahi or pākeke?
- How does our mita reflect our worldview?
- In your opinion, do descendants of Whanganui love our mita?

Kapa Haka

- What makes kapa haka in Whanganui different to another iwi?
- What are the tikanga specific to women?
- What are the tikanga specific to men?

Pōwhiri

- What is the kawa (speaking protocol) of Whanganui?
- How would a normal pōwhiri on a Whanganui awa marae run (the order of procession)?

Tangihanga

- What are the immediate actions taken when someone in Whanganui region passes away?
- How are Whanganui tangihanga different to other iwi?

Te Ao Hangarau

- What technology are you familiar with?
- What aspects of digital technologies do you use for personal and professional purposes?
- What is the main purpose for your use of technology?
- What aspects of Whanganuitanga have you experienced through technology?
- Are there aspects of Whanganui tribal knowledge that need to be digitalised?
- How do technology and tikanga complimented each other?
- Do you find it concerning having tribal aspects of Whanganui digitally accessible?

Whakapapa Rangahau: the analysis process

Using the themes from the interview questions and the river as the touchstone for how we think about and describe our reality as people of Te Awa Tupua, I developed a coding schema (whakapapa rangahau), with four main themes and related subthemes. The coding process took

several iterations. Initially there were seven themes, but these were reduced to four. The themes do not sit in isolation to each other. For example, tikanga Whanganui is related to all the themes.

Tikanga Whanganui

Initially the questions around tikanga Whanganui were asked to identify unique features of Te Atihaunui-ā-pāpārangi language, which differentiates our iwi from others. However; in response to the questions, the participants stressed that the unique tribal features of Te Atihaunui-ā-pāpārangi were merely the essence of Whanganuitanga, which includes all aspects of tribal knowledge from Te Atihaunui-ā-pāpārangi.

Whanganui worldview

The Whanganui world view is linked inextricably to our river. It is the source of our identity and drives the worldview of Te Atihaunui-ā-pāpārangi. For example, when the interviewees were asked to introduce themselves, each participant affiliated themselves to the river first, not to Te Atihaunui-ā-pāpārangi.

> Interviewee 2: He piharau i tipu ake i te awa tupua e rere iho mai i te kāhui maunga ki Tangaroa, ko au te awa, ko te awa ko au.

"Ko au te awa, ko te awa ko au" from the excerpt above can be translated as, "I am the river and the river is me.", but there is a deeper meaning. Like all the other participants, Interviewee 2 spoke of the Whanganui river as if it were an ancestor which all Te Atihaunui-ā-pāpārangi descend from, it is an ancestral river and ensures connectedness and basic survival for all river hapū. Interviewee 2 stresses on the importance of Te Awa Tupua to the people of Whanganui:

> Interviewee 2: Ko te awa tupua te pūtaketanga o tō mātou, tō tātou oranga. I te mea, ko te awa te pātaka kai, ko te awa te huarahi a ngā mātua a ngā tūpuna, ko te awa te wharekaukau, ko te awa te tapinakara kia whakanoa te tapu, ko te awa tērā e hāpaitia ake i a tātou, ā, i te wā e mauiui ana, me haere ki te awa, tiehutia te wai kei runga i a koe kia whakapāingia ake anō rā i a koe. Nō reira koina, ko te awa ko au ko au ko te awa i runga i ēnei rahi kua homai e ia ki te whāngai mai i ahau te whāngai mai i a tāua me kī. Ngā tuna, ngā piharau, ngā awa kai kua homaingia e Maru. Ko te awa anō rā te taurawhiri a Hinengakau, kia rarangahia ake i ngā hapū, ngā whānau, ngā iwi mai i te pūtaketanga ki runga i a Tongariro puta atu ki te Kaihau o Kupe nō reira, koirā te pūtaketanga me kii rā te take ō, ko au te awa ko te awa ko au.

In this excerpt, Interviewee 2 is emphasising the relevance and value of Te Awa Tupua to the people of Te Atihaunui-ā-pāpārangi. Participants continue to think of Te Awa Tupua and utilise it in ways similar to our ancestors. As Te Awa Tupua continues to connect hapū and iwi along its banks (Ko te awa ano ra te taura whiri a Hinengakau), it is the main point of reference by

all hapū and a direct connection to the time of our ancestors. Therefore, Te Awa Tupua, mai i te kāhui maunga ki Tangaroa lies in the centre of a Whanganui worldview.

Te reo o Whanganui

The initial questions on te reo o Whanganui were influenced by my own personal experiences. Several years ago, when I began university, I became a part of Te Atihaunui-ā-pāpārangi diaspora in Auckland. I was exposed to other dialects of te reo Māori and I realised our tribal variation was unique and obvious as it sounded different. Having such a distinct tribal variation resulted in fearing to speak te reo o Whanganui. I was reluctant to give listeners a space to critique and judge my reo ā-iwi. Although I am a proud descendent of Te Atihaunui-ā-pāpārangi, I wanted to know why we had such a noticeable tribal variation of te reo Māori. I was convinced that if I knew the history of te reo o Whanganui, I could respond confidently to listeners who wanted to critique our reo ā-iwi.

Interviewee 4 recounted a similar experience when he moved from Whanganui to attend the Catholic Māori boys boarding school Hato Petera in Auckland:

> Interviewee 4: I rongo ēngari kāore au i te mōhio te tino rerekētanga o te reo o Whanganui ki te toenga o te motu. I mea mai a Uncle Morv kia mātou, he rerekē tō tātou nei reo me tō mātou takahia.

While he described how before he was unaware of such intense tribal differences, interviewee 4 also observed that spoke of tikanga Whanganui as extremely different to that of the other students attending Hato Petera at the time.

When asked about the origins of te reo o Whanganui, Interviewee 5 referred to his childhood learning and explained that:

> Interviewee 5: I mua i te tangata ko te manu, we would always get told to go listen to the manu when growing up.

Interviewee 5 is recalling how his grandmother's generation would be told that before living things, or people (tangata) inhabited the world, there were animals and more specifically, birds (manu). This links back to our world view that te reo o Whanganui was constructed and developed through the surrounding environment which, in Whanganui, would include the river. But this reference revealed a memory I had as a young woman being told stories of te reo kitākitā (the chirping language of birds), which was used by Tuhoe and my Whanganui ancestors. This was a secret language to communicate only with each other about where other people were, what to expect and where they were.

Interviewee 1 has described te reo o Whanganui by saying, "He ngāwari te āhua o Whanganui". According to the Māori Dictionary (Moorfield, 2011), the word ngāwari means to be easy, to interpret, understand, listen to and speak.

Interviewee 5 made some interesting observation of te reo o Whanganui.

> Interviewee 5: But if you listen to tapes of the old people sometimes you got to find the space just to speak like them, kōrerotia te hua kia tipu ko te maramatanga. If you've got some substance behind it, te oranga tonutanga of te reo o Whanganui is in its simplicity. The introduction of grammar and punctuation has made te reo a difficult language to grasp. There were no greetings or farewells there was just spoken reo. Like haere koe i tō haere, haere.

Interviewee 5 is acknowledging again the influence of the old people on him and his knowledge of te reo o Whanganui. Although he doesn't use the word ngawari, he refers to the language of Whanganui and its "simplicity". This observation was consistent throughout all participants and highlights the "gentle sound" of te reo o Whanganui.

Two participants observed that there is variation even within the reaches of the Te Awa Tupua, reporting at least five tribal variation (e rima nga mita o Whanganui).

> Interviewee 2: Manaakihia i tō tātou reo me ōna tikanga i te mea kua rerekē ngā tikanga mai i te kāhui maunga tae noa nei ki Tangaroa. Ka hoki mahara au ki ngā kōrero a Che, e rima ngā mita o Whanganui mai i te maunga ki te kaihau o Kupe ki Tangaroa nō reira, ko ngā rerekētanga ki ērā e noho ana ki te maunga he rerenga anō tō te wairua he ahua singing tō rātou mita tae noa rā ki tō māua Pāpā, Koroheke rānei a Konohi a Uncle Nohi, i te wā e kōrero ai a uncle, āhua waitatia te Pāpā i tana kōrero kia koe "tēnā koe e tē, kei te pēhea i tēnei rangi e nō" he rerenga tērā, nō reira koirā tētehi ō ngā rerekētanga o tō mātou mita. Ana. Kua whakakāhoretia e tātou te "H" te "Haytch" and ana, kua rite tērā āhuatanga ki tō Taranaki he pekanga tērā anō hoki ō tātou e iti noa he rerekē te mita o Whanganui ki te mita o Taranaki ahakoa te whakakāhoretanga o te H. Tērā pea ko tō tātou hononga ki te waka o Aotea tērā.

Interviewee 2 confirms the use of a glottal stop when pronouncing 'wh' in our variation of te reo Māori. He gives an opinion on the sound that compares te reo o Whanganui to singing a tune [te ahua singing]. He refers to the very important tribal connections between Aotea waka and Whanganui, which indicates the reasons for the specific tribal variations in Taranaki. The major features of te reo o Whanganui highlighted by my participants were the smooth, "sing-song" quality of the delivery and the disregard pronouncing the letter 'haytch'. Interviewee 2 acknowledges that the 'haytch' feature could be due to our strong affiliation to Aotea waka and the great migration which landed in Pātea (west of Whanganui) well before the arrival of European.

Te reo o Whanganui is known by my participants as a simple and smooth language, influenced highly by our environment and created by our tupuna. Although these are important features

of our tribal variation, the current status of te reo o Whanganui is difficult to determine. Instead I can attempt to answer this by focusing on the domains where te reo o Whanganui is dominant. One major place is at the Hui Aranga.

Te Hāhi Katorika

According to Te Puni Kōkiri (2013) figures, nearly a fifth (24.2%) of Whanganui follow the Catholic church. Most of my participants were Catholic (n=4). Interviewee 2 explained why our tūpuna adopted Catholicism, within Whanganui and Kaiwhaiki marae especially. He begins by explaining:

> Interviewee 2: …That when the missionaries came, our tupuna sort of already had an idea of all those values, they already knew these sorts of things but there was this strange Jerusalem. He's wearing sort of strange clothing. They are different to ours and he's talking about the same sorts of things that we believe you know about faith, hope charity compassion love. Those were all values that our tupuna already knew. Whakapono. Tumanako. Rangimarie. Aroha. We already knew all of these, but this person has brought it, in writing, in a book. Hence the korero that goes when Father Laypilan came to Kaiwhaiki, 'cause the very first Catholic Church was set up at Kaiwhaiki in 1852 and it was supported from our Koro Whakataha. To those that would ask, and they would reply "kāore ahau i te mōhio ko wai a Ihu Karaiti, ka matau au ki tōna matua". So, whilst they were coming through talking about the faith and about Jesus Christ that our tūpuna said "I don't know about this Jesus Christ that you are talking about, but I know his father" and that goes straight up to Matuanui i Te Rangi.

Catholicism has been practised within Whanganui for well over a century. Interviewee 2 explained how the Hui Aranga (Easter gathering) begun and highlighting that this is still one of the main religious and social practices of Te Atihaunui-ā-pāpārangi.

> Interviewee 2: I tipu ake mātou i roto i tō mātou whakapono, te whakapono ki te Hui Aranga ki Hāhī Katorika. Ko te Hui Aranga tēnā me kii rā he huhuinga Māori. Mō ngā Katorika Māori. Kia hui I a tau i te wā o te Aranga kia whakanui ake i te Aaranga mai o Ihu Karaiti te kaiwhakaora mā tatou. Kia murua ake a tātou nei hara. Nā reira ko te pāinga o te Hui Aranga kua kitea ake ngā Pāpā Pirihi kua hoha ngā Māori ki te Hahi Katorika i te mea kei te hoatu ngā mātua tīpuna ki te Hāhī ēngari kare rātou e tae ana te kite ngā hua o a rātou whakapau werawera ki te tautoko i te Hāhī Katoria nō reira i runga i te hōhā haere ki te Hāhī e whakaarohia e Pā Riatana me whakaturia ake tētehi huihuinga Māori ka taea ngā Katorika Māori te whakaputa o rātou kōrero o rātou whakapono ki tō rātou Katorikatanga. Nō reira nā wai rā ka puta ko te hui tau Katorika i te tīmatanga mō ngā tau e rima koira te ingoa o tēnei huihuinga, ko te Hui tau Tapu. Ko tō mātou roopu o te kāinga tētehi o ngā morehu me kii rā o te Hui Aranga mai i tōna tīmatanga.

Interviewee 2 identifies growing up on Kaiwhaiki marae with the constant practice of the Catholic faith, which is the case for the majority of Te Atihaunui-ā-pāpārangi. Te Hui Aranga is instrumental to the connection of Whanganui Māori protocol and te Hāhi Katorika. I attend this event with my marae and four other groups from Whanganui every year to remain

grounded in these practices. This event is held every Easter weekend, when the karakia and the hymns are bought back to the awa and are practised on marae, at home, in schools and certain workspaces. Catholicism is imperative to a Whanganui worldview and tikanga Whanganui. Even those who follow other religions also attend the Hui Aranga to understand the essence of Whanganuitanga. Furthermore, this adoption connects both Te Ao Māori and Western beliefs by recognising that they share core values. This contributes significantly to the mātauranga (knowledge) of Whanganui. Some would argue that colonial religion cannot be part of indigenous knowledge, yet the participants cannot recall Whanganui, especially Kaiwhaiki marae without the practice of Catholicism. Tikanga Whanganui therefore, includes both Māori knowledge and the Catholic religion. Having adapted Catholicism and attending the Hui Aranga annually as a marae made this one of the main domains of listening and speaking te reo o Whanganui. Other domains such as Kura (school) are used to develop all skills that also include reading and writing.

Mātauranga Whanganui

Mātauranga Whanganui is inclusive of all Whanganui tribal knowledge and the participants' discussions focused on the initiatives applied within Te Atihaunui-ā-pāpārangi to ensure the continuum and evolutions of Whanganui tribal knowledge. Five key iwi initiatives were referred to frequently during the interviews and interestingly, all the initiatives had previously taken place at Rangahaua Marae, which is a modern, urban marae located in central Whanganui. This was recognised by all participants as the primary location for transmitting mātauranga Whanganui as it created a central space for all iwi and hapū along the Whanganui river to connect and learn together. The purpose of these initiatives was to document and revitalise te reo o Whanganui specifically within the iwi. The programmes were conducted with a Whanganui worldview and transmitted completely in te reo o Whanganui. Te reo o Whanganui Trust's *Ngā Kai o te Puku Tūpuna* document, Te Kōpae and Te Rangakura were recognised by the participants as the most effective programmes applied within Te Atihaunui-ā-pāpārangi to sustain mātauranga Whanganui.

According to Interviewee 1, in the early 1990s, the elders established the Te Atihaunui-ā-pāpārangi education system, outlining that all education be transmitted under Whanganui values, protocol and worldview and its terms of reference was a document called *Ngā Kai o te puku Tūpuna* (Whanganui River Trust Board, 2004). The title, Ngā Kai o te puku Tūpuna can translate metaphorically to the action of Whanganui ancestors providing traditional and Whanganui kai (sustenance, food) and specific tribal knowledge for the future generations.

This document is registered with the Ministry of Education as the official authority on education provided in Whanganui. The purpose of this document was for mātauranga and tikanga Whanganui to be central within all Māori and mainstream educational environments of Whanganui. Interviewee 1 commented on opposition directed at this document, which expressed negative attitudes towards the quality of the document. Some questioned the relevance of this document to modern society causing review of the document and a reassessment. Interviewee 1 highlights the many obstacles Te Atihaunui-ā-pāpārangi have experienced to keep educational authority, he mentions the current status of our traditional education system as:

> Interviewee 1: So, in the end what we come too was is it still relevant to have Ngā Kai o te Puku Tūpuna as a leading document for the iwi.

There are earlier initiatives than Ngā Kai o te Puku Tūpuna. Such as the Te Rangakura qualification and the Te Kopae programme were classified successful and are still considered by most participants to be the most profitable initiative for producing Kaiako Māori and improving the te reo proficiency within the iwi.

Te Rangakura was a qualification granted by the former Whanganui Polytechnical Institute to produce enough kaiako Māori for the evolution and progression of Māori medium education in Te Atihaunui-ā-pāpārangi education. Participant 4 attended the course and spoke highly of the programme:

> Interviewee 4: The beauty of Te Rangakura, was that it was more practical than theory, every second week you were in the akomanga learning from the kaiako. We would come out and make resources because there were no resources at the time and time and go back in and try to utilise them.

Te Rangakura was the beginning of kaiako (teachers) Māori in Whanganui. The numbers of kaiako Māori within Whanganui flourished from this initiative and the local schools were thrived in the late 1990s. Interviewee 4 added that almost all graduates of this qualification continue to work within Whanganui education providers fulfilling its purpose to assist in the evolution of Te Atihaunui-ā-pāpārangi and te reo o Whanganui.

> Interviewee 4: The program turned huge and like all things that get huge, money gets thrown around and people become greedy where they just begun to push teachers through. Then it closed down and moved to Ōtaki to Te Wānanga ō Raukawa.

This qualification, although renamed, is still being offered in Ōtaki at Te Wānanga o Raukawa. Although it does not follow Ngā Kai o te Puku Tūpuna or have any focus on mātauranga

Whanganui, the initial purpose to produce kaiako Māori remains. This meaning that the programme is no longer run by Whanganui or even for Whanganui.

The Whanganui Polytech provided programmes on Rangahaua marae. Alongside Te Rangakura was Te Kōpae, established by Dr Koro Morvin Simon, who is highly respected both locally and nationally in Aotearoa. According to Interviewee 4:

> Interviewee 4: It was about 1995 when Uncle Morv was just starting te Kopae. That was a huge year for Whanganui, it saw the protest for Pakaitore. We were all on Te Kopae, your mum, all of us. I think because Uncle Morv gave us the hard word, so we all did it. Ko te tino whāinga mō te Kopae was whaikorero for tane ma and karanga for wahine ma. Rangahaua was the hub but the course was still apart of Whanganui Polytech.

Te Kōpae was like a school like programme, with a 9am start and 3pm finish, every day. The purpose of this was specifically focused on te reo o Whanganui. This course used Koro Morvin's many strengths in his high proficiency in te reo and tikanga o Whanganui, which he used for the iwi. Te Kōpae produced many iwi benefits to not only te reo o Whanganui but mainly the preservation of mātauranga Whanganui. Many of our contemporary te reo Māori experts, composers and writers are all products of Te Kōpae. Unfortunately, this programme ended when the Whanganui Polytech was closed in 2002. The closure of these important centres of knowledge transmission has had a huge impact on the numbers of people knowledgeable in Whanganui mātauranga, tikanga and reo. Te Atihaunui-ā-pāpārangi has had to formulate other initiatives of transmitting mātauranga Whanganui to the iwi, without institutional support, such as te reo o Whanganui Trust, which was established in 2008, "as a legally registered charitable trust by leaders of the renaissance of the language, culture and identity of Whanganui" (Hond, 2013, p. 199). This was crucial to strengthening community ties and discussing collective actions in three ways (Hond, 2013, p. 202). First, by connecting iwi leaders, both old and young to contribute in effective projects to preserve mātauranga Whanganui. Second, by broadcasting important tribal content to familiarise whānau (family) of Te Atihaunui-ā-pāpārangi with the whenua (land) and being more aware of each significant landmark that surrounds the Whanganui river. Finally, by travelling the full length of the Te Awa Tupua and stay within the many marae situated along its banks. Interviewee 1 described the current status of te reo o Whanganui Trust as "static", which could be just one consequence of more than half the population of Te Atihaunui-ā-pāpārangi living outside the tribal region. Interviewee 1 explained the challenges he faced in efforts to seek support for more community level initiatives:

Interviewee 1: One of the biggest things we had problems with was we wanted to set up a wānanga but did we have enough students and eager rangatahi coming through to keep it going on & and when we set the stats on it, we didn't have enough people amongst us to consider if we should have a wānanga here. Even after the research and everything we still didn't have the population because what they want really, is bums on seats. Couldn't just have a marae.

This is another example of hegemonic demands faced by iwi-led education systems in Whanganui. The issue of not providing sufficient and predictable numbers caused the closure of marae-based wānanga held for community development in Whanganui. The number of Te Atihaunui-ā-pāpārangi currently living in Whanganui affects future initiatives to sustain and transmit mātauranga Whanganui. Unfortunately, this iwi-led initiative became so successful, it was move to a mainstream institution. iwi initiatives.

My participants' responses Tikanga Whanganui is the source of all Whanganuitanga. Whanganui worldviews, tribal variation, beliefs, values, knowledge and tikanga are seen within a continuous cycle, with each aspect influencing the other. To be imbalance with one of these aspects causes imbalance and effects on the rest.

The Whanganui diaspora

It has been noted that over half (66%) of Te Atihaunui-ā-pāpārangi are part of the diaspora (Te Puni Kōkiri, 2013). More recent statistics of this have not yet been released which suggest that in fact six years later, in 2019, it may in fact be higher, so that less than a third (34%) of Te Atihaunui-ā-pāpārangi iwi are living in the Whanganui region. When the participants were asked about on Te Atihaunui-ā-pāpārangi diaspora, they all acknowledged the diaspora within their own whanau, siblings and cousins. The primary answer when asked why their families had chosen to re-locate, specifically Australia were like those identified in the literature review, to get a better chance at life and more job opportunities. This section includes the effects of these diasporic statistics on the diaspora themselves and the health of Te Atihaunui-ā-pāpārangi.

The idea of moving into big cities is a common in small communities such as Whanganui, especially in young people, like myself. We need to include this demographic in the evolution of Te Atihaunui-ā-pāpārangi as even if we believe that knowledge is created within a space or location, how can our diasporic communities access knowledge beyond that of what Whanganui as a place can provide. I believe, like my participants, that new knowledge is irrelevant without returning home, sharing the knowledge into the Whanganui space and

implementing it within the iwi. The decision to relocate is an effect of early Māori urbanisation from rural communities to populated areas, which began before and intensified after World War II and continues today. All the interviewees barely thought of the Whanganui diaspora as an important feature of current Te Atihaunui-ā-pāpārangi matters. Interviewee 3 speaks of his younger brother who is currently a part of the Te Atihaunui-ā-pāpārangi diaspora living in Australia:

> Interviewee 3: You know, you move to a big city, especially a place like the Gold Coast. He was like a bit of a pretty boy fulla before he left and slowly over time, he became more and more rugged. He was like, it's weird, you go to mahi and all the Māori boys try to 'out Māori' each other. One would say, "yeah nah, I had boil up for tea last night" and another one would say, 'I had a hangi, and I had this and I had that'. Next minute they're turning up in red bands to work and oilskins. He's like "eh, it's hot as". So, they're all trying to be more Māori than the next fulla.

It is evident in this comment that even though Māori of Te Atihaunui-ā-pāpārangi are living in other corners of the world, the need to be seen as Māori remains as part of their identity. They use elements of clothing (Red Band gumboots) and food (hāngi, boil up) to reaffirm their Māori and New Zealand cultural identity.

Another participant observes members of the diaspora who Whanganui return home for significant family events:

> Interviewee 1: They came home for my birthday and felt a little out of place when they couldn't participate in common stuff like waiata, karakia and our other tikanga. I could see they wanted to know.

To be distant from the location, is to become distant with the customs and culture. This may have mean that the value of tikanga Whanganui decreases and results in a lack of participation upon return, which could limit their desire and ability to return home, resulting in a cyclic effect where the less tikanga they are aware of, the less likely diaspora are to return home. It was noted earlier that the percentage of Whanganui people living in in Whanganui is having an impact on the development of tikanga Whanganui. As one of the participants observed:

> Interviewee 2: You know that whilst you can go into the cities and get a good job. Yeah you can meet all these people. Nice house and nice cars and all that sort of thing. There's always going to be something burning in you. Wondering there's got to be more to life to, you know. And again, it's not until you get a bit older than you sort of realise actually, I've worked real hard for all these sorts of things. And there's still something missing in my life. And a lot of the time it's home. It's who you are.

This statement could be relevant to any cultural group as it speaks to the indigenous diasporic experience. It is stated here that despite the amount of opportunities offered all over the world, the wairua (spiritual well-being) of the individual continues to desire the familiar atmosphere

of home. I have close and extended family members living in Australia, which was a pivotal reason for wanting to develop a a digital resource to teach and share tikanga Whanganui with the diaspora of Te Atihaunui-ā-pāpārangi. This was hoped to provide tribal knowledge of Whanganui digitally and as a result, increase the diaspora's knowledge of Te Atihaunui-ā-pāpārangi, which could encourage our people to return home. The participants' perceptions on the diaspora highlight a lack of understanding how tikanga Whanganui is cycled through the diaspora causing our families to stay abroad which ultimately affects the total health of Te Atihaunui-ā-pāpārangi as an iwi. The importance of continuous tribal tradition transmission may be irrelevant for those who grow up in the diaspora, but even so, the diaspora can contribute to the health of Te Atihaunui-ā-pāpārangi iwi and tikanga Whanganui. And one avenue for this to occur is through technology to transmit elements of tikanga Whanganui and essentially connect our people home so the diaspora can positively contribute to the overall health of Te Atihaunui-ā-pāpārangi.

Technology

Initially, it was assumed that the most effective tool for language and knowledge transmission would be the use of interactive apps, where users could engage in various exercises that focus on different areas of tikanga Whanganui. However; the participants revealed unexpected principles associated with use of technology to transmit the tikanga of Whanganui and Te Atihaunui-ā-pāpārangi. The participants were asked to express opinions on the use of technology as a tool to promote te reo o Whanganui and there are inconsistencies in the participants' responses. Some participants were only users of digital tools such as cell phones and computers, while two participants were highly skilled in the use of emerging technologies such as photography, videography, video editing and audio capturing. The participants' responses were categorised into two major themes, the positive and negative uses of technology for tikanga transmission.

Positive views of technology

For some of the participants (n=3), there was a positivity attitude towards tikanga and technology, especially if it can assist in maintaining family and tribal relationships (whakawhanaungatanga). They spoke about the use of digital tools such as livestreaming, video calling and social media. For example, all participants acknowledged that they had either attended a tangihanga (funeral) that was being livestreamed or, they themselves had

livestreamed a tangihanga for family and tribal members overseas to view the funeral without having to be physically present. One participant commented on the current normalisation of livestreaming funerals, despite the sacred aspects of tangihanga involved:

> Interviewee 3: Everyone I think has been or being in an environment where a tangihanga is getting live streamed. I just feel like that isn't new knowledge now. It's not this tapu thing that once was. Not as much.

Māori tangihanga are a traditional practice that are specifically linked to that tribal area and their tikanga. Māori treat tangihanga very seriously and collectively, with efforts by the entire iwi, with people working voluntarily for days and travelling long distances to be there in person. The importance of tangihanga can explain why they have slowly been responding to the needs of the diaspora by adapting livestreaming technologies so that family who cannot attend physically and in doing so, can capture and transcend tribal knowledge in that location and connect iwi members virtually who wish to be in the tribal space. Special mention was made of those not well enough to attend:

> Interviewee 2: And especially those mauiui, who would probably be there if they weren't mauiui, [and] weren't incapacitated, they would be there. We have the technology available to us as a resource to be able to share those sorts of things.

When asked on the experience of livestreaming tangihanga, one participant explained:

> Interviewee 2: E kitea e mātou ngā mihi tangi a rātou kua tū kei roto i te whare hoko maha, koinei ko rātou kōtahi i te mea e taea rātou ki te rongo i te wairua o tōna poroāki, o tōna okinga ki ōna tīpuna ki Putiki nō reira ae, ki au nei he rauemi tēnā. Iti noa, he tikanga anō.

Interviewee 2 explains how the family who were livestreaming through a mobile phone the tangihanga from abroad were situated in a mall and regardless of their very distant and different location, tears were shed, acknowledgements were reciprocated and essentially the wairua was transmitted through the digital resource (cell-phone). Interestingly, interviewee 1 exploited the two-way nature of video calling tools when he was approached by members of his family in Australia to conduct karakia through using video calling for a family member in hospital:

> Interviewee 1: I get a ring from Australia, it's my sister to say that their baby is about to pass, and I say to them get your whole family together and I'll get our family together here. They must have had 30 there, I tried Skype but didn't work, I did it through Facebook messenger on two cell phones. Rita is the same mother as me, 7 o'clock away we went. Aunty Gina was in full flight singing with hīmene as well.

When asked further on this interesting use of digital tools and on the process of this, the participant mentioned he felt as if he put himself there while conducting the karakia and how the family abroad also agreed. He continued this every day until the patient left hospital.

Social media was mentioned by all the participants, especially Facebook, which is being used as a platform to host hapū, iwi and community and a digital connection of these groups. Facebook pages are a form of either public or private content which is altered and approved only by the admin of that specific Facebook page. Several hapū in Whanganui, such as Ngā Paerangi, are active on Facebook.

> Interviewee 1: Digitalisation family is an updated version of an iwi or hapū. Our tupuna use to talk about the signs and messages in the sky as a way of using technology.

This response was a consistent thought between the participants as they believed in the benefits of technology to connect members of the iwi who live locally, nationally and internationally in one digital space. Interviewee 1 speaks of technology as a digital iwi or hapū.

Other positive uses of technology from one participant mentioned was the use in schools, specifically Kura Māori and another in promoting mental health awareness within Whanganui. One participant speaks of his livestreaming tool to promote mental awareness within Whanganui:

> Interviewee 3: So, we started our kaupapa that we called "The Bromigoes" And that whole thing is basically carrying on those discussions. So, every month we do a live stream driving around in a car, we'd pick up a bro and we just korero. It's about an hour-long live stream. The main theme is what matters to you but it's really just three guys driving around in a car yarning.

This livestream is specifically targeted at male within Whanganui and encourages the male population of Whanganui to express opinions and experiences on topics such as toxic masculinity. This effectively established a comfortable and safe space for Whanganui men to express and expose themselves and easily seek advice on mental health. Interviewee 3 believes in the use of livestreaming and social media as a safe and effective space to reach certain groups of people, in his case, he targets the male population within Whanganui.

Education and technology have been previously been mentioned in the literature review as an effective tool for learning, one participant is also an advocate for this pedagogy and applied it within Kura Kaupapa Māori and Kura ā-Iwi in Whanganui.

> Interviewee 4: I got rid of everything in my class. They adopted all these bean bags and tables and little round cushions where they can sit around, and it went from 1 classroom to two classrooms and I had the biggest classroom in the school, it was all about stations and stuff and I was using digital technology to move the kids because they had to meet requirements through the marau (curriculum) but it was never my driving force to meet the targets of the ministry it was always when the kids ready they will learn. Then this fulla rocked in and he had this real mean projector, it was

this big as iPad on my desk it wasn't a smartboard. All the other teachers had smartboards.

I was a student at the wharekura (secondary school) when he implemented this initiative in his classroom and the children's ability to understand technology was exceptional, this initiative is proven using my 12-year-old niece who was a part of the participants class.

However, regardless of the many benefits technology can provide, it is faced with the realities of containing accessible cultural traditions and tribal knowledge. All participants are still sceptical on the idea of technology being used in this circumstance, for this purpose. Tikanga is considered tribal and sacred, especially when dealing with technology.

Negatives and concerns on the use of technologies

The major concern of utilising technology as a tool for tribal knowledge transmission was identical like the concerns expressed in the literature review, which was the kānohi ki te kānohi element. All participants believe that to share tribal knowledge such as tikanga Whanganui needs to be done in the tribal area. The following quote is indicative of the other responses,

> Interviewee 2: They seem to get this 'I can watch that and sweet, I've got it down' attitude, but, you can't really get it down until you come home, and you see, you taste you hear, you feel. You have to use all your senses when you come home and you find that every time particularly at tangi, especially those people who don't often come home, they just really feel the wairua, the aroha, the rangimarie, the whakapono the tumanako. The values that have already been installed in us who have always been home, that's the things that they're looking for. You know, yeah, it has to be received that sometimes you can't get or feel the whole wairua behind a waiata behind a korero if you didn't receive it.

Interviewee 2 speaks here about not being able to "feel the wairua" when learning significant tribal matters through technology. This would seem to contradict the earlier response that suggests you can feel wairua online, which is why this is one of the biggest issues facing the use of indigenous knowledge in digital environments. Digital spaces can be considered now as an experience of tribal practice, rather than a lesson of tribal knowledge. All participants had strong attitudes towards returning home, or to the tribal area, to receive our tribal knowledge such as tikanga Whanganui and assert that wairua (the spiritual connection) cannot be transmitted through technology. Second, the participants were concerned on access. This could be due to:

> Interviewee 2: when you put things on print through particularly online it's available to anyone and everyone.

Within our people is the saying 'Whanganui Kaiponu', this can be considered as extremely protective of our tribal knowledge (Kaiponu being elements of selfishness). This leads into the final major issue of technology and tikanga Whanganui of accessibility. When interviewee 4 was asked on his feelings towards the relationship of technology and tikanga Whanganui, he replied,

> Interviewee 4: That's a big question. Especially when you think of Kaipuna o Whanganui. All of us are very careful about what we put up and every time, like kaupapa that I've been a part of, people are conscious of their kid's faces and different people's faces being on there. Different korero, there's the thing around that korero belongs to us. So, if I put it in that space how do I put it there so only us sees it. So, you have Facebook, at the moment is probably the main medium for it and closed groups and private groups and that kind of thing.

Another participant replied:

> Interviewee 2: I would like to think that when we use the technology, we're not giving too much. Where people are going to stay away from home because they can get it all online, just go online

The main concern of these participants highlighted the content within the resource and the authorisation of who can access the information. The content concerns were like the traditional form of kanohi ki te kanohi transmission to provide authentic Whanganui tribal knowledge, interestingly, interviewee 2 also believes that providing too much tribal knowledge through a digital platform could result in a permanent diasporic community. This insinuating that they will know enough to stay away from home. The questions and concerns of authorisation are based on who has the right to access the tribal knowledge and how this is monitored. From the interviews, is it apparent that my participants do not see the diaspora as a permanent part of our population. I believe that if the diaspora were more aware of tribal knowledge and protocol, that they would have more desire to return home and practise their skills.

These contrasting attitudes towards the use of technology to promote, share and teach tikanga Whanganui resulted in a major shift in research focus. According to our Whanganui world view, to learn tikanga Whanganui must be done in the place itself. Reasons on such strong concepts could be due to the lack of technology used between the participants, which could further be due to the age range (pakeke) of the participants. Technology was introduced to 3 of the participants during their upbringing, and each could recall the first model of computers. To consider the participants' responses, it is now important to understand how a Whanganui worldview can control the technology.

On first appearances, the attitudes both positive and negative seem to be consistently contradicting each other, this causes major tension between tikanga Whanganui experts such as iwi leaders and diaspora of Te Atihaunui-ā-pāpārangi. All the participants demonstrate traditional approaches to knowledge transmission and somewhat, question the reliability of technology to provide authentic Whanganui and Te Atihaunui-ā-pāpārangi tribal knowledge. Throughout the research, all participants acknowledged the source of their skills to the elderly who groomed them through childhood. Although no questions were asked directly of this topic, all participants spoke of the many role models within Te Atihaunui-ā-pāpārangi, both past and present and in fact, mentioned each other in their interviews to acknowledge each other's significant contribution to the iwi. The theme of leadership needed to be addressed.

Leadership - Rangatiratanga

Iwi leadership is acknowledged in different areas of service including speaking duties on behalf of the iwi, making important decisions for the iwi, running iwi organisations and businesses, making internal and external connections for the benefit of iwi development and having a vast knowledge of the tikanga and history of their iwi. Three of the participants referred to iwi leaders of Whanganui as 'piharau' (lamprey). Essentially, the role of a leader is to work for the iwi and holding major responsibility of making iwi-based decisions. The theme of leadership was recognised as each participant confidently expressed gratitude towards the past leaders of Whanganui. The participants commented specifically on their own upbringing and the nurturing and grooming they received from their elders. It was clear from their responses that the past leaders of Whanganui had strongly influenced the participants' and even their current roles within the iwi. The participants recall marae as the central to this way of knowledge transmission, they explain how it created a safe space for learning and understanding.

> Interviewee 2: Having grown up up Kaiwhaiki then obviously that's the centre of my universe but I suppose the other side to that, I don't I believe that it's the only part of the universe. It might be the centre of my universe because that's where I start. But I do know that there are other parts of myself right throughout the motu.

In this wonderful quote, the participant locates himself in a specific place, which gives him a place outside of his iwi. Having grown up within this hapū, access to knowledge was inevitable and the space for inter-generational transmission was infinite. This grooming coded within the attributes of all participants. This essentially leaves the responsibility of further leadership grooming upon our elder male. Different areas of expertise were explained that acknowledged the participants' high level of skills in te reo o Whanganui, Whanganui whakapapa (Whanganui

genealogy), ngā kōrero o Whanganui (Whanganui spoken knowledge), ngā pou whenua o te iwi (iwi boundaries) and tikanga Whanganui.

The influence of Koro Morvin Te Anatipa Simon on all participants and the iwi of Te Atihaunui-ā-pāpārangi was acknowledged. Koro Morv is the father of Kahurangi Simon (interviewee 2) and they both affiliates strongly affiliate to Kaiwhaiki marae, Te Atihaunui-ā-pāpārangi iwi and Te Awa Tupua o Whanganui. Koro Morv has a remembering influence on all areas of tikanga Whanganui and was a strong advocate for preserving Whanganui' traditions. He traditions. He led the development of the language transmission initiative, language transmission initiative, Te Kōpae. Locally, Koro Morv wears many hats and those many hats and those knew him are aware of the amount of service he dedicated to the iwi. Koro Morv is a prime example of leadership is a prime example of leadership, having expertise in both cultural and academic realms. He instilled his knowledge into all generations of Te Atihaunui-ā-pāpārangi using various approaches, including wānanga, workshops, songs and Kapa Haka. Interviewee 2 acknowledged how fortunate he was to be from Kaiwhaiki,

> Interviewee 2: Taku waimarie i tipu ake mātou i runga i te marae o Kaiwhaiki, i reira ka kite ake anō rā ngā tauira ō Pāpā me tana tū hei kaiarahi mō tātou o Ngā Paerangi, me te awa anō hoki. Ko ia tēnā te mātanga reo, te mātanga i ngā mahi Māori.

Koro Morvin was the hub of all tikanga Whanganui during my own upbringing and like Uncle Kahu said, it was a privilege to grow up under his influence. Koro Morv is the author of the series book *Taku Whare e* (Simon, 1986*)*. Now out of print, but still considered of great value, this book contains tribal knowledge with specific mention to each marae located on the banks of Te Awa Tupua and providing a tribal overview of tūpuna and landmarks. This is a prime example of how technology can work in favour of tikanga and mātauranga Whanganui. Kahurangi explains the intention behind these books:

> Interviewee 2: I suppose using Dad's books as an example type thing. It really just gets people through the door. And so, there's not too much kōrero hōhonu, mā te hau kainga tērā e whāngai atu. And hence the reason why the information is sort of just scratches the surface because then it still allows the hau kāinga to be able to feed kōrero that they want too, knowing full well that when you put things on print through particularly online it's available to anyone and everyone. So, there has to be an element of protection for some of our kōrero, for some of our waiata and even whakapapa. You know, yeah, it has to be received that sometimes you can't get or feel the whole wairua behind a waiata behind a kōrero if you didn't receive it.

Like the previously raised issue of the relationship between tikanga and technology, the intention of these books was to encourage diaspora to return home and learn of their detail and more in-depth tribal knowledge. A strong emphasis of returning home is consistently

highlighted throughout all interviews with influence of elders. This continues to instill knowledge and tikanga specifically within the tribal area of Te Atihaunui-ā-pāpārangi.

> Interviewee 2: Uncle Haimona was pretty clear that when he shared our Paerangi whakappapa to us that were on that wananga two years ago that we have an obligation to share that with the whanau. The whakapapa kōrero that I share at tangihanga is specific to families that are mourning. And so it makes sense for me to be able to share it with the families to give context to that kōrero or otherwise if I just sent you the whakapapa then it's just kupu on paper and won't really mean anything because they're not really understanding whakapapa in particular is so vast and wide that you know it's easier just give people the direct lines that belong to them without telling them who their cousins or siblings because it just gets so wide

So, for whanau to hear whakapapa they have to be attendance at a tangihanga, this kind of tribal knowledge is considered only appropriately transmitted in situations such as tangihanga. Tangihanga are central to the Māori way of life, they are one of the most important for iwi to communicate to themselves as well as connect to another iwi. The Māori world view is about the continual reclamation of old, existing and new alliances between the past, the present and the future. The significance of leadership for Te Atihaunui-ā-pāpārangi is the action of continued tribal traditions. Leadership is crucial to community development and sustaining tikanga. The emphasis of returning home to learn tribal knowledge coincides with the expectation of remaining in the region and not leaving to become diaspora in other corners of the world. This is where technology could be used as a mediator of connecting those with and without tribal knowledge from any corner of the world. As found, the diaspora themselves are actively affecting the responsibilities of the iwi leaders who continue the respect of sharing their knowledge with the iwi, in the iwi. As did the past leaders of Te Atihaunui-ā-pāpārangi. Unsurprisingly, the iwi leaders mentioned by the participants during the interviews were all male. The finding anticipated now is that iwi leadership is male are key to working for the iwi. This could be connected to the colonial and strong religious beliefs within Te Atihaunui-ā-pāpārangi and wider Whanganui. However, while all the participants consistently acknowledge the influence of male iwi leaders, the women of Te Atihaunui-ā-pāpārangi are also mentioned. Although no female participants were interviewed, the role of women was reflected through the responses of all participants which highlighted the women in their life and the wider Te Atihaunui-ā-pāpārangi community.

The role of women - Te mana o te wahine

Clearly there is a lack of female opinion and participation in this research and although no Whanganui women are providing content data, I would like to express my own voice,

acknowledge my own opinion and interpret the research from my female, Whanganui and rangatahi perspective. In part, this is to highlight areas of strong women significance within Te Atihaunui-ā-pāpārangi.

The various roles of women were also mentioned briefly throughout all interviews and the main interpretation was that women roles in Te Atihaunui-ā-pāpārangi were recognised by the male participants as important to the continuum and development of Te Atihaunui-ā-pāpārangi. These are 2 childhood experiences from interviewee 4 and 5 with strong women influence:

> Interviewee 4: I haere tatou katoa ki te Kindy kei Te Pōringi, ko ōku whaene me ōku kuia ngā kaiako i tāua wā, ēhara rātou e kōrero Māori ki a mātou, ko rātou mahi he āwhina he tiaki ia mātou i tāua wā.

> Interviewee 5: I te wa o taku tamarikitanga, kua kore he reo i roto i te kainga, kua ngaro te reo ki taku Papa, ehara i te mea he mea i whawhangi e tana whaeine ki a ia, toku Kuia. He mea riro naku e au e noho tahi ko toku Kuia ko Te Paea, ko taua kuia. Kii mai a ia kua huri te ao i te wa o toku tamarikitanga "kua huri te ao e te i te wa o to Papa kua pania taua te Māori i ta taua reo" kua tae te wa, ka huri tonu te ao, a, he pai kia whawha toku reo kia koe, nga mea o to tupuna.

The role of women is categorised in key areas such as manaakitanga (support) and tiakitanga (taking care of) of the iwi. Women were highly recognised for their ability to nurture and care. I interpret this as a colonial view of the vital role women play not only within the community but also at home:

> Interviewee 1: My darling wife thinks I'm the dumbest bastard in the world. But she is my strength, she looks after to me, lets me offload. All of those things.

Although it is not often stated, the duties of manaakitanga and tiakitanga are actioned in many ways other than verbal support. Women are at home, preparing meals, maintaining the house, with or without children and personal maintenance for themselves and their family. In addition to these are the roles women play on the marae. Women are on the forefront of the marae, welcoming guests with karanga on to the marae and in the dining hall, preparing food in the kitchen before and clearing the dining hall after meals are served while dealing to the children around the marae. It is evident in this interpretation that the role of women varies between specific environments and plays a vital role in providing the physiological needs of family, hapū and iwi.

From the responses, and my own knowledge of my iwi, women are working within the iwi, rather than for the iwi. They are grooming the next generations and giving our children the space of freedom and encourage them to learn independently. Māreikura (women) are the essence of an iwi, without our women, men cannot speak for the any iwi if the women do not

allow the first karanga on a traditional marae setting. Women are constantly catering to the needs of other people and this could mean that women and men have unequal workloads. While men are constantly out of the tribal area fulfilling duties for the iwi, the women are left at home to sustain and nurture the iwi and most of this unequal workload is unpaid work.

There is a whakatauki (proverb) that I believe highlights this issue perfectly:

Ko te amorangi ki mua, ko te hāpai ō ki muri

The leader at the front and the worker behind the scenes.

While the male leaders are at the forefront of the iwi learning, discussion and decision making, the women are situated at home, to stay within the iwi and preserve the essence of Te Atihaunui-ā-pāpārangi. Personally, I feel that the role of women is underacknowledged. For example, influential Māori women such as Katerina Mataira and Whina Cooper were the force of Māori life within Aotearoa as they marched the country and established the Kohanga reo movement. These efforts were crucial in affirming a Māori worldview within Aotearoa and are still remembered today. These actions are driven by e feminine worldview.

Te Awa Tupua

This final section considers the relationship between Tikanga Whanganui and technology in a graphic framework using the Whanganui theoretic framework. According to my participants, Tikanga Whanganui and Te Atihaunui-ā-pāpārangi tribal knowledge are located within our tribal area and more specifically is grounded in our identity as river people. In this framework, technology can then be used only as a tool to promote and raise awareness of tribal matters and connect local iwi members to the diasporic community. Male leadership is the most common documentation of all aspects of Te Atihaunui-ā-pāpārangi tribal knowledge and along with this is the responsibility and duty to share tribal knowledge with appropriate families at the appropriate time. The role of women is a strongly opinionated analysis that essentially explains that while iwi leaders are the voice and face of the iwi, the women are working underneath the surface, nurturing and ensuring that our tribal traditions are effectively producing more iwi leaders and working women for the future of Te Atihaunui-ā-pāpārangi. Although these themes were analysed separately, the connection between them are seen clearly through Whanganui the methodology.

To interpret these findings, they would relate strongly to the Whanganui methodology, therefore, the saying from the ancestral mountains to the sea (mai i te kāhui maunga ki Tangaroa) is used to connect these themes.

Tikanga Whanganui is situated in the founding area reflecting the stance of Te Kāhui Maunga. The mountains are set in stone without any probability of movement, this embodies tikanga Whanganui. Tikanga Whanganui cannot be changed as they are anciently derived history from our tupuna.
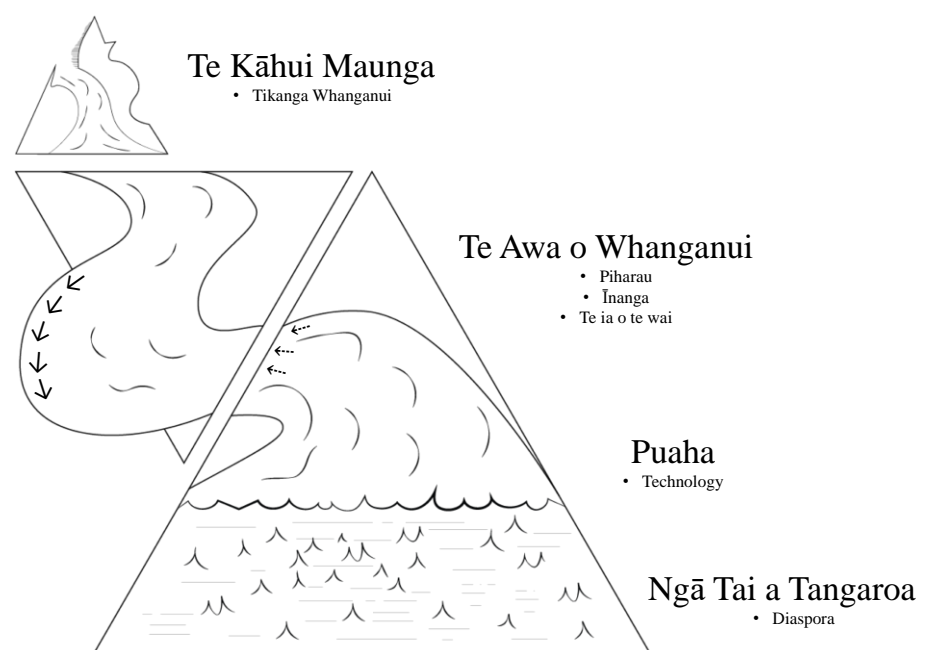
Figure 2: Te awa tupua analysis and findings.

The participants in this research are epitomised as the highly desirable Piharau (eels) found in our river. These eels are a Māori delicacy, which fed our tupuna and essentially skilled our men in food gathering. Where the Whanganui River meets the Tasman is called Te Pūaha (opening), this opening is where technology sits within the framework. Technology stems directly from tikanga with endless avenues and resources of utilisation, this could also be the connection between current iwi members living in Whanganui and all diasporic groups. The tides flowing in and out of the Whanganui river from the Tasman sea and represent the diaspora and their continuous action of leaving and returning from various corners of the world. Women sit in this diagram as the overall current of the river, the current flows one way and hits every bend of the river. Many parts of the Whanganui river consist of rips and this represents the major

workload expected of women such as manaakitanga. Finally, īnanga (whitebait) are used in this framework to represent Te Atihaunui-ā-pāpārangi male leadership. Īnanga are known to swim against the current, which means from the sea to the river and this represents the overall duties expected of an iwi leader, which is to make (at times unpopular) decisions despite the conflicting opinions but for the benefit of the iwi. This framework of tikanga Whanganui, current Te Atihaunui-ā-pāpārangi iwi members in Whanganui, the diasporic community and technology explain the relationship of these themes to each other and how each role is actively contributing to the overall health of Te Atihaunui-ā-pāpārangi iwi.

Chapter Five: Discussion

Introduction

This chapter aims to understand the interpreted research themes and discuss how these relate to the research questions and what this means for Te Atihaunui-ā-pāpārangi. Firstly, the chapter includes a self-reflection of the research process, this is followed by addressing the research questions using the data from all methods to provide an authentic and current scope on the health of Te Atihaunui-ā-pāpārangi. Finally, the chapter suggests an unfinished list of further areas of research.

Critique of the research process

My existing ancestral relationship to Te Awa Tupua o Whanganui is a major strength associated with this research is. Being an inside researcher proved an asset to conducting an authentic study of Te Atihaunui-ā-pāpārangi, and from a Whanganui worldview was helpful in providing an authentic Whanganui voice. Having personal connections and whanau within Whanganui made approaching members of the iwi less difficult on my behalf. Sharing identical worldviews and whakapapa of Whanganui allowed the interview process to be a natural transmission of knowledge and reciprocation. Meaning both the interviewees and I were comfortable with sharing our knowledge, although similar, with each other. More significantly in the collection of data by returning to Whanganui and conducting interviews with active members of on Te Atihaunui-ā-pāpārangi. This research is, therefore, an accurate reflection of Kaupapa Māori Theory in practice; the research being for the iwi, being conducted with active iwi members, taken place within the iwi and interpreted by a descendent of the iwi.

However, the limitations remain with the main being the lack of diversity among participants sex and age. Initially, this study aimed to be informed by older women of Whanganui which would have been stronger, also, with more influence from the rangatahi (youth) of Whanganui and even a voice to represent the diasporic community. Having a more varied participants could have produced further knowledge of tikanga Whanganui and perhaps more findings that contribute to a more detailed and authentic Whanganui voice. This would be done with a range of ages, genders and diasporic voices. Positively speaking, I believe that the findings highlighted in this research would have been the same or similar even having the various amount and mixture of participants. With these limitations considered, this study has produced

interesting findings for Te Atihaunui-ā-pāpārangi iwi future focus, attitudes towards tikanga and technology as well as avenues for further research. Generally, the answers to these questions were not nicely packaged but had to be interpreted through close readings of the interviewee transcripts to closely connect with the literature and my own personal experience as a young woman of my tribe.

Research questions

The initial research questions guided the study and sought answers for the development of Te Atihaunui-ā-pāpārangi. These questions were examined in the use of both local and international literature, the interviews with iwi leaders, being part of hui, language revitalisation events and my ongoing commitment to my people. I now return to those questions to review and reflect on them from the other end of the research process.

What is the present status of te reo o Whanganui?

The present status of te reo o Whanganui is still difficult to accurately estimate. Even at a a hui on language revitalisation held in Whanganui (Kura Whakarauora reo, 5-7 July), no definitive current estimates were given for an accurate answer of the present status of our dialect. However, the literature, although dated (Te Puni Kōkiri, 2013) confirms te reo o Whanganui has potential to manifest. Te reo o Whanganui was visible within the interviewees group, who admittedly are older, and we know that the 55+ age group have the highest levels of proficiency (Te Puni Kōkiri, 2013). When considering the present status, te reo o Whanganui is undoubtedly alive and normalised within Te Atihaunui-ā-pāpārangi. This is most evident in our education systems of 17 Kohanga reo, 2 Kura Kaupapa and 1 Kura ā-iwi. Koro Morv explains in his book *Taku Whare E* (1986), that Kaiwhaiki marae stands without whakairo (traditional Māori carvings) because elders said, "let the children will be the face of our tupuna (p. 27)". This meaning that regardless of numbers or domains, if there are people actively inhabiting the whenua (land) of Whanganui then te reo o Whanganui is present. This responsibility then falls on the members of Te Atihaunui-ā-pāpārangi living within Whanganui. To reflect on the data collected and the question proposed, the present status of te reo o Whanganui remains unknown. With no accurate estimate of the status by literature and experience, I now wonder how an authentic and accurate status is determined. According to surveys such as those by Te Puni Kōkiri (2006) and UNESCO (2010), it is within the people who participate in the survey, which in our case is over half of the iwi population. Which could

further insinuate that there is rarely anyone living in Whanganui. However, in this research like Kanahele (1993) and others, I theorise knowledge is in a location, meaning that an authentic estimate would have to be made from within the location. With conducting interviews and being a member of Te Atihaunui-ā-pāpārangi myself, I can confidently estimate te reo o Whanganui is thriving within Whanganui.

What technologies exist to support tribal language development?

Technology was divided into two sections of positives and negatives. All responses by the interviewees on the topic of technology and tribal knowledge development were inconsistent and sometimes contradicting. The positives of existing technologies on tribal language and knowledge development were establishing digital spaces, such as social media to connect the entire iwi of Te Atihaunui-ā-pāpārangi together. So, technology here is used primarily to connect all local and global members of the iwi in one digital space. This digital space is primarily used for livestreaming tangihanga and distributing tribal awareness on current matters within the iwi. Other uses of technology within Whanganui include radio stations and Facebook pages to once again, keep the community connected.

The negative aspects of technology to provide tribal knowledge was based on access to the digital resource, the question being asked was who can access the knowledge? This is accurately monitored with Facebook pages. Another issue of technology was the content populating the digital resource. Most Whanganui literature such as the Taku Whare e book from Koro Morv provide only surface tribal knowledge, this affirms that more detailed knowledge can only be discovered within the tribal area. The findings conclude that all technology can support tribal language development along with special caution of how the technological tool is utilised. Technology currently has many resources that benefit language development, Māori specifically. This gives no limit to further uses of this tool. Devices are predominantly the most effective tools to target users of technology and the use of apps such as social media and the internet are instrumental with this digital resource.

What features of a tribal dialect can best be developed through emerging technologies?

This question was difficult to estimate, as one of the findings from all the participants is that tribal features of a language, like tribal knowledge in general, are best developed within the tribal area. Although, technology can aid in dialectal awareness and familiarisation, there were no specific statements made on this topic and the participants' answers are almost irrelevant in

fulfilment of this question. This could be due to the participants not understanding the question. One participant mentioned tribal pūrākau (traditional storytelling) as an important feature of tribal development, another commented on the importance of karakia to tribal variation and knowledge and another insisted that only "surface information could leak beyond the banks of Te Awa Tupua" (Interviewee 2). Although none of these were focused specifically on te reo o Whanganui, it is evident in these suggestions that, regardless of the activity, te reo o Whanganui will be principal throughout. This meaning that the purpose of the technology will determine the content. To relate this question back to my literature, Te Rito uses his audio book of te reo o Kahungunu as a tool for virtual te reo Māori at any level. The CD rom is encouraged to users as a private total immersion te reo Māori wānanga equivalent, but within the comfort of their own home. This could be utilised by members within the iwi and their diaspora to develop listening skills and familiarise themselves with examples of the tribal variation. This was done using archival sources of kuia having conversations as they could be the most authentic voice within an iwi. This could be implemented in any iwi who have access to similar archival sources. Technology here is used as another way of storing tribal knowledge. I acknowledge that the literature was more relevant with this topic and I attempt to answer this from my own knowledge acquired throughout the research process. The language skills mentioned in the literature review were reading, writing, listening and speaking. If we were to consider these as the different aspects of a tribal dialect, listening skills would be best obtained through technology. This could be done like Te Rito with podcast like features, karakia and Kapa Haka. This would also lead to users repeating what they hear and eventually speaking with the tribal dialect.

How are Māori worldviews embedded into technology?

Considering the literature and interpretation of the interview process, Māori worldviews are embedded into technology through the content situated within the digital resource, which is essentially, the knowledge occupying the digital space. This also has an enormous emphasis on developer authenticity. To provide authentic content of Te Awa Tupua o Whanganui would have to imply a Whanganui worldview. For some digital resources like the online Māori dictionary, this is not the case. The digital resource consists of a more simplified and generic Māori worldview with no specific tribal variations included. Therefore, the major issues here include authenticity, authorisation and autonomy of content. The following question is linked closely and considers alternative solutions for these issues.

How can technology serve the content so that Māori worldviews are not compromised by the technology?

This became a major theme of the research and clearly identified a Te Atihaunui-ā-pāpārangi tribal perspective of the use of technology for iwi development. The key finding consists of responsibility. According to my participants and the literature, Māori view technology only as a tool for promotional benefits and experience, not as a provider of Whanganui tribal knowledge or the source of the benefit. This indicates that technology cannot be responsible for providing beneficial results for the iwi. The responsibility of serving the content must remain with the iwi as this reaffirms high levels of authenticity and therefore encourages community connection and the desire of more in depth learning by the diaspora and other iwi members. Technology, therefore, has as much power or in this context knowledge as we give it.

Knowledge claim

These findings consider major areas of community focus and future development initiatives for Te Atihaunui-ā-pāpārangi. This study also highlights the historical and present strengths of Te Atihaunui-ā-pāpārangi iwi, the contribution of our leaders and the major role women play within the community.

This study says that technology is only a tool and an effective tool used properly which cannot work without tikanga in its development, use and content. Tikanga drives the intention of the technology. If we believe of knowledge being embedded in a location rather than a person or a thing, then technology cannot provide knowledge, it can only hold knowledge. Tribal knowledge at its most authentic is located only within the specific area. Therefore, it is imperative that diaspora still return home in order to preserve our tribal traditions. Despite the positive uses of technology, tribal knowledge transmission cannot be done away from home. Technology could be utilised for nostalgic promotion of tribal knowledge to the diaspora of Te Atihaunui-ā-pāpārangi but can never replace it or deliver it to the same degree as physically being here, by the river, connecting with it and with the people of the iwi. The gender imbalance in workload between male and female of Te Atihaunui-ā-pāpārangi acknowledge that men work for the iwi and the women lie at the heart, working within the iwi. Women are direct links to the land making us crucial to nurturing and caring for all.

There are a few tensions identified in this research. The first is the between the role of leadership and the Te Atihaunui-ā-pāpārangi diaspora. Iwi leaders are adamant in the need for authenticity of teaching and learning within Whanganui, this creates major tension for the diaspora. The amount of literature focused on the effects of diaspora on the perseverance of tribal knowledge is extremely limited. This study provides a dominant male perspective on the current issue of tikanga and technology and the appropriate use of this tool to support tribal and community development. As I observed before, there are examples of technology available to assist in language development such as an audio book, however, even this has its limitations. This research contributes to current Te Atihaunui-ā-pāpārangi literature, adds to the field of indigenous use of technologies and knowledge as being located in a place.

Overall, tribal development is done with a strong association to Kaupapa Māori Theory, and advocates the drive for language, economic or social benefits, be done by the tribe, with the tribe and in the tribal area. Without the support of Te Atihaunui-ā-pāpārangi, the effectiveness of any future initiatives is unreliable. Locating tribal knowledge within Te Atihaunui-ā-pāpārangi encourages diaspora to reclaim their Whanganuitanga by returning to Whanganui and technology can aid this process. It is been left upon the 34% of Te Atihaunui-ā-pāpārangi currently living within the iwi to maintain all cultural and tribal traditions. This responsibility is disproportioned and could encourage current iwi members to re-locate permanently or take no action in iwi development. I see this as a circle of influence. Everyone, whether living within or out of Whanganui can actively contributing to the health of Te Atihaunui-ā-pāpārangi. I would like to refer this to my previous descriptions of Te Awa Tupua from the mountains to the sea.

First are the kaumātua, they are kāhui maunga in which we all begin. They are historic, greatly valued and frequently referenced in action, knowledge, leadership and nurturing qualities as well as proficiency in tikanga Whanganui. The width of the river relates to Whanganui men.

They are the face of Te Atihaunui-ā-pāpārangi, with a great duty to protect all that are living within. They are the voice and decision makers of the iwi; they are what is seen and heard of Te Atihaunui-ā-pāpārangi. The women are equivalate to the depth of the Whanganui river, endless nurturing of all who live within Te Atihaunui-ā-pāpārangi and the forefront of working within the iwi.
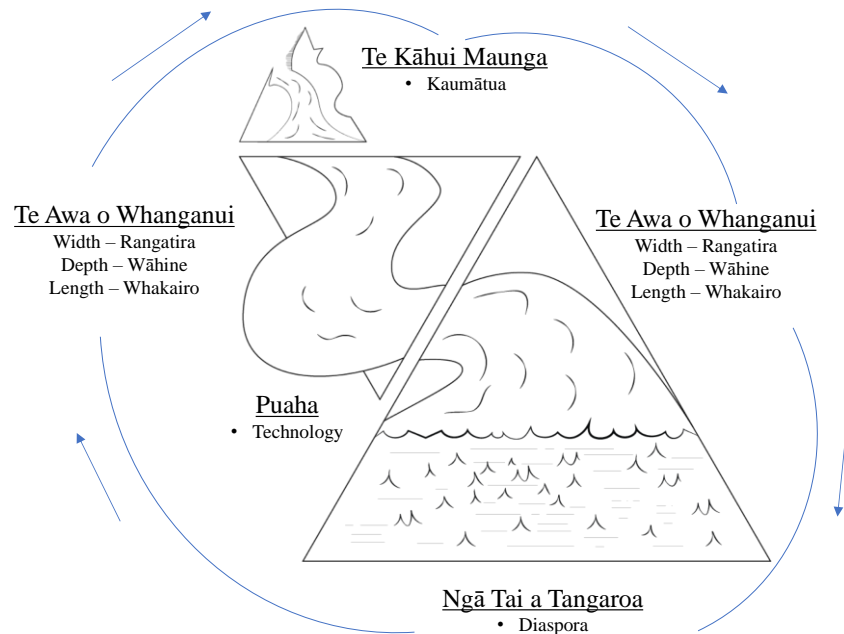
He pukenga wai, he noho a ngā tāngata.

Figure 3: He pukenga wai, he noho a ngā tāngata.

They are the caregivers, nurtures and essentially the backbone of the leaders. The length of the river represents iwi members who are currently situated within the iwi of Te Atihaunui-ā-pāpārangi these can be referred to as whakairo, because the length of Te Awa Tupua cannot be altered or changed. If we consider knowledge being situated within a location, then the length of the river is all that is and can be known to this group of the iwi. This group is as important as the tides of diaspora flowing in and out of the Whanganui river. The development of Te Atihaunui-ā-pāpārangi is paused due to the lack of evolving knowledge. Which points to another aspect of why the diaspora is needed to return home, to expand our knowledge and use their skills learnt abroad. I think of this as the Whanganui circle of life. Where it is necessary for diaspora to return home, however, it is also vital that those living within the iwi to seek and obtain further knowledge to that of Whanganui to contribute to our iwi development. This should result in returning home, fostering their skills to the appropriate audience and essentially, evolve and develop Te Atihaunui-ā-pāpārangi. Technology in this diagram can be used to mediate the connection between all these groups of Te Atihaunui-ā-pāpārangi.

Further research

From my participant interviews, the review of the literature and my own experiences as a young member of Te Ati Haunui a pāpārangi, the following is an incomplete list of further research. They are not ranked.

1. More research is needed on the effects on the Aotearoa diaspora on Māori culture. This could give clarification on the role of diaspora in other communities. Given that significant numbers of an iwi are not living in it, but maintain relationships with their home, we need to understand more the impact the diaspora has on its people. And it may not all be negative, further research could suggest that becoming diaspora is necessary for iwi development.

2. Another interesting field of study that needs further exploration is the relationship between knowledge and location and how comparable this is to the relationship of Ranginui and Papatuānuku. If knowledge and its development is linked so closely to a particular place, what role do technologies, particularly mobile ones, have in accessing and disseminating Māori knowledge?

3. Further study on the use of technologies in dialectal variation needs to include the voices of women, parents, young people and children from both the tribal and diasporic populations.

4. Post-colonial, Indigenous and feminist research on the role of women in iwi leadership would produce interesting insights on their impact in iwi affairs. It is interesting that every single participant acknowledged how his role in iwi affairs was dependent on the support and work of his spouse. This suggests that the work of women in iwi affairs, far from being secondary, is pivotal to it and needs to be more visible.

Chapter Six: Conclusion

Introduction

This chapter reiterates the initial intention of the research project and includes some personal reflection on the methods, the outcomes and what I now understand. In the final section I turn and speak directly to my iwi, which, appropriately, is done in te reo Māori.

Reflection

What I initially intended to do in this research project was contribute to the revitalisation of te reo o Whanganui using technology and to discover and explain the most appropriate digital tools for the retention and revival of our tribal variation. To find this, I undertook qualitative interviews with Whanganui kaumātua and pakeke to get our elders' view of how digital tools could be utilised to support this important issue. I also returned home to Whanganui to take part in iwi events, where I was surrounded and immersed naturally in te reo o Whanganui. By the conclusion of this project, I expected to justify the many positive effects technology could have on our tribal variation. Instead, I came to realise that technology is merely a tool and revitalisation occurs with people. Along with this came a wider understanding of our diaspora; where they are, who they are and their role in our iwi's development. I now argue that both local and diasporic members of Te Atihaunui-ā-pāpārangi have a role in contributing to our community's future. Returning home and taking part in kaupapa made me realise that te reo o Whanganui is not in need of revitalising as, from my flax-root's perspective, it is alive and prospering within Whanganui. The other fascinating insight has been towards the Whanganui view of knowledge as being deeply embedded in a place. Therefore, Whanganui knowledge is only in Whanganui and technology's role in this is to help connect local and diasporic iwi members to each other, the land and its knowledge. We need more sophisticated, epistemologically relevant and locally-driven solutions to combine Māori and Whanganui ways of using technologies to link time, place and people. In Whanganui this begins and ends with our ancestral river.

Tēnā koutou, e ngā uri o Te Awa Tupua o Whanganui,

Me whakanuia ka tika! Ehara rawa tēnei i te tuku wero atu ki koutou, he whakamārama, noa iho i ngā taupa kīhai puawai ngā tikanga a ō tātou mātua tūpuna ki roto i tēnei ao hurihuri. Ka tukua ēnei korero i runga i te aroha, i runga i te whakapono, i runga i te manawanui. Anei pea he huarahi mā tatou ki te whakarauora ake i ō mātou tikanga o te kāinga. Me kāti te whakapae ka ngaro haere te wairua o ngā tikanga i tēnei rauemi, te hangarau. Kua whakamārama kētia, he rauemi anakē te hangarau. Ki te kore he tikanga e whakahaere i te kaupapa, kua kore he take mō te rauemi. He huarahi whakamana tēnei i ngā āhuatanga o te kāinga, i te āhua o Te Atihaunui-ā-pāpārangi. Ko tana tino pāinga, ko te whakawhānaungatanga. E ahei te whakakōtahi i a Atihau whānui. Ahakoa te tāwhiti, ahakoa te tata. Hei āpiti ake, kāore he mōrahi o te hangarau. Ki te matua mōhio te tangata ki ngā āhuatanga o te rauemi nei, kāore he kore, he pāinga anakē ka hua. E kōrero hoki tēnei rangahau mō ngā kawatau o te iwi ki āna uri katoa, huri noa i te ao. Ka aro atu ahau ki ia peka o Te Atihaunui-ā-pāpārangi me ngā rangatiratanga e hāpai ake nei.

I te tuatahi, ki ngā kaumātua o te iwi, mei kore ake koutou.

Ki te reanga mātua, ngā hononga o te ao tawhitō me te ao hou. Kua uaua te wā i ā koutou. Te pakanga o te kore reo Whanganui kei roto i ngā kura, huri noa i Te Tai Hau-ā-Uru, kua kitea i ngā āhuatanga o ēnei wā taumaha kei runga i a koutou. Me te whawhai kia hoki mai ngā tikanga Māori katoa. Ānei ngā hua o tā koutou mahi, e pakanga tonu nei. Kāore he kupu tū atu i te whakamānawa, whakamānawa, whakamānawa.

Ki ngā rangatira o te iwi, ngā pou kōrero, ngā tumu whakarae. Kua ora ngā tikanga me ngā mātauranga o Whanganui kei roto i a koutou. E kitea te āhuatnga tūpuna kei roto i te kawe, kua Whanganui tatou i a koutou.

Ki ngā mana wāhine o te iwi, kei ngā ringa whakaae, ngā kai whāngai aroha, kua kiri moko ēnei āhuatanga ki roto i a mātou ngā uri. Te kawe o Whanganui, nā koutou. Me pēhea te koha atu i tau kua whāngai ai? Ka noho kuare te iwi, nei kāore i a koe.

He kōrero tēnei ki ngā tai o tai o te awa (diaspora). E papaki kau ana ngā tai o te kāinga ki ngā tai o tā wāhi. Ānei he tai o te kāinga e whakamōhio atu nei i ngā whakaaweawe o te kore hoki ki te kāinga. Mēnā kāore he tāngata e noho ana i te kāinga, me pēhea te oranga o ngā tikanga? Me whakaarohia ki āu ake uri, he take nui kia mōhio rātou ko wai rātou? Me pēhea tēnei kaupapa e kake? Ki āku rangahau nei, ko te hoki ki te kāinga. Ehara tēnei mō te kii kaua e wehe

i te kāinga. Me wehe! Haere, ako, ako i ngā mea katoa, kātahi, hoki mai me ōu pūkenga, koha mai rā ki tō iwi e noho tikangatahi nei.

Kātahi, ki ngā pou o te kāinga. He hua nui i te hoki mai ki te kāinga. Ka mōhio i ngā tino pāinga o te kāinga, ka ako hoki i ngā pūkenga e hiahia ana te iwi mō tōna orangatonutanga. Ahakoa te aha, ako i te ako, kātahi, hoki mai i runga i te ngākau koha. Ka whai hua te iwi i ā tatou putanga.

Ahakoa te tuakoi o te whakamārama nei, ka hono tahi tātou katoa hei awa kotahi, rere tonu tēnei rauemi hangarau mai i te kāhui maunga ki Tangaroa. Ka noho puku ngā kaumātua e rite ki te kāhua maunga. Kua tangata whenua rātou ki te awa, otirā ko rātou te pūtaketanga o te iwi. E rite tonu te rangatira ki te rahi o te awa. Me he pakahiwi nui e taea te pupuri i te rahi o ngā take ā-iwi. Kei a koutou te mana o ngā kaumātua hei āhuru mōwai, heoi, he take rahi te orangatonutanga o ngā tikanga ā-iwi kua tuku iho kei runga i a koutou. E tika kia mihia. He rite te wahine ki te hōhonutanga o te awa. Kei roto i a ia ngā mātauranga katoa, koia te whāngai, koia te aroha, koia te manaakitanga. He kaukau haumaru kei roto i te kōpū o te wahine, o te awa anō hoki. Ki ngā whakairo o te kāinga, ka rite koutou ki te āhuatanga o te awa. Kāore he tinihanga. Ka noho pērā ki te āke āke nei kāore e puta i te pūaha. Ka noho motuhake tonu te hangarau i te pūaha o te awa, he take āpiti atu i te wā o ngā kaumātua, heke iho i te tikanga, me he mutunga kore! Tae noa atu ki ngā tai o te awa. He wai hou, pukenga hou tā i a tai timu, tā i a tai pari. Nā ā tatou koha ki te kāinga e whakawātea ia te huarahi o te wehe, o te ako, o te hoki mai. Kei konei e noho ngā kai rangawairua o te iwi, ngā rangatira o te āpōpō. Me mihi ka tika. Ki te iwi!

Ka mutu ahau i runga i ēnei kōrero, whakamana i te kāinga, ā, ka whakamana hoki te kāinga i a koe. Kaua e wareware i ngā kōrero a ō mātua, i ngā waiata o te kāinga, i ngā kaupapa ō runga i te marae i te mea, koira koe. Koira tātou, Te Atihaunui-ā-pāpārangi e ngūgūru ake nei. Hoki mai ki te kāinga i tāu kua hōhā haere ki te ao pākeha, ki tā tēnei rangahau, kāore he kore ka hōhā koe ākuanei. Inā te tohu o te hoki mai. Whāngai i te iwi ki āu pūkenga, ā, ka whāngaia koe e te iwi.

Naku noa nā,

Gabe

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Appendix A

25 September 2018

Elisa Duder
Te Ara Poutama
Dear Elisa

Ethics Application: **18/295 Mana mita: Ko te awa ko au, ko au te awa. Ko te mita ko au, ko au te mita. Developing a digital app for the Whanganui dialect**

Thank you for submitting your application for ethical review. I am pleased to advise that the Auckland University of Technology Ethics Committee (AUTEC) approved your ethics application at their meeting on 24 September 2018, subject to the following conditions:

1. Provision of the transcriber confidentiality form as mentioned in section A.5.2 of the application;

2. Clarification as to why there is a Consent and Release Form for photographs and drawings;

3. Amendment of the second to last bullet point of the Consent Form to form two statements. For example, 'I agree to take part' and a yes/no tick box for the statement 'I wish to be named in this research';

Please provide me with a response to the points raised in these conditions, indicating either how you have satisfied these points or proposing an alternative approach. AUTEC also requires copies of any altered documents, such as Information Sheets, surveys etc. You are not required to resubmit the application form again. Any changes to responses in the form required by the committee in their conditions may be included in a supporting memorandum.

Please note that the Committee is always willing to discuss with applicants the points that have been made. There may be information that has not been made available to the Committee, or aspects of the research may not have been fully understood.

Once your response is received and confirmed as satisfying the Committee's points, you will be notified of the full approval of your ethics application. Full approval is not effective until all the conditions have been met. Data collection may not commence until full approval has been confirmed. If these conditions are not met within six months, your application may be closed and a new application will be required if you wish to continue with this research.

To enable us to provide you with efficient service, we ask that you use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

I look forward to hearing from you,

Yours sincerely

Kate O'Connor

Executive Manager

Auckland University of Technology Ethics Committee

Appendix B

TIKANGA RANGAHAU: RESEARCHER SAFETY PROTOCOL		
Student:	Gabriel Baron	
ID number:	13840120	
Project name:	[Working title] *Mana mita: Ko te awa ko au, ko au te awa. Ko te mita ko au, ko au te mita:* Developing a digital app for the Whanganui dialect	
Ethics application number:	18/295	
Contact details:		
Primary supervisor:	Elisa Duder	
Secondary supervisor:	Robert Pouwhare	
Student/ Researcher:	Gabriel Baron	

The following protocol is to guide the collective and individual spiritual, emotional and physical safety of the researchers, participants and the research process. As it is not possible to separate spiritual, emotional and physical safety from the process, the following guidelines are referenced under key cultural concepts and practices within *tikanga Māori* (Māori customs and values): *Tapu* (spiritual, sacred and restricted knowledge); *noa* (common and free of restrictions); *mana tangata* (recognition of a person's knowledge and wisdom, their influence, authority and status within the community, whānau, hapū or iwi) and *mana kaupapa* (recognising the integrity, value and importance of the research process within a Māori paradigm).

TAPU & NOA

The reciprocal concepts of *tapu* and *noa* are guiding principles of *tikanga Māori*.

❖ *Tapu*
  Karakia will be used before and at the end of the interview session to:
  - provide spiritual comfort and safety for the research and all involved
  - acknowledge the strong *whakapapa* (ancestral) connections between the researcher and the participants

- ❖ *Me tapu ngā kōrero*
  - *Te reo Māori*. The participant is able to choose which language they would like to speak in the interview.
  - All interviews and discussion are within a whānau context chosen by the participant, e.g., a marae, the participant's home or a kōhanga reo.
  - Participants can withdraw at any time and request any of their material is returned to them.
  - Respecting participant confidentiality and requests for anonymity.
- ❖ *Noa*
  - Where appropriate sharing food will be used to recognise the close ancestral and community relationships between participants and to uphold expressions of *manaakitanga* (hospitality, reciprocity and respect).

MANA

The recognition of *mana* is seen in seen reciprocal relationships that recognise a participant's *mana*.

- ❖ *Mana tangata*
  - The concept of *Whakaiti* – to show humility and respect, through ensuring tikanga/protocols are met well before interviewing begins.
  - The concept of *Tuakana/Teina* – acknowledging that whānau relationships and connections are valued and nurtured through Māori contexts of *tika, pono* and *aroha* (being correct, truth and love respectively). As a young member of her community the researcher will take a support person to interviews and participants may have support persons to guide *tikanga* practices.
  - *Initial communication*. Initial contact with participants is made according to *tikanga* practices that may include:
    - o Using existing whānau relationships to approach an elder's whānau or caregiver.
    - o Requesting support in a whānau hui, marae contexts, kapa haka or church contexts.
  - *Ongoing communication*
    - o The researcher will inform her two supervisors by email or text of the time and location of an interview.
    - o The researcher will have a mobile phone on her at all times.
    - o Ongoing appropriate communication that allow for participants to cancel or postpone interviews at short notice.
  - *Te reo Māori*. The participant is able to choose which language they would like to speak in the interview.
  - Participants' ability to withdraw from the research process at any time.

❖ MANA KAUPAPA

Mana kaupapa focuses on the integrity of the topic and the process. This is done by:

- Clear and common understandings of the overall purpose of the research and the role of the interview in the research purpose. This is guided by discussion and the Participant Information Sheet and Consent form.
- Use of participant's knowledge and kōrero specifically for the purposes of this project only. Any further use of the data or tribal knowledge requires separate permission.
- Appropriate acknowledgement of personal and tribal knowledge within the research publication.