He oranga tō te wai

Māori Pedagogies
A Culturally Responsive View of Aquatic Education
and Drowning Prevention in Aotearoa

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Abstract

Drowning is a leading cause of accidental death and hospitalisation among Māori in Aotearoa. Drowning reports (Water Safety New Zealand, 2010, 2016, 2019) indicate Māori are over-represented in drowning compared to non-Māori, and on average account for up to a quarter of all drowning fatalities each year. Māori male aged 15-44 years and Māori children under five are most at risk of drowning (WSNZ, 2018, 2). A recent Aotearoa study on children's water survival skills suggest changes are needed to improve how children develop fundamental aquatic skills and how teachers can best teach those skills (Button et al., 2017). In particular, the teaching of water safety skills for broader use in the open water environments of Aotearoa.

Māori pedagogies within physical education, health, and education in the outdoors (Hemara, 2000; Jackson et al, 2016; Phillips, 2018) have demonstrated the benefits of Māori teaching methods that foster positive learning outcomes for Māori. (Bishop & Berryman, 2006, 2009). As such, this research investigated core components of Māori pedagogies that can improve aquatic education for Māori. It sought to validate traditional and contemporary aquatic teachings and water safety practices that Māori exercise as an expression of *ira tangata* (human development) and their relationship with *te ao tūroa* (the long-standing world). By means of kaupapa Māori research and the development of a new framework - Tāne Whānau Mārama, this thesis offers valuable insights into the importance of culturally responsive pedagogies in aquatic education that will enhance the health, educational achievements, and well-being of Māori whānau and communities.

Ko wai au

Ka tau hā whakatau ko te Rangi e tū iho nei

Ka tau hā whakatau ko te Papa e takato ake nei

Ka tau hā whakatau ko te Matuku mai i Rarotonga

Koia i rukuhia, he manawa pou waho, koia i rukuhia he manawa pou roto

Whakatina kia tina te more i Hawaiki

E pūpū ana hoki, e wawao ana hoki

Tārewa tū ki te Rangi,

Koia kia eke, eke Tangaroa, eke panuku,

Haumi ē, hui ē, tāiki ē!

Ko Te Arawa, Ko Takitimu ngā waka tūpuna

Ko te maunga o Ngongotaha ki te whenua, Ko Maungaharuru ki uta

Kō ngā wai o Rotoruanui-a-Kahumatamomoe tae atu ki tōku awa o Mōhaka

Ko Ngāti Whakaue, Ngāti Pikiao, me Ngāti Pahauwero ōku iwi hononga

Ko Tunohopu, ko Te Huki ōku marae

Ko Mark Waihape Haimona ahau

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Ahakoa he iti, he māpihi pounamu

Water is a precious resource that sustains all living beings, providing life and restoring balance in our physical, emotional, and spiritual selves. Growing up near the ocean, aquatic activities have always been an integral part of my life, particularly swimming. My upbringing instilled in me a deep passion for teaching people to swim and stay safe in and around water. I am indebted to my parents, my *tūpuna* (grandparents)and mentors for nurturing my connection to the water and for inspiring me to pursue my passion of teaching aquatics. As an educator and water safety practitioner, I have gained valuable insights into Māori pedagogies within aquatic education, and I am compelled to explore this area further through research. The beliefs we hold shape our actions, especially when it comes to our behaviour around water. Through my research, I hope to shed light on effective teaching approaches that can benefit Māori learners in aquatic education.

Nō reira, tēnei te mihi maioha atu ki a koutou katoa, ngā ringa āwhina ki te kaupapa, ngā mātāpuna ki ngā whakaaro, ngā pou manaaki ki te tangata, mei kore ake ko koutou kaore ahau i eke ki te taumata teitei o tēnēi kaupapa rangahau, tēnā koutou, tēnā tātou katoa.

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Chapter I: Introduction

Ka pū te ruha, ka hao te rangatahi

This *whakataukī* (proverb) reminds us that when the old net is worn out, a new net takes its place, thus a metaphor to describe how traditional methods of teaching can be adapted for effective use in contemporary society. Over recent decades, Māori pedagogies have gained a strong presence in education in Aotearoa, not only because of the specific needs associated with Māori achievement in schools, but also in transforming teacher perspectives towards creating culturally responsive contexts for learning (Bishop & Berryman, 2009; Smith, 2017). Accordingly, this research explores a framework for Māori pedagogies in aquatic education and the teaching of essential swim and survival skills to Māori learners.

Pihama et al. (2004) provides a description of Māori pedagogy, stating that,

"Māori pedagogy is not new but is derived within a long and ancient history of tikanga Māori and is informed by *mātauranga* Māori that is sourced in thousands of years of articulation and practice…[and]…presents a multitude of possibilities for those that are willing and committing to bringing about positive change for Māori within education" (p. 53).

The quote reflects two key themes for this research. Firstly, that the traditional knowledge paradigms of our ancestors provide both the landscape and aspirations whereby the construction and transmission of *mātauranga* Māori can effectively occur (Pihama et al., 2004). The term *mātauranga* Māori has been described as "Māori systems of knowledge" (Durie, 1998a, p. 76), an "epistemology of Māori" (Tau, 1999, p. 15), a "theory of Māori knowledge" (Royal, 1998, p. 2), and "traditional Māori knowledge forms" (Doherty, 2009, p. 18). Within aquatic education, Māori aquatic pedagogies derive from values, concepts and traditional belief systems associated with a Māori worldview of water and the relationships Māori have with the natural environment (Durie et al., 2017; Harmsworth & Awatere, 2013; Metge, 2015). Secondly, that a Kaupapa Māori approach to aquatic pedagogies is vital to help bring about a positive change in respect of high drowning rates among Māori in Aotearoa.

The advance of Māori pedagogies raises more possibilities for teachers and educators, to go beyond Western concepts of aquatic education and water safety to include cultural dimensions of learning (Phillips, 2018; Pringle, 2016). Essentially, Māori aquatic pedagogies are informed by *mātauranga* Māori and relate to an authentic context of culture, activity and social interactions based on the real-life aquatic experiences of Māori (Lave & Wegner, 1991; Metge, 2015).

Māori World View

Integral to this research are the values, beliefs, and customs of *te ao* Māori (Māori worldview). According to Māori traditions, the world was created by *atua* (gods), who are the progenitors of the natural elements and the creators of life (Royal, 2010). The natural world forms a cosmic *whānau* (family) where everyone and everything is interrelated as a living whole, encapsulated by *whakapapa* (genealogy) relationships that reflect our need for kinship with the natural world (Royal, 2010). Māori creation narratives are seen as fundamental to understanding the world and one's place within it. They provide a sense of belonging and cultural heritage that offers guidance for living in harmony with the natural world and with *atua* Māori (Royal, 2010; Reilly, 2004). Narratives are closely tied to cultural concepts that play a significant role in shaping Māori identity and knowledge systems including the physical and spiritual aspects of the world and its origins (Ka'ai & Higgins, 2004). This is based on meticulous recounts of *whakapapa* which form the relationships between people and everything else (Durie et al., 2017).

Whakapapa is the central principle through which Māori order the universe, layer upon layer (Williams, 1975) and identifies the kinship connections, to both spiritual and physical realms, to *atua* Māori, to all things of the natural world (Reilly, 2004; Royal, 2010). For example, water has distinct *whakapapa* connections that bind it to various *atua* Māori and creation stories (Royal, 2010). Among many tribal traditions, water stems from the primeval parents of Papatūānuku the earth mother and Ranginui the sky father, through their many offspring of children such as Tangaroa (the male deity of the ocean) and Tāne the deity of the forest and birds (Afoa & Brockbank, 2019; Reilly 2004). Tāne is also the progenitor of mankind and personified in many forms such as, Tāne-te-waiora as the origin of *wai ora* (life-giving waters and prosperity) (Best, 1974; Ngata, 2018). The union of Tāne-te-waiora and Hinetūparimaunga, maiden of mountains, brought into being Parawhenuamea the mother of *wai māori*, freshwater springs, streams, and creeks that run off the hills and mountains (Ngata,

2018). Parawhenuamea is closely associated with *waipuke* (floods) and *waipara* (muddy waters) and hence her interdependence with Rakahore (deity of rocks) for the geological flow of water (Ngata, 2018). As Tāne mahuta, Tāne is the personification of forests and trees, and as Tāne-te-wānanga signifies his feat in acquiring the three baskets of knowledge for mankind (Best, 1978). Marsden (2003) describes how Tāne "ascended to the highest heaven in a bid to obtain the sacred baskets of knowledge from Io, the creator" (p. 56). Along with the three baskets of knowledge, Tāne also came into possession of two *kōhatu* (sacred stones), *hukatai* (knowledge) and *rehutai* (wisdom). These stones were knowledge-bearing entities that enhanced the *mana* of the teachings and transmission of knowledge. Tāne is hence responsible for the dispersion of Whānau Mārama and the light-giving or knowledge seeking pathways of the Māori world. The connection between Tāne and knowledge is therefore highly relevant to teaching and learning in the Māori aquatic space.

Many Māori and Polynesian traditions consider water, particularly Tangaroa and the sea, to be the origins of all life forms (Royal, 2010). Accordingly, Tangaroa is their world and the inter-connections of the spiritual world have significant impacts to human quality of life (Royal, 2010). Tangaroa bonding with Hinemoana (maiden of the sea) in the form of Tangaroa-whakamau-tai (Tangaroa holder of tides), created features of the *moana* (ocean), including *waitai* (sea water)*, whakaheke ngaru* (surf), *ngaru* (waves), and *hukatai* (sea foam). In other traditions, water in the form of Wainuiātea (the great expanse of water) was the first wife of Ranginui representing the waters of the earth, oceans, lakes, and rivers (Williams, 2019; Ngata, 2018). There is also Te Ihorangi (rain), Hinepūkohurangi (mist maiden), Hinewai (misty rain), Hukarere (snow), Haukū (dew and frost), all personifications of water that are fundamental to Māori beliefs and *whakapapa* traditions, although variations are likely among different *iwi* (tribe) Māori (Afoa & Brockbank, 2019; Williams, 2019). It is these *whakapapa* relationships with water that form the basis of a Māori worldview.

The *whakapapa* of water affirms its origin and importance to Māori as the source of all life with intimate and permanent links to the natural world, to ancestral histories and cultural survival (Durie, 1998; Royal, 2010). For instance, *Ko au te awa, ko te awa ko au* (I am the river, the river is me) is often heard in cultural expressions of *mihi* (introductions) or *pepeha* (tribal sayings) as a way of integrating one's identity with water and *tūpuna* (ancestors), with tribal *awa* (river) or *moana* (Panelli & Tipa, 2007). Likewise, *Ko wai koe?* is the expression of not only asking who you are but also from which ancestral waters do you

descend (Phillips, 2018; Ruru, 2013). Here, Māori view themselves and all within the natural world as one in the same, through *whakapapa* relationships to land and water that serve as the source of their very existence (Afoa & Brockbank, 2019). To ground aquatic education in a Māori context, one must recognize and understand the intrinsic relationship Māori have with water as a source of our identity, where we come from and our tribal affiliations (Marsden, 2003). This in turn provides the impetus for advocating a pedagogical approach to aquatic education that is drawn from a Māori worldview.

Te Toromitanga Māori - Māori Drowning

Despite the close connections that Māori have with the natural environment, Māori are disproportionately represented in drowning fatalities and water related injuries. Drowning[1] is a major cause of accidental death in Aotearoa, especially among Māori people (Water Safety New Zealand [WSNZ], 2019, 2016). Māori male, Māori aged 15-44 years and Māori children (under five) are deemed most at risk of drowning (WSNZ 2019, 2016). Those regions which have high Māori populations also tend to record the highest fatal drowning and hospitalisation rates, for instance, Northland, Waikato, Bay of Plenty and East Coast regions (WSNZ, 2019, 2016).

Sadly, every drowning fatality is tragic and leaves a *whānau* and community devastated with long term consequences that in most cases could have been prevented. Whether public policy or curricula associated with aquatic education and drowning prevention in Aotearoa is beneficial for the whole population but potentially ineffective for Māori needs further dialogue. With Māori making up approximately 17 % of the population as indicated by Census (Statistics New Zealand [Stats NZ], 2018), and nearly a quarter (22%) of total drowning (last five years), Māori continue to be overrepresented in preventable drowning deaths compared to non-Māori (see Figure 1).

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[1] Drowning is defined as "the process of experiencing respiratory impairment from submersion/immersion in liquid" (Bierens, 2005, p.1), the outcome for anyone drowning can be either: death, mortality (fatal), or no morbidity (non-fatal) (ILS, 2007).

Figure 1: Preventable Drowning Fatality Rate of Māori compared to non-Māori (WSNZ Drownbase 2009-2018).
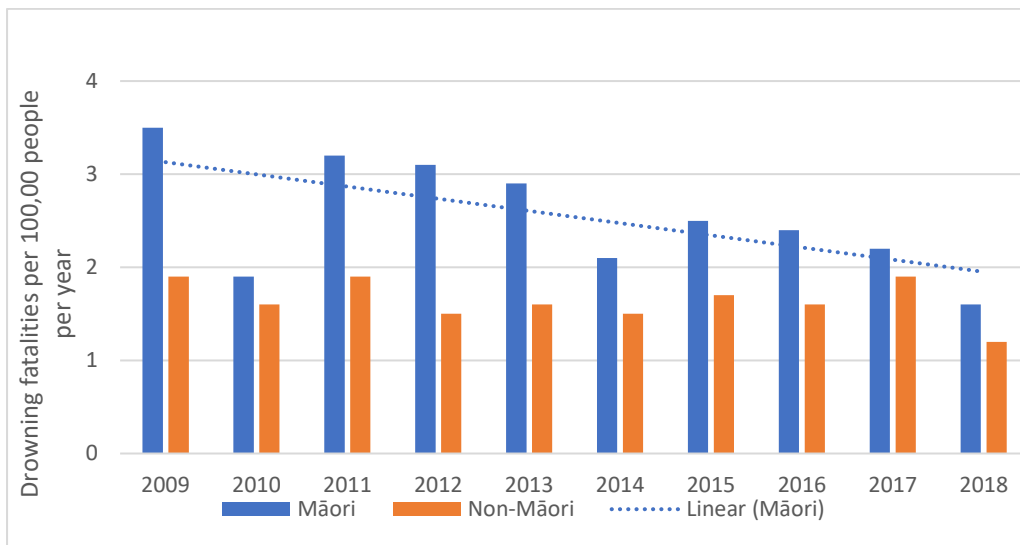
A deeper look into the problem follows past predictions that a nation of children without swim and survival skills will lead to a significantly increased drowning toll in future years' (WSNZ, 2010). A decade on and drowning reports (WSNZ, 2019, 2020) still indicate Māori are more at risk of drowning compared to non-Māori. A closer examination of Māori drowning fatalities through DrownBase [2] (WSNZ, 2009-2018) reveals some common risks associated with each age group. See Table 1.

Table 1: Common associated risks for Māori drowning (WSNZ Drownbase 2009-2018).

Age group	*Common associated risks for Māori drowning*
0-4 years	Unsupervised, evaded adult supervision, unfenced pool, unnoticed access to outdoor body of water
5-24 years	Swimming and jumping in open water environments (mainly rivers and beaches), inadequate adult supervision
25+ years	Māori male, open water environments, driven by high participation in water activities such as under water diving (alone), swimming and gathering kaimoana (seafood), bad weather conditions, poor equipment (lifejackets), alcohol, and drug impairment

Table 1 shows that age is one of the major risk factors for Māori drowning, where the relationship is not only associated with factors such as a lapse in supervision but also links to

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[2] The DrownBase™ system, developed by Water Safety New Zealand in 1980, collates all drowning and hospitalisation records and data as advised by Corner files, ACC, hospital admissions and Police reports which serve as benchmarks and indicators of drowning and water related injuries. Retrieved 20 January, 2020.

gender (mostly male), the type of activity, water related skill, and frequent exposure to water environments (WSNZ, 2018, 2019). Inadequate supervision (of children 1- 4 years) and swimming activities (amongst 5-24 years) are key factors related to drowning amongst those respective age groups. Table 1 also indicates the high participation of Māori in open water environments such as rivers and beaches. A study on Māori practices and activities towards water safety found that Māori mostly use the sea and rivers for recreation (Karapu et al., 2007). Swimming, jumping off bridges, gathering *kaimoana* (seafood), and *waka ama* (outrigger canoe) are favoured water activities for Māori youth (Karapu et al., 2007). In Moran (2008) however, many Aotearoa youth, including Māori, may lack proficient water competencies to mitigate the potential risks associated with their frequent participation in aquatic activities. Drowning hospitalisations also indicate half of all Māori admissions are under 15 years of age, and 30% of that total identified as Māori children aged under five (WSNZ, 2020). Hospitalisation data shows most drowning incidents are from accidental immersion and swimming activities (WSNZ, 2019).

Durie (2001) refers to other types of risks evident from Accident Compensation Corporation (ACC) claims that profile Māori as being more inclined towards risky behaviour based on their excessively physical lifestyle. It is no coincidence then that Māori preventable drowning rates by age (Figure 2), show an uptrend across most of the age group bands.

Figure 2*: Drowning Fatality Rate of Māori compared to non-Māori by Age Group (WSNZ Drownbase 2009-2018).
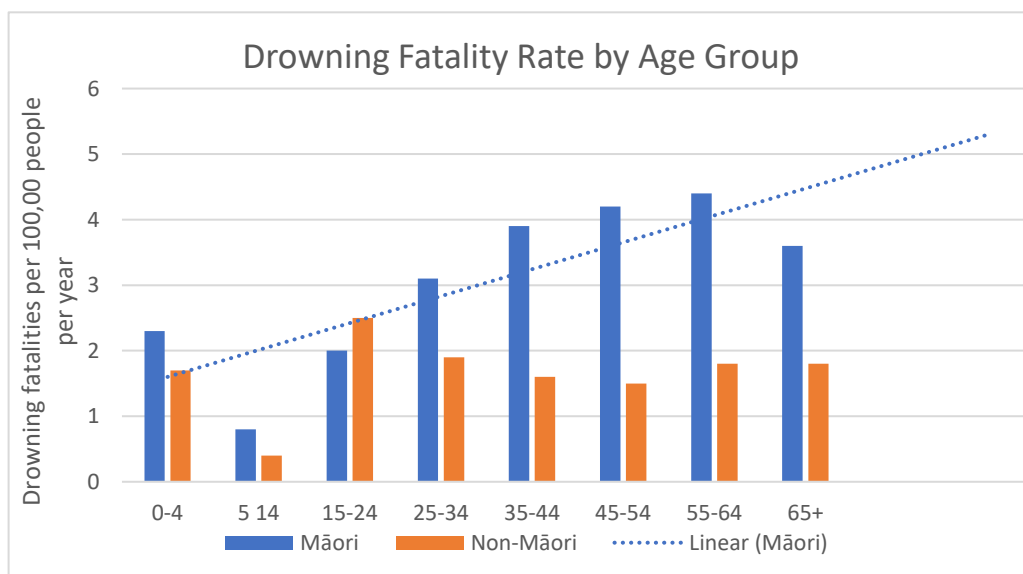
We must also consider the fact that the Māori population is relatively young and growing with over half (53%) aged less than 25 years in 2018 (Stats NZ, 2020). Also significant is that the number of Māori students in Aotearoa schools is growing and projected to increase to about 30% and more in the coming years (Stats NZ, 2020). In this sense the education system and more specifically aquatic education, is an area for positive effect.

Drowning is not confined to Aotearoa waters alone but represents a worldwide health problem that is prevalent among many Indigenous populations (World Health Organisation [WHO], 2017). Higher drowning rates among populations tend to be associated with lower socioeconomic status, being a member of an ethnic minority, lack of higher education, and rural populations (WHO, 2017). International studies indicate Indigenous and First Nations peoples are most at risk of drowning and face the same water related harms and risks as Māori do. Aboriginal and Torres Strait Islanders are more likely to drown than non-Aboriginal Australians and within Canada, First Nations peoples drown at much higher rates than non-Aboriginal peoples (Giles et al., 2014; Peden et al., 2021). The highest drowning rates are among children 1–4 years, followed by children 5–9 years.

Giles et al. (2014) asserts how the drowning problem among indigenous peoples from a Westernized perspective positions the individual with deficiencies and failures. For instance, failure to learn to swim, failing to supervise children adequately, deficient of water safety practices and correct use of equipment. This highlights an urgent need for culturally appropriate and community driven preventative and education strategies that consider and address social impacts which result in increased risk of injury (Giles et al., 2014; Peden et al., 2020). It is imperative to therefore recognise that Māori drowning is associated with health inequalities and thus the relative socio-economic deprivation of Māori is a likely driver in their disproportionate drowning rates (WSNZ, 2020). The demographic profile of Māori and drowning is important to understand in the current context of health and education disparities that exist in relation to how Māori live, work, and play. These include disparities by age, gender, socioeconomic position, ethnicity, impairment, and geographical location (Reid & Robson, 2006). Bearing in mind also the increasing diversities and inequalities within the Māori population itself (Cunningham, 2008). These impacts are often a consequence of public policy or curricula implementation that has not considered the impacts on Māori health, education, cultural values, socio-economic disadvantage, and ethnicity (Durie, 2005). The evidence shows that Māori drowning rates are disproportionately high. Whilst there are

numerous reasons for these statistics, there is potential to improve the situation through Māori aquatic pedagogies that are grounded in *mātauranga* and *te ao* Māori (Phillips, 2018). Therefore, the education system can play a major role in improving Māori drowning outcomes.

Education in Aotearoa

This thesis proposes that aquatic education within Aotearoa requires the application of *mātauranga* Māori to ensure correct cultural transmission. Aquatic education is delivered through the New Zealand Health and Physical Education Curriculum, with most schools in New Zealand providing some water based aquatic education for their students (Stevens, 2016). However, the history of the education system for many Māori students in Aotearoa paints a whitewash picture of underachievement within its frameworks and curriculum teachings (Hokowhitu, 2004, Penetito, 2010, Walker, 2016). Disparities in student achievement between Māori and non-Māori in Aotearoa schools have been reported since the 1960s (Hunn, 1960). The Hunn Report (1960) was the first official government report to acknowledge the problems Māori were encountering with education and integration into Pākeha society. Past educational achievement reports (Penetito, 1996; Te Puni Kōkiri, 1998) show the difficulties Māori students have faced and experienced in mainstream schools (Bishop et al., 2009; MacFarlane, 2004). Aotearoa has one of the widest educational achievement gaps in the OECD, meaning that, while some students are performing at very high levels, many Māori students are performing at extremely low levels when compared to all other ethnic groups as shown Figure 3 (Education Report, 2016a).

Figure 3: Māori Education (Education Report, 2016).
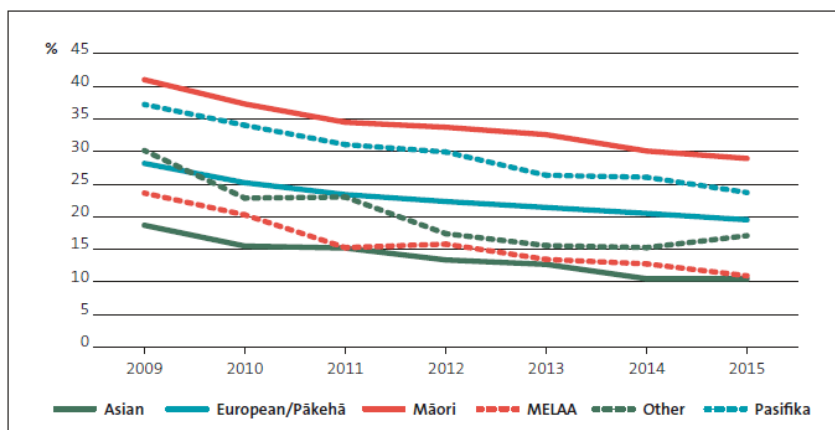
The consequence of such difficulties has seen Māori students leave school with inadequate skills and qualifications to gain employment or carry through on their future aspirations (Smith, 2017; Stucki, 2010). Aotearoa has a multitude of social problems that stem from the difficulties that Māori students experience in mainstream education. Māori are over-represented in most of the negative indicators of health and social welfare, such as unemployment, income, language and literacy skills, housing, child abuse and family violence, prison incarceration, life expectancy and obesity (McLennan et al., 2010). A worrying problem that needs more solutions considering up to 84% of Māori school aged students acquire their education in mainstream schools (Rata, 2011).

A Kaupapa Māori approach to Education

For Māori, being able to connect to the Māori world through access to language, culture, *tikanga* (customs) and resources are fundamental to fulfilling educational outcomes. As Durie (2003) asserts, even after ten or so years of formal education, many Māori youth are unprepared to interact with both the Māori world and mainstream society. This also demonstrates that *mātauranga* Māori, cultural beliefs and understandings within state education have been consigned to the margins for too long, often perceived as inferior and lacking in any genuine substance (Berryman & Bateman, 2008). Bishop (1996) argues that solutions to Māori problems within education will not be found within the dominant culture that has historically marginalised Māori, instead the solutions are located within the Māori culture itself. For example, the emergence and successes of Kaupapa Māori education and Māori language immersion have flourished within Kōhanga Reo (early childhood), Kura Kaupapa Māori (primary & intermediate), Wharekura (secondary), and Whare Wānanga (tertiary) forms of education (Ka'ai, 2008; Hook, 2007). These Kaupapa Māori initiatives serve as momentous examples of how ancient traditions have been integrated and weaved into curricula and pedagogical practice (Hemara, 2000; Pere, 1982).

Another key focus to improving Māori success in education has been the shift towards educational policies in schools that reflect a Māori potential approach and reject deficit theorising to explain low Māori achievement in education (Bishop & Glynn, 2003). For example, influential Kaupapa Māori research projects and strategies such as Te Kotahitanga (Bishop et al., 2003) and the Ka Hikitia Māori Education Strategy 2008-2012 (Ministry of Education, 2008) demonstrated how teachers have significant potential to improve Māori educational success by being responsive to the cultural capital of Māori students (Berryman,

2015). When teachers create a culturally responsive environment that incorporates Māori values and practices to facilitate teaching and learning, Māori students are more likely to reach their full potential (Bishop et al., 2003). Nationally, statistics show Māori students in high or total immersion education surpass Māori students in mainstream schools in terms of educational achievement (Paterson et al., 2008). Smith (2017) states that Māori desire a learning environment that takes an interest in their culture, language, and aspirations, not one "that educates Māori away from their heritage language, knowledge and culture." (p.82). One where learning and development is inherently connected to the influences of *tikanga* Māori and the Māori context (Royal-Tangaere, 1997).

To conclude, this thesis proposes the need for similar cultural approaches within aquatic education, one that is underpinned by Māori methods of teaching and learning.

Rationale

Pedagogy is a term synonymous with education, and one that has become increasingly popular across a range of sectors including education and drowning prevention for Māori (Durie, 2017). Since pedagogy is the primary concept in this research, it is important to establish what constitutes it. In doing so, make clear the distinction between pedagogy and curriculum as both terms feature prominently throughout the research, and both influence teaching and learning outcomes. To put it simply, the curriculum refers to the content you teach, whereas pedagogy refers to how you intend to teach it and the methods you use to do so (Watkins & Mortimore, 1999). These meanings will be expanded further in the thesis as they relate to Māori participation in education, health, and society in general. It is also important to clarify the term aquatic education, which refers to aquatic competencies and skills that are intended to support life skills, knowledge, safety attitudes, and values in and around water (Stallman et al., 2017). Thus, aquatic education promotes water-based skills and activities that enhance one's physical, socio cultural, spiritual, and mental health and well-being.

Against a background of high drowning rates and prioritized strategies to target Māori educational achievement, questions have surfaced on how best to teach aquatic education in Aotearoa (Button et al., 2017). Westernized notions of water safety have long been entrenched in our education system to prevent drowning and teach students how to survive using conventions of classical swimming and risk perception (Kjendlie et al., 2011; Moran, 2008, 2010). Some would argue a western approach to water safety and pedagogical practice

forms a distant relationship that is at odds with a Māori approach to teaching and learning (Phillips, 2018; Pringle, 2016). From a Māori perspective, water safety is as much about our *hauora* (health) and the connection to *wai* as part of ourselves, as it is about learning to swim (Phillips, 2018; Raureti, 2018). This emphasizes how Māori people see, understand, and interact with the world in different ways, where learning relationships and interactions between student and teacher come out of the cultural understandings (Bishop & Berryman, 2006). Indeed, the practice of teaching Māori students in and around water should be adapted to experiences that naturally reflect a Māori worldview (Jackson et al., 2020; Phillips, 2018).

The need to develop a Māori pedagogical framework for aquatic education in Aotearoa from a cultural lens is upon us. My aspirations to continue learning from my life experiences—which include more than 20 years of teaching and employment in the fields of education, water safety, and drowning prevention, is what motivated me to undertake this research to enhance aquatic education for Māori.

Research Question

Drawing on the above realities, the key question for this research is:

- What are the core components of Māori pedagogies that can be applied to enhance aquatic education for Māori?

Significance of Research

The importance of culturally responsive pedagogies and inclusive education for Māori students has been recognized and continues to flourish (Bishop & Berryman, 2009; Smith, 2017). This approach promotes a strengths-based perspective that values *mātauranga* Māori and addresses systemic inequalities and barriers within the education system to create a more empowering learning environment for Māori. The current Māori drowning rates are a cause for concern and whilst there are numerous contributing factors, this thesis argues that more effort and emphasis on Māori aquatic pedagogies can help alleviate the solution. Traditional ways of learning for Māori are seen as being interconnected with the natural environment for the well-being of individuals and communities (Pere, 1982). The aim of this research is to increase that understanding and the significance of Māori pedagogies within aquatic education for Māori. Ultimately, this research space will inform educators on how to be more

effective in aquatic teaching practices for Māori, to address concerns raised by Māori, and to advance aquatic pedagogies and water safety in Aotearoa from a Māori worldview.

Thesis Outline

This thesis follows a conventional structure and comprises of five chapters. Chapter One outlined the context and background for the research, focussing on the problem of drowning and the inequalities of education that have impacted on Māori. It presents the rationale for this thesis. Chapter Two provides a literature review exploring the effectiveness of culturally responsive pedagogies to improve Māori success in education alongside teacher professional development. Chapter Three outlines Kaupapa Māori Theory, the methods, process of data collation and thematic analysis, including the ethical considerations that were carried out for this research. Chapter Four presents the findings of the research based on the semi-informal interviews with the research participants and associated literature. Finally, Chapter Five presents a discussion of the research themes together with a new Māori pedagogical framework of how Māori aquatic pedagogies can support teaching practice.

Chapter II: Literature Review

Tangaroa ara rau

Tangaroa as the progenitor of fish, reptiles, and water creatures, personifies eels which move sinuously by so many pathways that no matter how many are caught, many more are sure to escape (Mead & Grove, 2001). Māori pedagogy based in and around water as a current curricular activity remains ambiguous and elusive like the eels. Herein lies a potential source of uncertainty as pedagogies form so many pathways to knowledge but not all make lasting "connections between learning, thinking, and doing, and tautoko the weaving of minds" (Skerrett, 2018, p. 8).

As described in Chapter 1, state education has consistently failed to provide Māori with a quality education (Hokowhitu, 2004; Walker, 2016) which is likely to have impacted on Māori students gaining their full potential in aquatic education as well. Given Māori children regularly participate in aquatic environments mainly for the purposes of swimming (Karapu et al., 2007; New Zealand Active Survey, 2019), reports suggest many of them lack aquatic competencies to mitigate the risks of drowning and water-related injury (WSNZ Reports, 2019, 2018). Despite the vast range of research and information on the positive value of Māori pedagogies in education, studies are limited within the context of aquatic education. Some contend that Aotearoa pedagogical practices, which take a more Westernised approach to teaching aquatic skills, require more cultural input and guidance (Button et al., 2017; Phillips, 2018). Hence, further debate regarding the importance of Māori pedagogies as they relate to enhancing aquatic education for Māori is deserving of this study.

What is Pedagogy?

Pedagogy is a term synonymous with education, and one that has become increasingly popular across a range of fields including health and drowning prevention for Māori (Durie, 2017). Pedagogy comes from the Greek words 'ped' which means 'child' and 'pedagogue' which means 'leader' (Collins English Dictionary, 2005). The term has its origins in ancient Greek discourse and has been adapted into Latin and French. Eventually, the term pedagogue came to simply mean teacher, instructor, master, or mistress (Collins English Dictionary, 2005). The Notable Greek philosopher, Socrates in 400EBC, introduced the art of pedagogy as part of his Socratic teaching method of inquiry. He used pedagogical forms to question

students, encourage debate, discussions, and cooperative learning that stimulates critical thinking between students about the issues confronting society (Schunk, 2012). Although people differ on the precise definition of learning, most educational professionals would agree that "learning is an enduring change in behaviour, or in the capacity to behave in a given fashion, which results from practice or other forms of experience" (Schunk 2012, p.3). Given that teaching is, by nature, the promotion of learning, it should be informed by our best knowledge about learning. This enables students to apply what they have learnt to new situations, which is a core component of any pedagogy (Macleod & Golby, 2006). Importantly, pedagogy has evolved from a social action, and like Māori knowledge, has become more integrated and diverse over time, which helps us to understand how people view pedagogy in different ways (Watkins & Mortimore, 1999).

Modern Pedagogy

It can be challenging to define modern pedagogy. Researchers have long argued that pedagogies must adapt to society's rapid changes and include more of the different elements, where diversity can make pedagogy stronger (Watkins & Mortimore, 1999). Pedagogy is described by Siraj-Blatchford et al. (2002) as:

"that set of instructional techniques and strategies which enable learning to take place and provide opportunities for the acquisition of knowledge, skills, attitudes and dispositions within a particular social and material context" (p.10).

Literature defines pedagogy as a craft based on specialised knowledge, skills, and teaching philosophies acquired through consistent practice and experience (Marland, 1993; Hickman, 2013). This approach recognises the uncertainties and dynamic nature of teaching in a specific environment, such as aquatic settings. These definitions appear to describe pedagogy as a total package of teaching methods, roles, management, and responsibilities. However, Stucki (2010) emphasises that teacher behaviours and characteristics, which are often neglected, hold equal significance as they reveal the teacher's fundamental beliefs regarding knowledge and the learner's role in the learning process. This includes the interactive process between the teacher, the learner, and the learning environment amid the ongoing forces of the socio-political conditions that surround any learning situation (Stucki, 2010).

Farquhar & White (2014) conclude that pedagogies are processes, "that make vital connections between teaching, learning, knowledge, society and politics and generally involves a vision about society, people and knowledge" (p.822). At the heart of these processes is the relationship between teacher and student and how they work together to develop knowledge and meaningful practice (Stucki, 2010). Pedagogies are thus influenced by cultural, social, political, and historical contexts that include references to values, learning theories, relationships, methodologies, and philosophies of education. Bell (2003) highlighted the fact that the term pedagogy is frequently preceded by an adjective for example, Māori pedagogies, critical pedagogies, or feminist pedagogies, all signify educational goals, outcomes, values, and cultural concepts that are in opposition and are critical of mainstream pedagogy. Therefore, defining modern pedagogy is not a simple matter of providing a single definition because pedagogy has evolved into a multifaceted concept that requires constant improvement to respond to the needs and aspirations of learners, educators, and society.

Critical Pedagogy

Critical theorists such as Freire (1976) claimed that western pedagogies are inherently political, and that teaching should challenge learners to examine power structures and patterns of inequality within society. Pedagogy is defined in many ways, but what may be considered effective pedagogy in one culture or context may not work in another. Critical pedagogy is an approach to education that seeks to challenge and transform oppressive social, cultural, and political systems (Freire, 1970). The widely read text *Pedagogy of the Oppressed* (Freire, 1970) advocates the use of meaningful dialogue and praxis, whereby education as a tool should be used to empower and liberate people from oppressive struggles that exist in society (Smith, 2017).

The literature shows that mainstream pedagogies in Aotearoa schools have been detrimental to Māori educational success and Māori methods of teaching and learning (Bishop & Glynn,1998; Smith, 1997; Walker, 2016). As per Penetito (2010), the education system intentionally diverted Māori people from preserving their culture and lifestyle by enforcing assimilation policies. Skerrett, (2018) explains that dominant pedagogical practises were reinforced "by the desire to promote a one-nation state, one-language policy (English) which necessitated the eradication of te reo Māori" (p.4), and the privileging of Western knowledges over Māori ways of knowing (Bishop, 2005; Smith, 2005). By marginalising *mātauranga* Māori and *tikanga* practises, many would argue that the State curriculum has

served as a colonial tool to convert Māori to westernised civilisation (Hemara, 2000; Hokowhitu, 2004; Smith, 1997). Moran (2010) states that historically, "one area in which there was clearly no cause for celebratory comment was the delivery of aquatics education to Māori schools" (p.129). Subsequently, Māori students were required to adopt Western techniques rather than their own practices and traditions for learning aquatic skills and water safety practices (Moran, 2010). The processes of colonisation and assimilation for Māori are still evident today in the lack of equitable participation of Māori in many aspects of life in Aotearoa (Waitangi Tribunal Hauora, 2019). Certainly, from a Māori perspective this needs to be made clearer especially since Māori have struggled to succeed in mainstream education and still seem to be most at-risk of drowning.

Culpan and Bruce (2007) addressed critical pedagogy within the 'Health and Physical Education in the New Zealand Curriculum' (Ministry of Education, 1999), and the engagement in praxis from a critical perspective. For them, the main objectives of critical pedagogy in physical education are emancipation and social justice, where students acquire the information, skills, and power necessary to exert more control over their individual and collective lives. However, there are numerous challenges to teacher education that requires "a shift away from the 20th century, scientised, functionalist domination of physical education and the movement culture" (Culpan & Bruce, 2007, p.7). Moreover, that physical educators must engage in praxis for transformation so change can occur in these contexts. Praxis is an important part of a Kaupapa Māori approach to learning that requires educators to constantly reflect on what they are doing and the need to test the theory against practise (Smith, 2017).

According to Merriam et al. (2007), mainstream pedagogies teach us to believe that the knowledge we accept as official and legitimate is created in an impartial, virtuous, and selfless way. This perspective disregards the cultural and power-related aspects of producing knowledge. Another factor is the authority the teacher has over the students. Decisions on the curriculum, rules for behaviour, student activities and assessments, textbook choices, and the teacher's language can either empower or disempower the students. MacFarlane (2000) and Stucki (2010) refer to the powerful impacts of the hidden curriculum in education, whereby what schools do not teach is often as important as what they do teach. For example, despite *taha Māori* (cultural aspects) being promoted in the national curriculum, a school's culture may not reflect this (MacFarlane, 2000). Salter (2000) addressed these issues related to the integration of Māori pedagogies in physical education. He argued for educators to develop a critical understanding of the ways in which curriculum knowledge is shaped by dominant

social, cultural, and political forces. Salter concluded that educational efforts should be transformative in nature and address issues of equity, social justice, and the provision of equitable pedagogy in physical education. Furthermore, that the positioning of *te reo* Māori (Māori language) and *tikanga* Māori as cultural *taonga* (treasures) be correctly utilised for their potential as transformative tools that cater not only to Māori, but for the needs for all students (Hokowhitu, 2004; Salter, 2000).

From Freire's (1970) legacy of conscientization, resistance, and transformation, Smith (2017) asserts, Kaupapa Māori education has evolved as a "proactive initiative undertaken by Māori themselves, recognising that the key answers to our transformation lie within ourselves" (Smith, 2017, p.84). Rau and Ritchie (2011) showed pathways for early childhood pedagogies that enable Māori ways of knowing and doing in affirmation of *tamariki* (children) rights to identity sourced in their own *tikanga*. In the knowledge and practices that are *tika* (correct) and culturally right for Māori children within everyday educational practices. By engaging in critical pedagogy, teachers can help students to develop a critical understanding of the ways in which physical education has and is shaped by broader social, cultural, and political forces (Culpan & Bruce, 2007; Hokowhitu, 2004). Baker and Giles (2008) used critical theory to work with Inuit community members in Canada to promote dialogue and create pedagogical change in aquatics programming that can be culturally facilitated and delivered.

In essence, critical pedagogy allows one to challenge and transform dominant power structures and to promote equity for Māori students (Smith, 2017). Thus, educators need to know and think more critically about the prevailing beliefs and assumptions that are frequently used in aquatic educational contexts and settings.

Eurocentricity and Aquatic Education in Schools

As a result of the Aotearoa education system, aquatic education in schools has historically been shaped by Eurocentric views and practices, which have resulted in an exclusionary approach to water safety and cultural practises for Māori students (Moran, 2010; Phillips, 2018). One could argue that the limited representation of *tikanga* Māori practices within aquatic education has contributed to a lack of engagement and awareness of water safety among Māori communities. Pringle (2016) points out, it is crucial to emphasize the significance of pedagogical work in fostering not only water safety but also enjoyment and a

broader understanding of cultural beliefs, social practices, environmental issues, and drowning concerns associated with aquatic activities in Aotearoa. The situation of aquatic education for Māori is not expressly covered in the literature, however assumptions can be made from related research.

In 2015, Water Safety New Zealand commissioned a review on *Aquatic Education in New Zealand Schools* (Stevens, 2016) and the types of aquatic education being taught to children from 5 to 13 years of age (Stevens, 2016). The New Zealand education curriculum expects "that all students will have had opportunities to learn basic aquatic skills by the end of Year 6" (Ministry of Education, 2007, p. 22). The report concluded that many schools face challenges in providing quality aquatic education for their students with limited resources and teaching expertise on offer. The need to support "school staff in their skills and confidence to teach aquatic skills" (Stevens, 2016, p.10) is essential to improving school aquatic programmes. Survey results showed few teachers had formal training in aquatic education and that many schools (62%) chose to use external providers for their water-based teaching programmes (Stevens, 2016). Robertson (2010) produced similar findings, which highlighted the great financial costs and "the need to have access to capable swimming teachers" (p.24). This supports Steven's (2016) observations, where funding assistance, school pool upgrades, staff professional learning development and transport assistance, are ongoing issues for many schools. The report also highlighted the significant ethnic diversity among schools and the importance of water safety for children who live or are frequently near rivers, lakes, and beaches. Survey comments from *kura* Māori (Māori schools) reinforce the necessity of providing quality aquatic education for Māori students. For example,

> "Our Kura has access, 1 day a week for 30 minutes in each school term to a
> privately owned indoor heated swimming pool where our tamariki are taught
> by learn to swim instructors…The school is 22 kilometres away from our
> kura. We transport our tamariki to swimming in private vehicles. We pay for
> this service from our operations grant. We are desperate for financial support
> to maintain and continue this important part our children's aquatic education."
> (Cited in Stevens, 2016, p.17).

Knowing how to swim and survive in a country surrounded by so much water is considered by many schools and communities, as both a right and a necessity to student education (Stevens, 2016; Moran, 2010). Research by Button (et al., 2017) showed,

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schoolchildren's water safety competency is typically quite low compared to the competency standards advised by Water Safety New Zealand. In addition, Moran's (2008) study found that the swimming proficiency of high school students in Aotearoa schools varied considerably by gender, socioeconomic status, and ethnicity, with increased drowning risk for students from low decile schools, of which many Māori students attend. Moran (2008) concluded that these students not only participate in less aquatic activity at school than youth from high decile schools, but they may be more at risk of drowning due to the protective benefits typically associated with swimming proficiency. However, although increased swimming ability may be considered by many as a preventive strategy to the risk of drowning, good swimmers can also drown (Kjendlie et al., 2011). Since most drownings occur in open water environments, the research shows a compelling need for a wider variety of water-based knowledge and transferable skills, that enhance students' aquatic competencies in those settings (Button et al., 2017). The situation calls for a broader scope of aquatic education and research including the need for culturally responsive provisions and resources (Stevens, 2016).

Statistics on drowning indicate a dire situation for Māori children who are deemed more at risk of drowning in open water environments (WSNZ, 2016, 2018 2019). While drowning prevention is a key focus of water safety and aquatic education in Aotearoa, Pringle (2016) argues, the Western approach to preventing drowning has immersed itself in scientific measures of inquiry over qualitative forms that explore socio-cultural dimensions. Similarly, Brown et al. (2021) identified understandings of behaviour and situational awareness in boating as fixed in Eurocentric thinking based on block chains of scientific and psychological theories. According to Phillips (2018), much of the research on Māori drowning has focused largely on Western ideologies of being safe over cultural insights to water safety. As a result, access to culturally responsive teaching methods as well as traditional knowledge and *tikanga* related to water safety has been restricted (Karapu et al., 2007; Phillips, 2018). This demonstrates the critical need for culturally relevant pedagogies and community focused education that consider the social determinants associated with aquatic programmes (Giles & Baker, 2008). The literature demonstrates how Māori voices are challenging Eurocentric dominance in aquatic education through interest and advocacy for Māori developments based on Kaupapa Māori led research (Jackson et al., 2016; Phillips, 2018; Wikaire, 2016). Subsequently, a renewed emphasis on aquatic education and the development of water competencies for all school aged children is a key feature of the *New Zealand Water Safety*

Sector Strategy 2020-2025 (WSNZ, 2020). The strategy promotes the 'Water Skills for Life' initiative and making water safety education fundamental to curricula learning in schools and children's real-life experiences (WSNZ, 2020). It is informed by Māori values and the strengthening of cultural connections to *wai* through the Wai Puna Model (see Phillips, 2018). This model presents a whole philosophy of Māori connectedness to water and principles of safe water practises through the concepts of *whakapapa*, *mātauranga* and *tikanga*, all essential components of an aquatic educational environment that is culturally responsive.

Māori Pedagogies

Māori pedagogies are Māori preferred ways of teaching and learning that take a holistic approach to education (Ka'ai, 2004). Pihama et al. (2004) explain, Māori pedagogy is ultimately based on traditional teaching and learning styles that are dependent on Māori epistemologies, values, knowledge, and constructions of the world. A significant component of pedagogy is the Māori concept of *ako*, which means to learn as well as to teach (Bishop & Berryman, 2009). *Ako* is premised on the understandings of teaching and learning through reciprocal relationships, interactions, dialogical expression, and principles that acknowledge the interdependence of the learner and *whānau* (Bishop et al., 2003; Pihama et al., 2004). It is in these culturally responsive contexts that the co-construction of knowledge and learning for Māori is more likely to occur (Bishop et al., 2003). Each member of the learning process brings their own basket of knowledge with them from which all can learn from and share (Keown et al., 2005). However, Pihama et al. (2004) note, the definition of Māori pedagogy is difficult to fully explain because *ako* and other Māori concepts are inseparable. Rather, Māori pedagogies are an amalgamation of Māori concepts, values, principles, and customs sourced from a Māori world view and within *te reo* and *tikanga* Māori (Nepe, 1991). This implies a learning process that is culturally responsive in the conception, transmission, and expression of Māori knowledge. In order to convey the importance of Māori pedagogies in aquatic education, a greater understanding of other Māori concepts is required.

The literature on traditional forms of Māori pedagogy by notable scholars such as Hemara (2000), Nepe (1991), Pere (1982) and Metge (2015), authenticates the significant benefits for Māori learning in their own cultural contexts and real-life situations. Pere's (1982) seminal publication *Ako*, provides depth and understanding on Māori concepts and their application to teaching and learning in traditional and modern society. For instance,

concepts such as *whakapapa*; *wairua* (spiritual beliefs); *te reo*; *whanaungatanga* (caring kinship relationships); *mauri* (life principle); *mana* (power, prestige, acquired authority); *tapu* (protection, social control); *noa (*neutral, unrestricted*); *hui* (to congregate, assemble); and *tikanga*, to name a few. For Pere (1982), one's life experiences always involve learning, and the values assigned to learning during formative years are often culturally influenced.

Metge (2015) portrays how Māori pedagogies of practice can flourish alongside the school system. She provides rich insight to what it was like for Māori children growing up in the 1950s and 60s - learning as part of living, where *mātauranga* Māori developed organically in the context of home and community life. Metge notes, that when it came to specific knowledge and skill sets, particularly those relating to *whānau* and community orientated tasks, like setting fishing nets and planting crops, senior members made sure children knew not only what to do but why. For Metge, key teaching pedagogies considered typically Māori include,

- Learning by doing – *titiro mai, whakarongo mai, me pēnei*
- Learning and teaching in context – place, time, people, resources
- Learning and teaching in group – personal and cooperative relationships
- Practising in safe contexts – both physically and spiritually
- Warning of problems and dangers – through *pūrākau*, stories and *tohu* (signs)
- Emphasis on readiness – adults and *pūkenga*/experts emphasised readiness over age

As part of lifelong learning, Metge describes how exposure and observational learning are particularly important during the formative years of childhood and adolescence. It encourages children to explore and develop their senses, learning to take the initiative and copying what goes on around them in work and play. These settings place a strong emphasis on learning alongside and in relationships with others, where knowledge belongs to the group collective rather than the individual (Metge, 2015). Parents and *kaumatua* (elder participants) demonstrate the role of Māori social institutions, the *whānau*, *hapū* (subtribe), *iwi*, and *marae* (complex of buildings) as contributing factors to educational development (Metge, 2015). Skerrett and Ritchie (2019) describe these forms of *whānau* knowledge systems and intergenerational teaching practices as *whānau* pedagogies. They argue that teachers must engage with *whānau* and the idea of *whānau* pedagogies if the curriculum is to transform the systemic patterns of inequality that are replicated in educational settings. Durie (2001) insists,

whānau that possess the capacity for *whānau* development can bring about a range of opportunities to enhance their health and education (Durie, 2001).

Te Kotahitanga is a significant Kaupapa Māori research project that has operationalized Māori pedagogies in Aotearoa schools. Bishop et al. (2003) developed Te Kotahitanga, an Effective Teaching Profile (ETP) to help reduce educational disparities through improving the academic achievement of Māori students in mainstream secondary schools. The project showed a need to address how teachers thought about Māori students, and to develop an understanding of the interdependent responsibilities of principals, teachers, students and whānau (Bishop et al., 2003). An analysis of the student interview statements found that teachers needed to change their views about Māori students and start rejecting deficit theories as ways to explain Māori educational disparities and low achievement levels (Bishop & Berryman, 2009; Sleeter, 2011). That is, teachers accept and voice their educational responsibility and willingness to engage in effective relations, interactions, and reciprocal practices that are central to enhancing Māori achievement (Bishop & Berryman, 2009). Bishop (2008) insists, a culturally responsive pedagogy is formed in coherence with the underlying principles upon the discourse of relationships to identity.

Fundamental to the ETP are the Māori concepts and practices that create a culturally responsive pedagogy for learning, whereby Māori students are valued as being culturally enriched (Bishop & Glynn, 1999). For reciprocal approaches to learning within aquatic education, it is essential to incorporate Māori concepts and practices that reflect Māori cultural pedagogies. Bishop et al. (2003) advocated:

1. *Manaakitanga*: This involves valuing and caring for Māori students, and aligns with the values of *whanaungatanga*, *aroha*, and *āwhina*
2. *Mana Motuhake*: Enhancing a student's unique achievements arises when teachers care about their students' performance and have high expectations for them.
3. *Ngā Whakapiringatanga*: Create a secure and well managed learning environment.
4. *Wānanga*: Engaging in effective learning interactions with Māori students as Māori.
5. *Ako*: Using a range of teaching methods and strategies that are culturally specific to Māori pedagogy.
6. *Kotahitanga*: Teachers and students collaboratively promote student achievement and reflect on learning outcomes.

Ultimately, the ETP is about providing a setting where Māori values and practices are used to improve pedagogy (Bishop & Berryman, 2009; Smith, 2017). Berryman and colleagues (2018) propose that culturally responsive pedagogy is grounded in cultural relationships that require trust, respect, time, and commitment. It is a pedagogy that emerges from within a relational dialogic space that respects diversity (Berryman et al., 2018). The Iceberg Model (Hall, 1976) is used by Berryman et al. (2018) as an analogy for the many aspects of a people's culture that are invisible, and like most of the iceberg, remain hidden beneath the surface of the water. These elements of culture are often misunderstood and differ from mainstream society such as perceptions, beliefs, traditions, thought processes, self-identity, and values (Berryman et.al, 2018). Therefore, forming an effective pedagogy for Māori is not a matter of applying a set formula of teaching strategies and learning theories. Rather, relational characteristics are the key to effective teaching of Māori students (Bishop & Berryman, 2009) within aquatic education.

Pedagogy stems from learning theories to a conceptual framework that helps teachers connect to students and their different learning styles. Hemara (2000) writes, in Māori pedagogy there seems to be two things happening, the first is constructivism, where the learner is constructed by the *tohunga* (expert) through direct learning and the use of signposts such as place names, the feats of ancestors, and metaphors. Another approach refers to enactivism, where the learner comes to know something by the process of doing and learning from his or her subsequent actions (Bandura, 1997). An enactive approach means both the teacher and student are "working on a common project – the simultaneous bringing forth of themselves and the world – even if their respective interpretations of their actions and experiences differ" (Davis et al., 1996, cited in Hemara, 2000, p.39). These approaches to learning adopt a sociocultural view, where the social and cultural contexts of teaching and learning come together to create new knowledge (Bandura, 1999; Royal-Tangere, 1997; Vygotsky, 1978).

Poutama is a Māori concept that portrays the stages of learning and developing one's knowledge. The Māori dictionary describes *poutama* as a stepped pattern of *tukutuku* panels which signify genealogies and different levels of learning and intellectual achievement. Royal-Tangere (1997) describes this weaving pattern as symbolic of Tāne-nui-ā-Rangi and his quest to gain knowledge for mankind by ascending to the twelve heavens where he obtained the three baskets of knowledge, te *kete tuatea* (knowledge of ritual, memory, and prayer), *te kete tuauri* (knowledge of harm and evil), and *te kete aronui* (knowledge to help

mankind). Tāne and his quest for knowledge initiated a pedagogical learning process that enabled step by step human development, like that of the *poutama* design (Tangaere, 1997). Each step is a dimension of one's personality that allows for the balanced growth and development of students as represented in the Te Whāriki model of education (Ministry of Education, 2017). These dimensions of human development include, *tinana* (physical development) *hinengaro* (intellectual growth), *whatumanawa* (emotional development) and *wairua* (spiritual development), all actioned through the learning processes of *titiro* (watching), *whakarongo* (listening), and *kōrero* (talking) (Tangere, 1997). The principles of *whakamana* (empowerment), *kotahitanga* (holistic development), *whānau tangata* (family and community), and *ngā hononga* (relationships, connections) are interwoven with five curriculum strands that focus on supporting each child's *mana* for developing the capabilities they need as confident and competent learners (Ministry of Education, 2017). While the principles and strands serve as the cornerstones of Te Whāriki, they also arise from Māori perspectives which help guide the pedagogical practices.

Renowned psychologist Vygotsky (1978) promotes a similar method of learning and human development referred to as scaffolding and the Zone of Proximal Development (ZPD). The idea of *ako* and reciprocal teaching is reflected in Vygotsky's approach to language development among children and their communication and interaction with others in a social context. For example, Vygotsky (1962) believed that the process of language development helps children internalize word meanings to understand situations and thus direct their behaviours. The social feedback from words spoken by others takes on a central premise of constructivism in that learning involves transforming and internalizing the social environment, thus language plays a key role in cognitive development (Schunk, 2012; Vygotsky, 1962). Ka'ai (2004) and Tito (2011) suggest, the process of knowledge transmission is learner centred and can be applied to different Māori contexts that support the transmission of *tikanga* Māori through *te reo* Māori. These approaches to learning adopt a sociocultural view, where the social and cultural contexts of teaching and learning come together to create new knowledge (Bandura, 1999; Royal-Tangere, 1997; Vygotsky, 1978).

When it comes to *mātauranga* Māori, Royal (2017) suggests, the term is used to communicate something essential about the Māori world, a distinctive body of knowledge that is valuable and has survived to the present day. In developing pedagogy for a Māori science curriculum, Jackson et al. (2020) affirms the value of *mātauranga* Māori to inform science, and how "te ao Māori is science" (p.26). Likewise, Stewart (2019) lists multiple

reasons as to why *mātauranga* Māori counts as science, for example, traditional knowledge that enabled Māori ancestors to create sustainable technologies (i.e., waka, fishing nets, agricultural tools), or to perform detailed accurate observations (i.e., tides, seasonal patterns, astronomical markers).

Jackson et al. (2020) draw attention to the various pedagogical strategies for teaching science that Metge (2015) refers to as 'learning as part of living'. This includes learning through observation, listening, role modelling contextualising learning, dialogue, experiential learning, and connection to the physical environment (Jackson et al., 2020). Learned behaviour through role modelling is a powerful teaching tool for passing on specific knowledge and skills. However, in saying this, teachers also need to be aware of both the deliberate and subliminal aspects of learning from role modelling so that the whole process is both helpful and positive (Jackson et al., 2020). Within aquatic pedagogy, this would include teachers constantly reflecting and analysing their own personal performance to become better role models for themselves and their students (Jackson et al., 2020; Stucki, 2010).

Culturally Responsive Pedagogy in Aquatic and Outdoor spaces

Māori pedagogies are extremely relevant to aquatic education because they foster a learning environment that is sensitive to cultural differences and fosters the holistic development of Māori students (Jackson et al., 2016; Phillips & Mita, 2016). Research on Māori learning in aquatic and outdoor spaces offers fresh insights about the impacts of culturally responsive pedagogies in outdoor education. Historically Māori students have been underrepresented in outdoor education programmes (Lynch, 1999). However, Māori perspectives have become increasingly significant in thinking about nature from a Māori world view (Brown, 2008; Boyes, 2012; Reti, 2012; Wattchow & Brown, 2011). Legg (2012) suggests, "emerging bicultural outdoor educators need to take responsibility for including tikanga Māori in outdoor teaching and learning contexts" (p.143). Brown (2008) calls for educators to demonstrate a greater emphasis on a place-based approach to develop pedagogy that recognises students' relationships with the natural environment. He suggests authentic outdoor education in Aotearoa must seek to understand what Kaupapa Māori would offer as best practice pedagogically. The following studies highlight the significance of incorporating cultural practises and values into outdoor education programmes to provide appropriate learning opportunities for Māori students.

A project 'One day a waka for every marae' by Jackson et al. (2016), showed the significance of *pūrākau* (storytelling) and *wānanga* (forum) through *kaupapa waka* (canoe) as an approach to Māori water safety. This approach reconnects members of the community with their local *awa*, *moana* and to the realm of Tangaroa (Jackson et al., 2016). The study demonstrates the effective use of Māori pedagogies to create a sense of wholeness with outdoor spaces that can enhance the well-being and achievement of Māori learners (Jackson et al., 2016). Programme activities included building and paddling *waka*, *tamariki* holiday programmes, navigation *wānanga*, water safety skills, and training courses such as the Coastguard Boating Education 'Day Skippers' accreditation. *Pūrākau* and tribal narratives were woven into teaching methods and explanations. Lee (2009) explains, histories preserved in *pūrākau* are likely to connect certain *whānau*, *hapū* or *iwi* to the land within specific boundaries. These tribal narratives are bound in *whakapapa* and focus on relationships (Mead, 2003). By being more alert and conscious of how *tūpuna* connected with water, Phillips (2018) suggests *whakapapa* as water safety practice can enhance Māori connections to water on a physical and spiritual level. *Whakapapa* is supported by other forms of curricula such as *waiata* (songs), *whakataukī*, *kōrero tawhito* (history), *karakia* (incantations) and *pūrākau*, all forms of pedagogical practice that can generate a valuable and empowering learning experience (Hemara, 2011; Phillips, 2018). For Jackson et al. (2016), the importance of *whanaungatanga* and the strong bonds formed between everyone was an essential part of their project, enabling participants to conduct waka activities and interactions with Tangaroa safely. Through *wānanga* teachings, *whānau* capacity-building and professional development were promoted, ensuring that future *waka* programme tutors received training in both safety and *tikanga* procedures (Jackson et al., 2016).

In another study, Phillips (2018) explored the use of *karakia* to activate a *wairua* connection to water as a form of hauora and as a way of teaching young Māori about water safety. *Tikanga-a-wairua* is embedded within *karakia* and follows a set order of practise (Mead, 2003). Rewi (2010) states, the practice of *karakia* for Māori is a "valuable, tangible link to their forebears of traditional and mythical allusion…[providing] the spiritual connection with those ancestors" (Cited in Phillips 2018b, p.37-38). Thus, Māori learning around water is not only dependent on the physical health of the environment but also the spiritual connection Māori have with nature. Phillips (2018b) points to the teaching and practice of *karakia* as a metaphor for donning a spiritual lifejacket of protection, and to alert

the senses to *tohu* (signs), those signs that depict changeable weather conditions or potential water hazards.

In Cunningham (2018) research, a *wairua* and *whakapapa* connection to nature through intimate relationships with a particular place, can help define one's sense of identity and belonging. *Pepeha* are evidenced narratives that ground Māori culture in the ancestral footprints of previous generations (Kawharu, 2009). For example, Waiti and Awatere (2019) advanced the concept of *hekengaru* (surfing) and place, where Māori surfers demonstrate their unique relationship with the ocean, nature, and human interactions with coastal environments. Through online surveys and key informant interviews with Māori surfers, their research found that a deep sense of place "manifests an array of thoughts and feelings related to spiritual, affective, familial, physical, and cognitive perceptions" (Waiti & Awatere, 2019, p. 35). The study shows that for many Māori surfers, their understandings of *mātauranga* Māori and ancestral connections to the water through *atua* Māori, provides a higher quality of surfing experience and interaction with the natural environment.

Phillips and Mita's (2016) study focused on community volunteers and University physical education students from Otago engaging in Māori values and practices of *mahinga kai* (traditional food gathering practices) during a community volunteer week focused around the marine environment. Ki Uta Ki Tai highlighted restoring and sustaining practices of *mahinga kai*, *whanaungatanga*, *kaitiakitanga*, *whakapapa* and *manaakitanga*, all pedagogical forms that support learning activities in and around the ocean (Phillips & Mita, 2016). According to student feedback, the study was significant in allowing them to meet and cooperate with the local *iwi* and experience a *noho marae* (marae stay). Likewise, Washburn (2018) focused on Māori student perspectives to ascertain what it means to be culturally responsive in outdoor education programmes. Through focus group discussions, positive themes emerged including the importance of shared social experiences, distinctive cultural practices that make learning fun, fostering connections with *te ao* Māori, and stories of Māori history and place (Washburn, 2018). Washburn concluded that incorporating Māori values, such as *whanaungatanga*, *kaitiakitanga* (guardianship), *manaakitanga* (caring for others), *te reo* Māori along with *tuakana-teina* relationships (shared and supportive relationships), created an inclusive learning environment that was culturally meaningful for Māori learners. However, the issue of affordabilty surfaced as a barrier towards Māori student access and participation to outdoor learning opportunities. This indicated a need for better interaction

and engagement with *whānau* from the teacher and school for student support (Washburn, 2018).

Culturally responsive pedagogies in outdoor spaces can encourage student learning through profound cultural and personal connections with nature. Previous studies in this area confirm that Māori students' interactions in outdoor settings provide relevant historical connections that enhance Māori identity (Brown, 2008, 2012; Cosgriff et al., 2012). This supports Penetito's (2004) claim that place-based teaching approaches, which are often standard practises for many Māori students, can be educationally and culturally beneficial for all students. Equally significant is the interconnectedness between Māori culture, identity, whānau development, and spiritual needs that promote *hauora* (health) Māori (Durie, 1998).

Hauora Māori

Hauora is a Māori philosophy of health indigenous to Aotearoa that is embedded in a Māoriworld view (Jackson et al., 2018; Durie, 1998). The Māori Dictionary defines hauora as "Spirit of life, health, vigour, well, lively and in good spirits." (Williams, 1985, p.41). This signifies the genesis of a Māori world that is inextricably connected to nature and the first breath of life (Jackson et al., 2018). *Hauora* is the fundamental concept of health as outlined in the 'New Zealand Health and Physical Education Curriculum' (Ministry of Education, 2007). However, Heaton (2011) argues, the use of *hauora* in English-medium curricula has been a site of tension that reflects the history and politics of using Māori concepts to represent Westernized notions of health. Moreover, that understandings of *hauora* have become de-contextualised and do not accurately reflect the sociocultural circumstances of Māori and Māori ways of knowing (Heaton, 2011). Heaton (2011) and Jackson et al. (2018) maintain the term *hauora* is one of several Māori concepts that can be used to describe the notion of health and well being. The terms *waiora* (health and soundness), *oranga* (livelihood), *mauriora* (life essence), and *toiora* (well-being), for example, are all concepts of Māori health that carry the same meaning. These concepts comprise the multiple dimensions of a person not only in terms of their physical, spiritual and mental condition but also the interrelated components of *whānau* and personal relationships including those with the natural environment (Durie, 1998; Jackson et al., 2018; Pere, 1982; Wilson et al., 2021). In these contexts, Māori pedagogical pathways through outdoor and aquatic education as

identified in this chapter, demonstrate the very meaningful options for enhancing *hauora* Māori (Heke, 2016).

Māori Health Models

Māori health models have gained widespread acceptance and implementation in Aotearoa health, education, and social services sectors, delivered by both Māori and mainstream providers (Love, 2004; Wilson et al., 2021). While Western conceptions of health have tended to focus on the absence of disease and harm to the body (Durie, 1998), Māori perspectives integrate both holistic and cultural considerations. According to Wilson et al. (2021), Māori models of health offer important cultural values, concepts, practices, and procedures that are culturally significant to Māori and their *whānau*. Such models have played a significant role towards positive transformations for Māori in health and education (Durie 1998; Love, 2004; Wilson et al., 2021), namely Te Whare Tapa Whā (Durie, 1994) and Te Wheke (Pere, 1982). The recent Wai Puna model developed by Phillips (2018) is also considered as important to this research given its focus on Māori water safety and cultural connections to aquatic environments.

Te Wheke

Te Wheke, the octopus, is a Māori health model developed by Rose Pere in 1984 that represents health from a Māori *whānau* perspective (Love, 2004) that can be explored and understood in a variety of ways (Love, 2004). The head and body of the octopus represent the individual and *whānau* unit, the eyes of the octopus as *waiora* (total wellbeing for the individual and family), and each of the eight tentacles represents a specific dimension of *hauora* (Love, 2004). Traditionally, the concept of *waiora* refers to the purest form of water and thus is described by Pere as the essence and foundations of a healthy existence (Love, 2004). The interwoven tentacles of Te Wheke depict the close kinship ties between individuals and *whānau*. Love (2004) describes how each tentacle symbolises a specific dimension of Māori health that is applicable to both individuals and a group.

- *Wairuatanga* (spirituality)
- *Mana ake* (uniqueness of individual and *whānau*)
- *Mauri* (life force of the living)
- *Hā ā kui mā ā koro mā* (breath of life from ancestors or elders)
- Taha tinana (physical development and well-being)

- *Whānaungatanga* (relationships between individual and extended whānau)
- *Whātumanawa* (emotional wellbeing)
- *Hinengaro* (mental or psychological wellbeing)

Wai Puna Model

Wai Puna is a model of Māori water safety that emphasises the importance of Māori strengthening their connection to *wai* using the fundamental concepts of: *whakapapa* (strengthening connections to *wai*); *mātauranga* (Māori knowledge of *wai*); and *tikanga* (cultural practices in and around *wai*) (Phillips, 2018). It draws on *puna* or water springs, as rich sources of *mātauranga* Māori that inform water safety and *hauora* practices. This model has significant benefits for Māori health that connect to traditional beliefs and support well-informed existential practice (Phillips, 2018). To reduce Māori drowning rates and advance understandings of the cultural connections to water, Phillips (2018) insists that *mātauranga* and *whakapapa* should be emphasized in water safety education alongside *tikanga*. As previously mentioned, Wai Puna informs the current New Zealand Water Safety Sector Strategy 2020 -2025: Wai ora Aotearoa, Navigating to a safer future (WSNZ, 2021).

According to Brown et al. (2021), the Wai Puna approach has been instrumental within the water safety sector for re-envisioning Māori relationships with water from a cultural safety perspective. These relationships are primarliy strengthened through *whanaungatanga* and *wairua* connections to water based on mutual respect, spirtual awareness and reciprocity for the natural environment (Phillips, 2018). In addition, Water Safety New Zealand (WSNZ) has created a range of resources in *te reo* and English that support the Wai Puna approach to Māori water safety, promoting the message of Kia Maanu, Kia Ora (Stay Afloat, Stay Alive), and providing safety resources and information. These resources highlight a Māori worldview of water safety that can be enacted by schools and communities to strengthen their connection to *wai* as a way of sustaining their *hauora* (Phillips, 2018).

Te Whare Tapa Whā

There are several Māori models for health and education, but perhaps the most influential has been Sir Mason Durie's Te Whare Tapa Whā (Barton & Wilson, 2008; Durie, 1998). This model compares a person's *hauora* to the four walls or sides of a *wharenui* (meeting house); taha wairua (spiritual side), taha tinana (physical side), taha hinegaro

(mental side) and taha whānau (family side). Each dimension of *hauora* influences and supports the others and connects to the *whenua* to form a solid foundation (Durie, 1998).

Taha Tinana

Taha tinana focuses on bodily health and the physical growth of a person including the physical environment for enhancing physical activities and well-being (Durie, 1998). Physical activity promotes people's spiritual and mental health as well as their physical well-being. This includes how our body grows, feels, moves in water, and how we care, sustain, and learn about actions to keep ourselves safe and ensure physical wellbeing (Ministry of Education, 2007). A cultural emphasis on the physical values of water as a source of life brings to light the links between water and Māori health (Durie, 1998; Morgan 2006). In particular, the cultural considerations around *tapu* and *noa* that influence bodily health, hygiene, comfort, and safe participation in water related activities to ensure physical wellbeing (Durie, 1998).

Taha Whānau

Taha whānau recognises the importance of the extended family as the main support structure for providing care and support to an individual, not only physically but also emotionally and culturally (Durie,1998). This highlights the value of strong *whānau whanaungatanga* as a cornerstone for both good health and educational achievement. The fundamental perspective that taha whānau, *whanaungatanga*, and *whakapapa* relationships connect everything in a Māori world, demonstrates how these components are highly applicable to Māori aquatic pedagogies.

Taha Hinengaro

The taha hinengaro is about expressing your mind, emotions, thoughts, and feelings (Durie, 1998). Māori thinking can be described as holistic and influenced by profound connections with water and the natural environment. Water's physiological function and purity make it a basic requirement for survival with the unique capacity to cleanse the body mind, and soul (Durie, 1998). It is important to understand how water helps to sustain emotional and mental well-being in the context of aquatic health and education. These attributes of taha hinengaro are vital because they enable the capacity to communicate one's

feelings about water, including the ability to relate to others, control behaviour, and think critically about making informed decisions (Durie, 2001, 1998).

Taha Wairua

Taha wairua is often considered the most essential dimension of Māori holistic health and wellbeing (Durie, 1998; Wilson et al., 2021). Māori spirituality is said to hold *mauri* which enables spiritual connections between the human situation and the environment (Durie, 1998). For some, spiritual wellbeing is linked to religious beliefs, but for others it is more evident in their relationships with the spiritual realms (Durie, 1998; Metge, 1995). Fostering taha wairua is a key component of the New Zealand school curriculum's focus on developing each student's overall wellbeing (Ministry of Education, 2007). Te Whāriki (2017) states that *wairua* is "fundamental to holistic development because it connects the other dimensions across time and space"(p.19). Taha wairua is therefore a vital cornerstone of aquatic education because it integrates the learner's spirituality, cultural values, emotions, and behaviours with the physical aspects of water and a lived experience.

Whenua and wai

Whenua is the connection to land and the foundation for joining together all the other cornerstones of health within Te Whare Tapa Whā (i.e., *wairua*, *tinana*, *hinengaro*, *whānau*) (Durie, 1998). *Whenua*, like water, is a source of life, nourishment, belonging and identity for Māori as *tangata whenua*. Māori are inherently linked physically and spiritually to their lands and waterways through *whakapapa* connections to their *tūpuna* (Williams, 2004). *Wai* and *whenua* represent the fundamentals of aquatic education that merge all *ako* concepts towards the development of shared knowledge and cultural understandings.

Māori health models such as Te Wheke, Wai Puna, and Te Whare Tapa Whā emphasize the importance of balance across an individual's mental, social, physical, and spiritual dimensions for good health (McNeill, 2009; Wilson et al, 2021). Despite the variances in each model's approach, they all provide an understanding of Māori well-being that can inform culturally responsive forms of aquatic education. For instance, the dimensions of Te Wheke are characterised by concepts of ako and learning in Māori traditions (Pere, 1982). Within a Wai Puna approach, natural water environments have significant benefits for Māori health and water safety that connect to traditional beliefs that are applicable to Māori attitudes to water (Phillips, 2018). Likewise, Te Whare Tapa Whā promotes the integration of holistic thinking and the representation of all the cornerstones as being important

characteristics for health, vitality, and well-being (Durie, 1998). In addition, the New Zealand Health and Physical Education curriculum recognises Te Whare Tapa Whā as one of its four underlying concepts, thus highlighting its mainstream credibility within the education system (Ministry of Education, 2007). This may indicate that the best way to advance aquatic pedagogies for Māori is through a synthesis of several Māori health models that can cater for both traditional and contemporary contexts of learning.

Because Māori cultural perspectives on health and education are so multifaceted, applying these ideas to pedagogy calls for flexibility and understanding of Māori lives in modern society (McNeil, 2009; Durie, 1998). Therefore, Te Whare Tapa Whā is chosen as the main framework for this study due to its broad appeal and accepted representation of Māori perspectives (Durie, 1998), Te Wheke and Wai Puna are also referenced for their specific concepts related to Māori spirituality and *whānau* traditions of practice to guide aquatics learning.

Conclusion

The literature reviewed in this chapter emphasises the importance of incorporating Māori pedagogies and health perspectives into aquatic education, recognising the significance of ako, *whanaungatanga*, *wairuatanga*, *mātauranga* and *tikanga* Māori practices (Bishop et al, 2003; Pihama et al., 2004). For Māori, water teaches us many things, and incorporating these cultural perspectives and traditions into teaching practices can promote positive student learning experiences. The need for progressive transformation and integration of Māori knowledge and pedagogies is underpinned by a whānau collective response to learning which is crucial for the retention, transmission, and growth of a Māori exisitence. Teaching in this way allows Māori learners to develop and apply understandings of the physical, spiritual, and sociocultural factors that influence their safe participation in aquatic activities (Phillips, 2018). Given the education system has not always served the needs of Māori students, the argument for advancing culturally responsive pedagogies in aquatic education is valid. By accommodating the relevance of Western-centric methods and technologies that are culturally compatible, educators can enhance aquatic education and the learning aspirations of Māori students.

Through exploring pedagogy, the literature has identified a range of Māori teaching and learning concepts that are sensitive to the cultural learning differences of Māori students. These are all aspects of Te Whare Tapa Whā that portray the holistic nature of Māori student

learning. Overall, the literature suggests that encouraging culturally responsive forms of aquatic education that recognize peoples' cultural differences and preferred ways of learning can have positive benefits for all students (Brown et al., 2021; Ka'ai, 2004; Phillips, 2018).

The following chapter explains Kaupapa Māori methodology for conducting and gathering first-hand information relevant to this research. It is a method of inquiry that is grounded in Māori cultural procedures of research that are centred on Māori values and experiences. By utilizing this approach, this thesis aims to provide a more nuanced understanding of the core components of pedagogy that can enhance aquatic education for Māori.

Chapter III: Methodologies

Ehara taku toa i te toa takitahi, engari he toa takitini

This chapter presents a refined state of methodology using culturally relevant methods and principles that addressed the topic of this research. As Harding (1987) explains, the methodology is a theory and analysis of how the research will proceed, whilst the methods are the techniques for obtaining the data and information. Subsequently, this chapter sets out the various qualitative methods of research investigation including, Kaupapa Māori, Kaupapa Māori theory and praxis, autoethnography, *pūrākau*, and personal interviews. My reasoning to use a multi-method approach was grounded in the above *whakataukī* which refers to the importance of using collective strength to achieve one's goals and visions. It speaks of the identities, roles, and responsibilities for the individual and for the collective, often bound in subtle yet complex relationships of partnership and collaboration (Metge, 1995). As an individual – *he toa takitahi,* I contributed my own knowledge and understanding of being me, being Māori. My *whakapapa*, my personal experiences and actions, my education as a student and a teacher, my professional developments in the water safety sector, as well as my stories and realities as a father and *whānau* provider. Another understanding of the proverb suggests "I come not with my own strengths but bring with me the gifts, talents and strengths of my family, tribe and ancestors." (Ministry of Education, 2017, p. 12). In the context of this research, I played the role as an insider (Bishop, 2012; Smith, 2005), a main source of information for the inquiry as the researcher, the practitioner, the observer, the writer, the *whānau* supporter, the community group member, and believer in the resurgence of Māori pedagogies within aquatic education.

As a collective work, the *whakataukī* signified the value of communal effort and shared commonalities of the group, recognizing the contributions to this research from the research participants. This reflects the strength of the collective versus that of the individual, to support integration over isolation, inclusion above exclusion, and shared ideas as opposed to solitary thought. It is through the collective – *he toa takitini*, or strength in numbers, that this research was best carried out, a constructive and collaborative relationship enriched by Indigenous concepts and language (Cram, 1997). That is, the pulling together of relevant theories and praxis, both traditional and contemporary, to enhance my viewpoint of Māori

pedagogies and curricula that are related to aquatic education, and how research with Māori participants was respectively conducted (Pipi et al., 2004). Likewise, to inform my understandings and practices regarding the philosophical, ethical, and strategic issues that emerged within the research process. Each method of inquiry has proven strengths to support research facilitation and to evoke the desired information (Marshall & Rossman, 1999; Smith, 1999), to spark a shared consciousness and, to call to action a collective *waka* of exploration (Bishop & Glynn, 1999; Mahuika, 2009). Māori have always been (re)searchers of the universal unknown knowns, guided by navigational expertise and intrinsic connections with the natural environment, and have established a distinctive knowledge base known as Kaupapa Māori (Pihama, 2010).

This chapter describes a Kaupapa Māori approach to research and the ways in which Kaupapa Māori Theory and praxis shaped and informed this research. Smith (1999) argues these methodologies of research for Māori are "satisfying the need to know and the need to extend the boundaries of existing knowledge through a process of systematic inquiry." (p.172), that will ultimately resonate the Indigenous voices of past, present, and future generations.

Kaupapa Māori

Kaupapa Māori is a term rooted in old knowledge including Māori spiritualism and traditionalism dating back to ancient times (Penehira et al., 2003). It refers to the conceptualisation of Māori knowledge that has been developed through oral tradition and practice and the process by which the "Māori mind, receives, internalises, differentiates, formulates ideas and knowledge exclusively through te reo Māori" (Nepe, 1991, p. 15). Mika (2017) explains, "Kaupapa Māori must also be entertained as both conceptual and material as well (hence the notion of object/idea). Because we exist within Papatūānuku, she infiltrates everything we do, including thinking" (p.120). Mika's ideology is testament to the idea of how Māori think in a Māori way and view themselves in relation to each other, to their connections with nature, to different species and life forms (Ka'ai & Higgins, 2004). Kaupapa Māori has emerged in modern times as a contemporary expression of these distinct traditions, beliefs, experiences, understandings, and interactions of Māori people among ourselves, and with the wider world (Nepe, 1991; Pihama, 2001). Today, Kaupapa Māori is widely used by Māori and non-Māori groups across all sectors of Aotearoa New Zealand

society. For instance, Kaupapa Māori has become constitutive in a range of social policy and practice sites including, education, public health, law, agriculture, media, business, and as a preferred method of research (Hoskins & Jones, 2017).

According to Smith (2017), Kaupapa Māori comprises of the collective vision, aspirations, and purpose of Māori communities living a culturally informed life. Similarly, Taki (1996) positions Kaupapa Māori as a cultural expression derived from the networking of *iwi* knowledge systems and social relationships. Naturally, Kaupapa Māori has been a prominent influence in the context of Māori rejuvenation (Durie, 2017) and the revitalisation of the Māori language through the intervention of Kōhanga Reo (Hohepa, 1990; Ka'ai, 1990). Smith (1999) contends, the ways in which we communicate using Māori language provides an insight into the ways we interact in a Māori world and the ways in which we build and maintain relationships. Such an approach to knowledge creation, and culturally responsive methodologies, therefore, must relocate the power and integrity of research within the cultural space of *te reo*, *tikanga* and *mātauranga* Māori (Nepe, 1991; Smith, 2005; Pihama et al., 2015).

Durie (2017) insists that Kaupapa Māori within education "is about pedagogy – the way that people are taught and the practice of teaching" (p.3). Durie (2017) argues that positive developments for Māori have all, "made a similar point: achieving best outcomes for Māori across a range of endeavours needs to take account of a Māori worldview. Previously, that realisation had not been a widely accepted starting point" (p.2). However, it is difficult to comprehend Kaupapa Māori without also understanding *mātauranga* Māori and the various ways Māori engage in knowledge and learning (Pihama, 2001). In pedagogy, Mercier (2018) suggests, *mātauranga* also refers to *mōhiotanga* (know-how, common knowledge) and *māramatanga* (understanding) and is created by *whakapapa*. This provides a framework to synthesize Māori knowledge that is premised on a worldview and the concepts of *te ira atua* (deity genes) *te ira whenua* (land genes), and *te ira tangata* (human genes) (Taki, 1996). Therefore, in attempting to retrieve Indigenous space (Smith, 1999), Kaupapa Māori was essential to the development of this thesis and formed the foundations for the researcher to engage in research activities with Māori people and their communities.

Kaupapa Māori Theory and Praxis

Kaupapa Māori has also evolved as an educational and research discourse known as Kaupapa Māori theory and praxis. In this view, praxis interrogates theory: theory interrogates

praxis (Smith, 1999). This post-modern cultural approach to research has developed its own life as a legitimate and valid framework for creating knowledge out of the practices, value systems, and social relations that come with being Māori (Bishop & Glynn, 1999). The literature holds true the benefits of a Kaupapa Māori approach to research through collective purpose in the revitalisation of Māori cultural values, practises, and principles Pihama et al. (2015) clarifies that Kaupapa Māori research is a theoretical framework that ensures cultural integrity is maintained when analysing Māori issues and engaging with Māori people. It serves as a theoretical tool for critical analysis that is grounded in Māori values and beliefs. At its best, Kaupapa Māori is a safe pathway to advancing Māori beliefs and knowledge systems by Māori, with Māori, and exploring *te ao* Māori within the academic framework of qualitative research (Smith, 2012).

Smith (1997) theorises that Kaupapa Māori theory and praxis is based on four key themes;

1. Is related to being Māori.
2. Is connected to Māori philosophy and principles.
3. Takes for granted the validity and legitimacy of Māori, the importance of Māori language and culture; and
4. Is concerned with the struggle for autonomy over our own cultural well-being.

These themes contain and emphasise all the dimensions of conscientisation, resistance and transformative praxis to advance Māori cultural capital and learning outcomes within education and Kaupapa Māori schooling (Smith, 1997). In essence, this all derives from Kaupapa Māori and community interventions, such as Kōhanga Reo and Kura Kaupapa Māori, which are driven by *whānau*, *hapū*, and *iwi* Māori understandings (Pihama, 2001). The accomplishments and success of Māori students (and teachers) enrolled in Māori education and immersion schools have been highlighted in the recent Te Kura Huanui Report (Education Review Office, 2021). This is a far cry from being Māori involved in the dawn struggles of the Kōhanga Reo and Kura Kaupapa Māori movements in the flax roots era of the 1980s. Smith (1997) recalls, it was a time in history when Kaupapa Māori research surfaced as part of the wider resistance to colonisation within the academy and the need for Māori to theorise our struggles in the direction of Māori sovereignty and the revitalisation of Māori language, customs, and values. Smith (2005) informs us of an age of uncertainty when researching the native was predominantly defined through a scientific lens of westernised

theories, disciplines, and colonialism. In response to our history of exploitation, prejudices, misrepresentations, and misunderstandings from research involving indigenous peoples (Rigney, 1999; Smith, 2005), Kaupapa Māori theory and praxis has enabled the pursuit of positive transformative change for Māori communities in the wider framework of self–determination, decolonisation, social justice, and reciprocity (Bishop, 1996; Smith, 1997). As a tool for social change, Smith (2005) writes, Kaupapa Māori research.

> "Is a particular approach that sets out to make a positive difference for Māori, that incorporates a model of social change or transformation that privileges Māori knowledge and ways of being, that sees the engagement in theory as well as empirical research as a significant task, and that sets out a framework for organising, conducting and evaluating Māori research." (p. 90).

Kaupapa Māori represents a "local approach to critical theory" (Smith, 1999) supported by a cultural framework of indigenous epistemological constructions that help to make sense of the world and beyond. In this context, Kaupapa Māori is concerned with the critique and transformation of social inequality and cultural agendas (Pihama, 2010; Smith, 1997; Smith, 2012) across all sectors of society in Aotearoa. Thus, an analysis of Māori pedagogies within aquatic education needs to be both critical and constructive in nature. From a critical stance this research wanted to challenge Eurocentric research methodologies that perpetuate a colonial power imbalance and the marginalisation of Māori knowledge and learning pedagogies (Bishop & Glynn, 2003; Smith, 2005). A critical pedagogy that seeks to "locate class exploitation and economic oppression within social, political and economic infrastructure of capitalist social relations and production" (Grande, 2008, p.237). For example, in the eyes of Māori educators involved in water safety education, mainstream government and national body organisations are considered powerful but remote from Māori ways of knowing and cultural practice (Penetito, 2010; Phillips, 2018).

From a constructive perspective, the cultural agenda for this research was concerned with reclaiming and normalising *mātauranga* Māori within aquatic pedagogical practice, including Māori language and Māori ways of being (ontology). This research sought to construct a pedagogy that not only stresses cultural characteristics and behaviours of the teacher learner interactions and ways of learning, but also connects parent and community education of learners to the cultural, socio-political, and environmental traditions of community life (Grande, 2008). Therefore, the naming of Kaupapa Māori theory and praxis is

acknowledgement of the theoretical approach undertaken during this research (Pihama et al., 2015). What follows is a framework for this research that relates to the key principals of Kaupapa Māori transformative praxis.

Kaupapa Māori Principles of Change

Smith (2017) identified several principles of change that motivated Māori parents to opt out of mainstream education in favour of alternative Māori education sources like Te Kōhanga Reo and Kura Kaupapa Māori. These principles are;

1. Tino rangatiratanga - The principle of self-determination or relative autonomy.
2. Ngā taonga tuku iho - The principle of validating and legitimating cultural aspirations and identity.
3. Akoranga Māori -The principle of incorporating culturally preferred pedagogies.
4. Kia piki ake i ngā raru o te kainga – The principle of mediating socio-economic and home difficulties.
5. Whānau/whakawhanaungatanga – The principle of incorporating collective rather than individual cultural structures.
6. Kaupapa – The principle of a shared, collective vision and philosophy (pp. 86-88)

Each principle was used to guide my research processes, and to guide my understanding of what Māori pedagogy in and around water would resemble. This also helped ensure that my "theorising work is linked to tangible outcomes that are transformative" (Smith, 2017 p.79). Finally, these transformative actions not only challenge mainstream views but reconnect cultural ideologies that enable and support Māori pedagogy.

Tino rangatiratanga - self-determination

Tino rangatiratanga is a fundamental principle that literally means chiefly control, self-determination, and the right to determine one's own destiny on one's own terms. It acknowledges my right as being Māori to carry out this research and the associated research-based methodologies from a Māori worldview of privileged knowledge, traditions, beliefs, customs, and practices. The notion of self-determination has been integral to Māori schools including greater autonomy and administration of all things from curriculum to pedagogy

(Smith, 2017). For example, many Kōhanga Reo and Kura Kaupapa Māori are grounded in the philosophical curriculum bases of Te Whāriki and Te Aho Matua, each an expression of Māori values and beliefs in education that focuses on both the spiritual and physical aspects of a child's development and the commitment of Māori parents and teachers to make it all work. I considered the relationship between *tino rangatiratanga* and how Māori would shape and determine what they see as effective pedagogies for their own cultural well-being. I have also recognised the relationship that exists between Māori and water in the context of *tino rangatiratanga*. Bargh (2007) highlights Māori understandings of *tino rangatiratanga* with distinct references and rules that relate to the concepts of *mana whenua* (land rights)*, mana moana* (water rights)*, mana tangata* (human rights) and Te Tiriti o Waitangi. Hence, the Waitangi Tribunal found that Māori claimants rights to water (i.e., *mana moana*) were confirmed, guaranteed, and protected by Te Tiriti o Waitangi (Waitangi Tribunal, 2012).

Within health, Mason Durie (1998a) showed how *tino rangatiratanga* became part of the Māori health movement in the 1980s where health initiatives were claimed by Māori and developed in a Māori way (Pihama et al., 2004). *Iwi* Māori authorities introduced innovative approaches to health that connected to programmes for employment, education, cultural development, and *whānau* development (Durie, 1998b). This recognised that community-level activities and policies for national health have little impact when communities are not empowered to exercise actual leadership and establish local responses (Durie, 2001). As a public health problem, drowning and water related injury is a widespread social issue for Māori and requires improved cultural education and public health promotion initiatives to remedy the situation (WSNZ, 2020; Phillips, 2018; Pringle, 2016). As seen in the Kaupapa of Māori education and schools, when Māori make decisions for themselves, the buy-in and commitment by Māori communities to making the ideas work can be achieved (Smith, 2017). Therefore, interviews with Māori teachers, water safety practitioners, and parents, were sought for this research to gain insight into some of the issues and successes of aquatic education for Māori *whānau* at both community and national levels.

Ngā taonga tuku iho - cultural aspirations and identity

The term *taonga tuku iho* can denote treasures from the ancestors in a metaphorical sense. It is used to signify the cultural aspirations that Māori hold for their children with Māori language, Māori identity, Māori knowledge, Māori values and customs as being *Māori* – normal, valid, and automatically legit (Bishop, 2008; Pihama et al., 2004; Royal, 2012;

Smith, 2017). The concepts of *manaakitanga* (caring, hospitality), *kaitiakitanga* (guardianship) and *mana motuhake* (independence) are embodied in *taonga tuku iho* to guide the relationships and interaction patterns of being Māori (Bishop, 2008).

As a declaration of Māori heritage and cultural survival, *taonga tuku iho* has featured significantly in the revitalisation of *te reo* Māori. Pertinent here, is that when *te reo* Māori *me ōna tikanga* are regarded as valid and legitimate then Māori are in a better place to ensure cultural transmission, acquisition, and emancipation from being positioned as the other (Pihama, 2001). In these types of educational settings *taonga tuku iho* serves as a method of knowledge transmission, both tangible and intangible, across generations where Māori interests and cultural aspirations are well cared for with a strong commitment to success and transformative praxis (Smith, 2017; Pihama, 2001). This includes the deeply emotional and spiritual bonds that Māori have with their *taonga*, or treasures, which denote their dedication and commitment to Kaupapa Māori educational interventions (Smith, 2017).

Importantly, the concept of *taonga tuku iho* is a powerful expression for the value Māori place on water. As noted by the Waitangi Tribunal "lakes, rivers, and springs are taonga which are highly significant to Māori wellbeing and ways of life" (Durie et al., 2017). *He taonga te wai* (water is a treasure) is an expression that resonates strongly with Māori people and the principles of *mauri, tapu, noa, tikanga, manaakitanga* and *kaitiakitanga*. Such concepts are integral to how Māori relate to water and demonstrate the respect for the quality and power that water possesses (Douglas, 1984). For example, the vitality of water to heal and to "neutralise the dangerous aspects of tapu and so make people and things safe" (Mead 2003, p 66). As such, the principle of, *taonga tuku iho* guided my research because it teaches us to treasure the value and uniqueness of everyone (including their views) in the same way we value water.

Akoranga Māori -The principle of incorporating culturally preferred pedagogies

Akoranga Māori represents a fundamental principle for promoting Kaupapa Māori pedagogies in aquatic settings because it encourages Māori-specific methods of instruction and learning. Smith (2017) explains, teaching and learning contexts that are centred on Kaupapa Māori can effectively connect with the cultural backgrounds and socioeconomic conditions of Māori people. Evident among these educational practices are pedagogic forms of *ako* described by Metge (2015) as being typically Māori. For instance, learning by doing and observing, and use of *te reo* Māori within teaching and learning practices that are guided

by *tikanga* Māori. Smith (1997) offers that culturally preferred pedagogies derive from traditional concepts and values that emphasise the inter-relationship of teaching and learning as a reciprocal process. As such, Bishop (2008) emphasises *ako* as a reciprocal learning process that is not always led by the teacher, but rather the teacher can create a learning environment of learning relationships and interactions whereby student knowledge is valued by all. Essential in *ako* is that "culture counts – knowing, respecting and valuing who students are, where they come from and building on what they bring with them" (Ministry of Education, 2008). The ability of Māori to determine their own preferred pedagogies is crucial considering Māori underachievement in schooling. A key aspect of this research was to identify Māori pedagogies that promote educational relationships, *ākonga* (student) between *kaiako* (teacher/parent) and *tauira* (student), and between *whānau* (Sleeter, 2011) in the context of aquatic education. Therefore, several *kaiako* and parents who agreed to participate in this research revealed through interview discussions their beliefs, experiences, and opinions of aquatic education utilising Māori pedagogies. This research raised questions about some of the restrictions to learning in this way for their own *whānau* and communities where accessibility and socioeconomic circumstances may be apparent.

Kia piki ake i ngā raru o te kainga – mediating socio-economic and home difficulties

Smith (2017) acknowledges the notion of Kura Kaupapa Māori as being a strong and powerful force "through its emotional and spiritual elements that commits Māori communities to view schooling as a positive experience, despite other social and economic impediments" (p.87). Bishop and Glynn (2003) also recognise the benefits of Kura Kaupapa Māori for reaching into the homes of Māori and including the parents in the education of their children. The parents view schooling as a positive experience for their children and feel empowered to support and promote the *kaupapa* despite perhaps their own negative schooling experiences. Literature suggests when the collective responsibility of the parents, *whānau* and Māori community feature alongside the learner's experiences, children achieve better at school (Durie, 2001).

This research acknowledged the issue of the socio-economic disparities and pressures that impact on Māori homes, *whānau*, and their children's education (Pihama et al., 2004). A key part of Māori pedagogies in aquatic education is the positive influences that flow back into the community from learning core water survival skills at school. Especially so in a schooling community where *whānau* can contribute and so take on the responsibilities to

assist meaningfully (Smith, 2017) in the aquatic education of their children. However, the evidence shows that many schools struggle to not only provide aquatic education but do not have the appropriate resources to carry out aquatic programmes, hence parents and *whānau* must also contribute to costs (Stevens, 2016). Within this research the socio-economic pressures that impact on schools and *whānau* to provide aquatic education for their children has been examined. The literature review, discussions with research participants, and my own reflections as a teacher, *whānau* member and Māori water safety practitioner, has informed this research and a model of pedagogy that is tied closely to the "collective cultural structures of the whānau" (Smith, 2017, p.87).

Whānau/whakawhanaungatanga – collective cultural structures

The principle of *whānau* and the cultural relationships that are expressed through *whanaungatanga* are seen as being central to any Kaupapa Māori project (Smith, 2017). The concept of *whānau* is a primary concept (a cultural preference) that contains both values (cultural aspirations) and social processes (cultural practices), where shared support structures are needed to reduce and mitigate social and economic challenges (Bishop, 2008). The *whānau* can be a particularly unique medium for the development, implementation, analysis, and dissemination of Kaupapa Māori research. In this research process, *whanaungatanga* pulled together the researcher and the research participants as collaborative research partners, or research *whānau* (Bishop, 1996).

Whanaungatanga is a fundamental process of Māori pedagogy and the passing on of treasured knowledge and skills (Metge, 2015; Pere, 1982; Pihama et al., 2004). Parents and *kaumatua* (elders, grandparents) are frequently seen as the teachers of knowledge relevant to the collective good with levels of knowledge that provide useful notions for exploring Kaupapa Māori research (Mead, 1996). For example, the notions of *mātauranga*, *wānanga* (to discuss), *mōhiotanga*, and *māramatanga* are all terms for different ways of knowing (Mead, 1996). In this way, the *whānau* is culturally contracted to support the education of all the children in the *whānau* which has been a significant outcome of Kura Kaupapa Māori education (Smith, 2017). For this research, several of the research participants discussed their experiences of *whānau* development pertaining to water safety knowledge and skills through *wānanga* participation. In addition, two other participants shared their teaching experiences and observations of swimming lessons with their *tamariki* from two local Kōhanga Reo in Whaingaroa and Kirikiriroa. These participants offered valuable insight and feedback on

child development and *whānau* commitment to aquatic education for *tamariki*. For instance, *whānau* organised the support and supervision of *tamariki* at pool facilities and helped with transport. This research acknowledges the powerful force and commitment of Māori adults and parents as a critical element for positive transformation in Māori health and education (Smith, 2017).

Kaupapa – shared collective vision and philosophy

The principle of *kaupapa* comprises the collective vision and purpose of Māori *whānau* and communities, whereby learning represents the support and commitment of the *whānau* group or collective in connecting with Māori aspirations, politically, socially, economically, and culturally (Smith, 2017). The development and success of Te Kōhanga Reo and Kura Kaupapa for Māori in education derive from *kaupapa* visions of excellence instigated and defined by Māori people. In this context, *kaiako* embody a collective vision that weaves together Kaupapa Māori principles and strands, in collaboration with children, parents, *whānau* and communities, to create a local curriculum or *whāriki* as a "mat for all to stand on'" (Ministry of Education, 2017, p.10). In the same way, Te Aho Matua philosophy "lays down the principles by which Kura Kaupapa Māori identify themselves as a unified group committed to a unique schooling system which they regard as being vital to the education of their children" (New Zealand Gazette, 2008, p.740). A wider indicator of Māori achievement and excellence in Kura Kaupapa Māori education has been the expansion of collective relationships between the home and the *kura* (school). Thus, such powerful interventions paint a picture of what's possible for Māori learners when educators draw from an alternative culture than that previously dominant (Bishop, 2008; Smith, 2017). Nevertheless, Kaupapa Māori also considers Pākeha culture, and the abilities Māori children need to fully participate in Aotearoa New Zealand society.

Moving towards a refined state of methodology (*Te Kaunekehanga*) I embody the term Kaupapa Māori as a metaphor for this research. As the researcher, the quest for sets of "knowledge-creating actions and practices of knowledge inquiry" (Royal, 2017, p.110) for Māori transformational ideals are guided by the Kaupapa Māori principles of change to ground this research (Smith, 2017). In addition, all the research participants have first-hand knowledge and experience (as a student, teacher, and parent) of Kaupapa Māori education and working towards a shared vision of positive transformational outcomes.

Research Methods

A qualitative research approach was used to fulfil the requirements of this research. There is limited research on the effectiveness of Māori pedagogies within aquatic education, however, qualitative research provided various research methods such as auto-ethnography, face to face interviews, and discourse analysis to acknowledge these views and beliefs (Ritchie, 2003). Qualitative methods allowed the researcher to collect and collate detailed information whilst still being able to acknowledge its context and meaning (Denzin & Lincoln, 2000). These methods align with many of the concepts and principles that are valued in Kaupapa Māori research. Moreover, they made it possible for the researcher to describe, interpret, and contextualise the value of Māori pedagogies in the context of aquatic education.

The methods used for gathering the data and information for this research were a literature review, pūrākau as interviews, observational and personal knowledge, as well as experiences. Understanding and applying the connection between Kaupapa Māori theory and research is intrinsic to ensuring that the methods for accessing information align with an accurate representation of theories that validate and legitimise Māori knowledge (Pihama, 2010; Bishop, 2008). These methods of qualitative research reflect an ethnographic approach to research. Ethnography as defined by Fetterman (1989) as "the art and science of describing a group or culture" (p. 11). Ethnography places an emphasis on exploring the nature of particular social phenomena working primarily with unstructured data and often investigating in depth a small number of cases (Marshall & Rossman, 1995). This can be accomplished by conducting key person interviews, evaluating specific documents and data, observing behaviour, analysing literature, and collecting field notes. A natural extension of ethnography is auto-ethnography (Ellis & Bochner, 2000).

Autoethnography

Autoethnography was used to connect personal experience of the researcher and the participants' lived stories to wider cultural, social, and political meanings and understandings. As an approach to research and writing, autoethnography seeks to describe and systematically analyse (graphy) personal life experiences (auto) as a way of understanding cultural experience (ethno) (Ellis, 2004). A Māori perspective relates autoethnography to personal experiences that are intimately connected to our physical, social, and spiritual realms enable us to harvest thick descriptions (Geertz, 1973) of alternative truths and multiple realities. This allows the researcher to incorporate personal accounts in their research by using cultural

reflexivity to "bend back on self and look more deeply at self-other interactions" (Ellis & Bochner, 2000, p.740). My aspirations to continue learning from my life experiences—which include more than 20 years of teaching and employment in the fields of education, water safety, and drowning prevention—is what motivated me to undertake this research.

As a self-employed consultant and practitioner, I have worked extensively to advance aquatic education and water safety programmes for Māori communities. With a strong background in competitive swimming, learn to swim and pool/beach lifeguarding, my career expands over several decades including the initial development and management of the *'Kia Maanu, Kia Ora'* national Māori water safety strategy under Water Safety New Zealand. A key outcome of the Māori water safety strategy was a notable increase in the implementation of water safety research and resources tailored to Māori needs. My role also included providing professional development opportunities for kaiako (teachers) and Māori community groups using the cultural approach of 'kanohi ki te kanohi' engagement to foster relationships between local government, iwi authorities, sector organizations, kōhanga reo, kura kaupapa, and whānau Māori communities. Indeed, autoethnography gives Māori researchers a voice to explore their own culture and realities, one that they feel a connection to and a need to research in order to address concerns of social justice and Māori educational development (Whitinui, 2014).

Pūrākau as Interviews

Pūrākau as a narrative form have always been integral to Māori society as a traditional system of intergenerational knowledge transmission (Lee, 2009). The Māori culture is grounded in oral traditions, hence the primary approach chosen to gather data for this research was through qualitative semi-structured interviews. Lee (2005) describes *pūrākau* as forms of Māori narrative that stem from oral traditions, "stories that represent the experiences, knowledge and teachings that form the pū (base) from which the rākau (tree) need in order to grow, or even survive" (Lee, 2005, pp. 7-8). Like life histories, *pūrākau* represent the diversities of truth in a culturally appropriate way, through the language, signs, symbols, and tribal sayings that bring to life a meaningful expression of feeling and identity based on the historically and culturally situated individual (Lee, 2009). Typically, in-depth interviews are much more like conservations that are co-constructed rather than formal meetings with predetermined responses and comments (Marshall & Rossman, 1995). Therefore, this thesis

privileges *pūrākau* as an appropriate Māori worldview method to understand the nuances of Māori pedagogies and the relative stories and experiences of the research participants.

As mentioned previously, principles of a Kaupapa Māori approach to this research were followed for interviewing the participants such as *kanohi ki te kanohi* (face to face) (Smith, 2005), which is consistent with the Kaupapa Māori principles outlined in the literature (Mead, 1996; Pihama 2001; Smith, 1999). *Tikanga* practises of *manaakitanga* and *whanaungatanga* were drawn upon to help relate to the participants and share my own experiences during the conversations. It established a caring relationship between the researcher and the participants based on trust and sensitivity. This form of inquiry helped to examine research questions in depth through exploratory, open-ended conversations that prioritised a Māori understanding of aquatic pedagogies that are situated in a lived experience.

Research Participants

A total of eight participants were initially invited to participate in the interview component of this research project. However, due to Covid-19 restraints during the interview phase of this project, a total of five research participants took part in this research. All participants were of Māori ancestry and comprised both *tāne* (male) and *wāhine* (female) aged between 35-60 years. Participants were recruited through my own personal, academic, community and or professional networks which represented a cross section of a *whānau* or Māori community comprising wide-ranging experiences, knowledge, and practices in and around water. All the participants were well versed in *te reo* Māori *me ōna tikanga*, and all are either parents or grandparents of children schooled through Kōhanga Reo and Kura Kaupapa Māori education. The life experiences within Māori education for the participants and their respective *whānau* has provided in-depth knowledge of Māori teaching and learning methods. For privacy reasons, some of the participants chose not to be named in this research. Therefore, all the participants' names have been changed to pseudonyms to protect their identities.

Participant One: Pare

Pare is of Waikato Tainui descent and was raised in Whaingaroa/Raglan where she grew up next to the moana for most of her life. Pare is a graduate of the Te Ataarangi reo Māori programme and holds a tertiary qualification in early childhood education. Pare has spent most of her teaching years as a *kaiako* at Whaingaroa Kōhanga Reo where she still

works today. Pare provided a deep insight into growing up in a costal community such as Raglan and her local whānau knowledge of the ocean and west coast waterways.

Participant Two: Maia

Maia was raised also in Whaingaroa and is from Ngati Maniapoto and Taranaki *iwi*. She spent much of her early years in and around the *moana* but moved into Hamilton for her secondary and tertiary years of education. Maia holds an early childhood and primary teaching degree and works as a senior *kaiako* within a Hamilton based Puna Reo. Maia participated in a previous 'Akona te kauhoe' (learn to swim) project that I facilitated for *tamariki* and *whānau* from her Puna Reo. She provided realistic viewpoints on how limited access to swim instruction and aquatic education affects tamariki and whānau who live in cities.

Participant Three – Anahera

Anahera is of Waikato Tainui descent and grew up mostly within the small rural town of Mangakino. She has experience in midwifery and has worked in a variety of teaching roles including as a *kaiako* in several Kōhanga Reo. Anahera actively encourages and teaches *tamariki* in her local community and kōhanga reo to participate in water related activities. Having grown up mainly swimming in lakes and rivers, Anahera shared her experiences and understandings of also teaching and learning with tamariki and whānau in around the sea.

Participant Four - Tame

Tame is of Ngāti Raukawa descent and is a scholar, lecturer, and language consultant of *te reo* Māori. He is one of the original graduates of the Te Tohu Paetahi Māori language immersion programme at Waikato University and thus provided in-depth knowledge of *te reo* and *mātauranga* Māori. Tame is an avid scuba diver and fisherman and enjoys all forms aquatic recreation alongside his *whānau* and *tamariki*.

Participant Five - Maka

Maka is of Ngāti Hourua, Ngāti Te Wehi *hapū* from the regions of Whaingaroa and Aotea. He is also a graduate of the Te Ataarangi reo Māori programme and has worked in a variety of roles as a Māori cultural advisor. Maka has represented Aotearoa New Zealand in surfing and these days spends much of his free time teaching Māori *rangatahi* (youth) surfing and water safety skills.

Thematic Analysis

A thematic analysis of the interviews was adopted to analyse the research data and identify common themes, ideas, and ongoing patterns of interest. Thematic analysis allows for flexibility and is useful in providing in depth data (Braun & Clark, 2006) when using mixed method approaches to qualitative research. Therefore, thematic analysis was used to identify and report on the recurrent patterns within the transcripts (Braun & Clarke, 2006). For this research I followed a six-step approach of thematic analysis to analyse the data as described by Braun and Clarke (2006):

1. Become familiar with the data – read transcripts several times and took notes.
2. Generate initial codes – created an Xcel sheet to systematically organise the data.
3. Search for themes –themes are identified and relate to the research question.
4. Review themes –the themes are coherent and relevant to the data and research.
5. Define themes – the essence of each theme is defined and relates to other themes.
6. Write up – the themes inform the findings and discussion of this research.

The sixth step of thematic analysis served as a final opportunity to analyse and review the transcripts and ensure that each theme was in fact appropriate and accurately represented the extracts of the data collected (Braun & Clarke, 2006). The Whare Tapa Whā model served as the main framework to locate the pedagogical themes within the cornerstones of health and education (Durie, 1998). These are discussed in the next chapter.

Tikanga - Research Ethics

Mead (2003) refers to *tīkanga* as a form of Māori ethics that involve obligations and criterion, which guide various proceedings. Accordingly, ethical research issues have become increasingly significant for Kaupapa Māori research processes which extend beyond issues of individual consent and confidentiality (Mead, 1996). Ethical approval for this research was granted from the University of Waikato Human Ethics Committee prior to beginning this research (see Appendix A). The research participants were given the information sheet (See Appendix B) and consent form (see Appendix C) before the interviews and allocated time to read over the forms and get familiar with the research topic. Applying these ethical processes navigated the research procedure and ensured that both the research participants and the researcher were valued and protected. While Kaupapa Māori principles shaped and framed the whole research, special care was taken in the instances of *kanohi ki te kanohi* meetings

and engagements with the research participants. This thesis followed a Kaupapa Māori approach outlined by Smith (2005):

1. *Aroha ki te tangata* - showed respect for people and allowed the participants to define their own space and meet on their own terms.

 2. *Kanohi kitea* - acknowledged the importance of meeting people face to face and 'fronting up' to the community before the research took place.

3. *Titiro, whakarongo ...korero* - valued the importance of looking, observing and listening to the participants to develop understandings for informed responses.

4. *Manaaki ki te tangata* - offered sharing, hosting people, being generous and strengthening relationships. These values underpinned a collective approach to the research that enabled knowledge to flow both ways and facilitated a process of 'giving back' and sharing outcomes. Research participants were offered a koha for their time and contribution to the research project.

5. Kia tupato - demonstrated caution, cultural safety, and the need to be politically astute and reflective as a researcher. Being aware of unseen circumstances and mindful of the impacts that can affect community research. For example, tangihanga (funeral) and Covid 19.

6. *Kaua e takahia te mana o te tangata* – was always conscious of not trampling on the 'mana' and dignity of the person. Made sure to keep participants informed and guarded against being patronising or impatient because participants did not know about things. Tikanga Māori was adhered to and closely observed, particularly in homebased settings.

7. *Kaua e mahaki* - was careful not to flaunt knowledge, but instead share the knowledge and skills with a focus on empowering Māori people and building capability within the community.

By incorporating *tikanga* into this Kaupapa Māori research process, the researcher not only conducted research that is culturally appropriate and relevant, but research that meets the ethical requirements of Waikato University.

Trustworthiness

In qualitative research, it is possible to get a lot of knowledge from the experiences and narratives of others. However, the level of trust placed in the story's telling is strongly

correlated with the notion of trustworthiness. Any form of research has the potential to have errors and biases. Certain research techniques that researchers use to help ensure credibility in their research, findings, and recommendations. To help control and address these issues, trustworthiness methods are adopted. Lincoln and Guba (1986) refer to four components of trustworthiness. These are credibility, transferability, dependability, and confirmability which are used as quality control criteria (Priest, 1999) in qualitative research.

The credibility concept refers to how confident the researcher is in the integrity of the research and whether the results of the research can be interpreted, and offer a congruent description of reality (Priest, 1999). Through the method of triangulation (myself, supervisors, research participants), drawing on several sources of information including personal knowledge, Māori concepts, relevant literature, and the knowledge from face-to-face interviews, repeatedly formed recognisable themes and patterns. Research participants were also given a copy of the informant interviews to seek their feedback on the accuracy of the interview discussions and to confirm that the interview transcripts were true and correct.

Lincoln and Guba (1985) added transferability as a further indicator of trustworthiness. This concept refers to whether the research findings may be applied to or transferred to other settings and contexts (Priest, 1999). In fact, qualitative research, like most forms of research, seeks to increase understandings that may be applicable under a different set of conditions because, without doing so, the original research's influence will be somewhat limited (Denzin & Lincoln, 2011). Therefore, thick descriptions must be provided by the researcher so that people attempting to apply the findings to their own research can determine transferability (Lincoln & Guba, 1985). By representing health and education from a Māori perspective through the Whare Tapa Whā model (Durie, 1985), Māori concepts within this framework such as *wairua* and *whānau*, can be extended to other culturally relevant contexts.

In terms of dependability, readers are better equipped to assess the reliability of the research when they can see how the research was conducted (Lincoln & Guba, 1985). This is achieved when researchers can ensure the research process is logical, traceable, and clearly documented (Tobin & Begley, 2004). To resolve the issue of dependability, the researcher was raised in *whānau*-centred Māori surroundings, is fluent in *te reo* Māori, and has extensive qualifications and experience in teaching aquatic programmes within Kaupapa Māori education and Māori communities. Further academic assistance from supervisors and

whānau members, as well as Kaupapa Māori theory also improved the researcher's comprehension and interpretation of the literature and research findings.

Lincoln and Guba (1985) contend that credibility, transferability, and dependability are all attained when confirmability is established. Confirmability is concerned with proving that the researcher's conclusions and findings were clearly drawn from the data, requiring the researcher to provide evidence of how those conclusions and interpretations have been reached (Tobin & Begley, 2004). This concept also refers to the extent to which the inquiry and research is unbiased (Priest, 1999). Given that the researchers' experience and knowledge are an essential part of this research, there were some clear personal perceptions and interpretations for the proposed research procedure. However, such biases were lessened by addressing the issues with dependability and creditability.

Scope

Essentially, the scope of this research was focused on two key groups. Firstly, this research intended to directly benefit Māori aquatics educators. Secondly it is indirectly applicable to all Māori as the purpose of this research was to construct pedagogical insight that can be useful for Māori who wish to learn about and participate in aquatic activities. This research seeks to add value to both aquatic education and drowning prevention strategies that can be integrated throughout the wider community for Māori and all people. It has explored the concepts and values of Māori pedagogies that are relevant to aquatic education through the lived experiences of the Māori participants. These concepts and values are widely used within Māori society, thus relatable and achievable for many Māori.

Conclusion

This chapter provided an outline of my methodological frameworks, including Kaupapa Māori theory and the principles of change that enable and support Māori pedagogy. The use of autoethnography, interviews as *pūrākau*, and *tikanga* as ethics ensured that the data was gathered in a culturally relevant manner. The next chapter describes the main findings from the interviews, including sub-themes, and provides context by drawing on the literature and *mātauranga* Māori.

Chapter IV: Findings and Discussion

Whaohia te kete mātauranga

This *whakataukī* tells us of the importance of learning and education, fill the basket of knowledge, wherein the food of knowledge fosters *wānanga* and shared conservations with people. In the interview discussions with the participants, several themes emerged which relate to Māori pedagogy within aquatic education and align with the literature. The following chapter groups the themes within the cornerstones of Te Whare Tapa Whā (Durie, 1998). Table 2 below demonstrates these groupings.

Table 2: Pedagogical Themes of Te Whare Tapa Whā

Taha Wai/Whenua	Taha Wairua	Taha Whānau	Taha Hinengaro	Taha Tinana
Whakapapa Taonga Tuku Iho	Wairuatanga Mauri Tapu Mana	Whānau Pedagogies Whanaungatanga Manaakitanga Kaitakitanga Tuakana/Teina Wānanga	Waiora Te Reo Māori Pūrākau	Tikanga Tohutohu Pūkenga wai Haumaru wai

It is important to note that some of the participants used *te reo* Māori during the interviews as the preferred means of communication. This was to ensure accurate transmission of Māori knowledge, philosophies, and cultural practices (Ka'ai & Higgins, 2004). English translations are provided in these instances.

Taha Whenua/Wai

Whenua and water are representations of Māori people as *tangata whenua* and *tangata wai* (people of the land and the waters) of Aotearoa (Bargh, 2007). *Whenua* is the Māori term for land, but *whenua* also means placenta. In Māori custom, the placenta is often buried in the earth after a child is born at a place of importance to the *whānau* representing the strong interrelations between Māori people and land (Williams, 2004).

When a child is born, the water emerges first, then the *whenua* and finally the child. The personification of Papatūānuku represents the natural environments of land and water that

sustain people physically, emotionally, spiritually, and socially, much like the maternal bond between mother and child (Afoa & Brockbank, 2019). Indeed, it is through the land and waterways that Māori people are closely connected to their *tūpuna* (Williams 2004), which provides opportunities for teachers to reinforce and expand on these relationships. *Wai* is a place of belonging for Māori, and like *whenua*, it is the foundation for joining together all the other cornerstones, of health within Te Whare Tapa Whā (i.e., *wairua, tinana, hinengaro, whānau*) (Durie, 1998). These connections are most often determined by the whakapapa relationships Māori hold physically and spiritually, to the land, to water, with nature, and everything else (Williams, 2004).

Whakapapa

> *"Ko Ohau te awa, ko Ngāti Raukawa te iwi." (Tame)*

> *"Ko Opotoru, ko Pakopa ngā awa ko Karioi te maunga." (Maka)*

> *"Ko Mangapiko te awa, Ko Tainui te waka." (Anahera)*

> *"Ko Waipa tōku awa, he uri au nō Ngāti Maniapoto me Taranaki." (Maia)*

Each participant affirmed their tribal identity and kinship associations with water through their *whakapapa* affiliations. *Pepeha* or tribal sayings reflect the special value associated to ancestral waterways that retain the identity of Māori origins and tribal histories handed down from past generations (Mead & Grove, 2001). For Pare, the relationship between water and identity was expressed as a statement, '*Ko wai au!*' (I am water). This consists of both the spiritual and physical aspects that determine one's identity as Māori.

> *"Ko wai au i te taha tinana, ko wai au i te taha wairua...I am nō ngā hau e*
> *whā, nō tāku whakapapa, I am my whakapapa, I am my maunga, I am my*
> *wai, I am the wai of roimata." (Pare)*

> *(I am water both physically and spiritually, I'm from the four winds, from*
> *all sources of my whakapapa, I am my whakapapa, I am my mountain, I*
> *am my waters, I am the wai of roimata.)*

The comment reflects the value of *whakapapa* to embrace how Māori see themselves in relation to water and trace one's identity back to the creation of the universe and to atua Māori (Mead, 1996). For example, *'I am the wai of roimata'* is in reference to the tears of Ranginui, and the pureness of *waiora*, (water in its most pristine form), to nourish and sustain the life forms of Papatūānuku. Through *whakapapa* links to present generations, Māori regard *atua* as ancestors of ongoing influence over the natural domains of water (Williams, 2004). For Tame, all *atua* Māori that are in reference to water descend from Tangaroa.

> *"Ahau nei ko ngā atua katoa e pā ana ki te wai he uri nō Tangaroa, ko ērā*
> *atua katoa he uri nō Tangaroa, ko te pū ko Tangaroa tonu…Āe ngā mea*
> *katoa o te wai ka hoki ki a Tangaroa. Ā, tērā anō te whakaaro ko*
> *Ranginui, heke mai te wai i a Ranginui, tērā tērā whakaaro." (Tame)*

> *(For me, all the gods that are related to water are a descendent of*
> *Tangaroa. All those gods are descendants of Tangaroa, Tangaroa is the*
> *origin. Yes, all things relating to water goes back to Tangaroa. There is*
> *also the notion of Ranginui, that all water comes down from Ranginui,*
> *that too is another concept.)*

Tangaroa is a major part of a Māori worldview as the ocean has played a significant role in the cultural heritage of Māori and forms a central aspect of our identity and cultural practices that have significant impacts to Māori quality of life (Royal, 2010). When one looks out to where the ocean connects with the estuaries and rivers that is the point where Tangaroa (water) and Tāne (human) come together (Douglas, 1984). Additionally, Maia spoke about personifications of water as female *atua*. For example,

> *"Ko Wainui, ko Hinemoana mō ngā moana, ko Hinepūkohurangi, mō ngā*
> *awa me ngā puna wai, aa, ko Parawhenuamea te atua o ngā wai whenua*
> *me ngā waipuke." (Maia)*

> *(Wainui and Hinemoana, are the oceans, Hinepūkohurangi relates to the*
> *mist, to rivers and springs and Parawhenuamea represents the earth*
> *waters and floods.)*

Whakapapa makes connections to water that are a way of learning, a way of thinking and confirming one's place within tribal landscapes (e.g, *maunga*, *awa*), and, to *whānau* and *iwi* membership (Williams, 2004). It serves as a map of pedagogical pathways and

understandings that locates the learner, like water, at the end of a family tree descended from the sky father and the earth mother (Ka'ai & Higgins, 2004; Pihama et al., 2004). Maia uses *whakapapa* in her teachings as a grand narrative of storytelling that depicts ancestral voyaging, ocean discovery, and the historical events of Māori people (Hemara, 2011). For instance,

> *"We connect to the water through our whakapapa stories, learning the journeys our tupuna took voyaging the oceans. Our tupuna settled around water, moana, awa, roto, puna, all these being a life source that reflects our cultural heritage and sense of belonging to our waterways." (Maia)*

Whakapapa as curricula covers everything from discovery, history, identity, cultural heritage, and codes of behaviour that Māori demonstrate with their natural and social environments (Hemara, 2011). For example, scientific inquiry into the origins of water and the water cycle can draw on the separation narrative of Ranginui and Papatūānuku as described by Pare.

> *"Nō whea te wai? Nō ngā rangi tūhāhā heke mai, te puna, te punawai, hekemai ki a tātou. Mai Ranginui mai ōna roimata ka pā mai ki a tātou. Ara nā te werawera o Tama-nui-te rā, ka hoki atu te wai anō ki ngā rangi tūhāhā ka huri haere...he tūmomo water cycle." (Pare)*

> *(Where is water from? Water descends from the separated heavens to our pools and water springs on earth. The tears of Ranginui touch us all. And from the heating effects of Tama- nui-te-rā, water is again returned to the spaced heavens, a revolution…a kind of water cycle.)*

The comment suggests *whakapapa* is central to Māori aquatic pedagogies because it informs teaching practice by establishing direct connections to the natural environment (e.g Tangaroa), to *tūpuna* (*whānau* and *iwi*), and to specific places and events (waterways and journeys), all vital in guiding the reproduction and transmission of Māori knowledge (Hemara, 2000; Nepe, 1991). It enables teachers and students to share understandings, allowing for the development of strong, culturally responsive relationships that can generate positive outcomes (Hemara, 2011). Teachers who possess such treasured knowledge are tasked with the role and responsibility of not only preserving that knowldge but also enriching it with their own learnings for others (Metge, 2015). In this way, all aspects of teaching can be interconnected by the *whakapapa* of water, which offers significance in terms

of *tikanga* Māori and the application of Māori pedagogies to interact with water on a physical and spiritual level.

Taonga tuku iho

The term *taonga tuku iho* refers to the cultural treasures and aspirations of Māori ancestors that are passed on from generation to generation (Pihama, 2001). These *taonga tuku iho* can vary from the tangible to the intangible treasures of cultural heritage. For example, the Waitangi Tribunal recognizes lakes, rivers, and springs are *taonga* which are highly significant to Māori wellbeing and ways of life (Durie et al., 2017). For the participants, water is a *taonga tuku iho* bestowed from *atua*, and all things relating to water are integral to the essence of being Māori.

> *"Ko ngā roimata o Rangi, ko tōna hoa ko Papatūanuku…Nō ngā atua*
> *anō…te taonga tuku mai ki a ngāi taua tā tātou. Ko Ranginui e tū nei, nā*
> *ko Tangaroa, ko Hinemoana ērā atua o te wai...nō rātou te wai."* (Maka)

> *(So, the tears of the sky father and in his wife, the earth mother…It is*
> *from atua that the treasure of water has been passed on to us both.*
> *Ranginui above, Tangaroa and Hinemona are the gods of water, water*
> *originates from them)*

> *"Wai is a valued resource that Māori treasure. He taonga tuku iho, we are*
> *passing on our learnings. The water is a living entity, that is the wairua ō*
> *Hinemoana me Tangaroa."* (Maia)

The comments reflect the belief that learning about *wai* as a living entity, *he taonga tuku iho*, represents the ancestral treasures, knowledge, values, and beliefs that our *tupuna* have held important for the survival and reproduction of future generations (Pihama, 2001). It is through the principle of *taonga tuku iho* that the cultural aspirations and identity of Māori people are considered normal, valid, and legitimate (Smith, 2017). In essence, *taonga tuku iho* is a powerful component of pedagogy that recognises the value Māori people place on water and the related knowledge systems.

In summary, the participants remarks are testament to how Māori people identify themselves with water and all that exists in the world. This is done through *whakapapa*, a genealogical blueprint for how Māori view their relationships and kinship ties to each other,

to atua Māori and the natural world, to different species, life forms and unknowns (Ka'ai & Higgins, 2004). *Whakapapa* as a curricula tool for understanding human connections to water locates the learner within a cultural spectrum of codes and classifications that explain how the spiritual world transforms itself into the natural world (Hemara, 2011). These values and beliefs form prominent qualities of aquatic education for Māori because they are grounded in the foundations of *wai* and *whenua*, both essential for the existence of all the other cornerstones of Te Whare Tapa Whā. The *whakapapa* relationships Māori hold physically and spiritually, to the land, to water, with nature, and everything else are a core aspect component of Māori pedagogies.

Taha Wairua

The taha wairua cornerstone of Te Whare Tapa Whā is often considered the most essential element of Māori health (Durie, 1998). This section of interview findings looks at taha wairua and the importance of spirituality towards Māori students' healthy learning and development within aquatic education. More than a physical connection to the water, it is essential to understand the spiritual association Māori have with water as well. Te Whāriki curriculum envisions tamariki as capable and self-assured learners, "healthy in mind, body, and spirit" (Ministry of Education, 2017, p.5). Because the spiritual and physical dimensions of a Māori world are intertwined, the spiritual connections to water that Māori have are a key factor to learning.

Wairuatanga

Māori consider water to be the foundation of all life which is reflected through te taha wairua. The term *wairua*, *wai* (water) and *rua* (two) literally meaning two waters, denotes the spirituality or *wairuatanga* of a person being immersed within their physical, emotional, and social dimensions (Pere,1984). Mead (2003) describes *wairua* as something that each child is born with, a spirit or soul that begins an everlasting relationship within that person from conception to after death. As Pare mentioned,

> *"Ko te wairua o te tangata nō ngā rangi tūhāhā, heke iho mai ki a tātou te ira tangata mō ake tonu atu." (The wairua of people comes down from the different heavens to us the living mortals and forever beyond.)*

Since everything relates to the spiritual world, *wairuatanga* is vital to how Māori connect with the environment, to others, and to situations (Durie et al., 2017; Pere, 1982). Taha wairua traverses your relationship with the environment, with the living and non-living, and with one's cultural heritage of the past, the present, and the future. Rameka (2015) describes a child's *wairua* as crucial to their learning and development therefore "must be acknowledged and protected in order for the child to develop to their full potential" (p.87). In this respect, the participants believe Māori pedagogy is holistic and must endeavour to engage and nurture the *wairua* of the learner in aquatic settings. Maia offers the following thought,

> *"I like how Māori pedagogy is more holistic, about all aspects of a person*
> *to be nurtured for the well-being to be empowered and have a sense of*
> *belonging. So, a lot of Māori pedagogy looks at the aspects of taha*
> *wairua, taha tinana, and taha hinengaro. If all those are nurtured, then*
> *the tamaiti can be really strong in their sense of belonging, especially in*
> *and around water."*

The *wairua* of water is intrinsic to people which encourages teachers to respect and understand more deeply, the behaviours and emotions of their learners, and how, through water, they can be calmed, energised, and enhanced (Phillips, 2018). For example,

> *"If you look after it [water], it will look after you… I suppose it's just*
> *respecting the water, listening to it, feeling the wairua of it…water can be*
> *calm, peaceful, vibrant, and energetic or it can be damaging and harmful…*
> *the same as the wairua of a person." (Anahera)*

The comment reflects how teachers need to be aware of maintaining spiritual balance and harmony since a Māori world view is perceived as a balance between many different forces. For instance, physical and spiritual, sacred and secular, good and bad (Rameka, 2015). Having an awareness of forces that are often unseen and unspoken of, can open the mind and enhance one's understanding of themselves and others. Durie (1998) argues, "without spiritual awareness and a mauri an individual is more prone to illness or misfortune" (p.70). These aspects of *wairuatanga* are considered as an integral part of Māori well-being and,

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therefore, are directly responsive to and affected by teaching and learning (Pere, 1982) in and around water.

Mauri

Another dimension of taha wairua is *mauri*, the life force essence of all living things that has the power to sustain life on land and in water (Mead, 2003; Morgan, 2006). *Mauri* is the vitality, integrity, uniqueness, and energy that exists within every person (Durie, 2016). Thus, the interlacing bond between the physical and spiritual dimensions of a person's well-being is influenced by their mauri. For instance,

> *"Nō ngā atua anō te wairua, koira te taha kikokiko ko te taha wairua, ana, ko*
> *te mauri anō ki tērā o ngā mea oranga. He mauri tōnā, he mea orange."*
> *(Wairua is implanted by the atua, in the flesh and in the spirit. Indeed, mauri*
> *is also the life force of the living. With mauri, then you have well-being.)*

This comment is centred on the belief that the spirit of people comes from *atua* Māori and things imbued with a physical aspect as well as a spiritual aspect, possess *mauri* (Marsden, 2003). In education, *mauri* helps us to understand how identity, language and culture are essential for a student's sense of belonging in schools (Durie, 2016). As such, an enlightened spirit exhibits *mauri ora*, or wellbeing.

Bodies of water that have a healthy *mauri* support a range of cultural uses for Māori such as swimming, fishing, and gathering *kai* which contributes to the wellbeing of the people (Morgan, 2006). However, when our natural water environments are not properly cared for, the *mauri* is damaged which consequently impacts on people's health and wellness (Morgan, 2006). In pedagogy, this is a spiritual state referred to as *mauri noho*, where the individual is languishing and is restricted by a loss of hope, a clouded mind and relationships that are dis-empowering and humiliating (Durie, 2016). *Mauri noho* can often be observed in someone's eyes, as well as in their physical appearance and behaviour (Durie, 2016). Berryman et al. (2018) suggests, educators need to develop pedagogies where students are not only learning and achieving for their future but in doing so, also present a strong and secure state of *mauri ora.*

Tapu

In a Māori world, *tapu* is one of the most important spiritual attributes for *whānau* and community wellbeing (Mead, 2003). Implicit in the physical and spiritual dimensions of a person and their relationship with water are the values of *tapu* and *noa*. Shirres (1997) views *tapu* as a system of restrictions intended to safeguard people, their communities, and the natural world around them. *Noa*, in contrast, is a condition of restored balance that lessens the influence of *tapu* (Mead, 2003). Consequently, there are restrictions on the use and access to water or places of significance, and restrictions on what Māori people may be able to do (Durie et al., 2017). The participants discussed the influence of *tapu* states associated with water activities in various contexts. A common example of *tapu* within water spaces is that of *rāhui*. For instance,

> *"When someone drowns, we respect the tikanga of rāhui on the area and*
> *make sure to inform our kōhanga whānau about it so they can uphold that*
> *tikanga for our waterways and teachings that relate to whānau safety and*
> *collecting kaimoana. However, we are small in numbers to be able to promote*
> *rāhui to the wider community and enforcing it is difficult." (Pare)*

The term *rāhui* is used to convey the system of *tapu* for separating people from contaminated water, land or resources and is applied in the event of drowning or conservation (Mead, 2003). This condition of *tapu* is a pragmatic aspect of *tikanga* Māori (Mead 2003) and how to behave in terms of being self-protective and safeguarding the aquatic environment. However, *rāhui* restrictions associated with drowning and conservation in local water environments often need public support and respect to uphold (Metge, 1995). Thus, it is important that teachers of aquatic education closely consider the influences of *tapu* on the freedom of action for the learner as there can be implications for their moral, physical, social, and spiritual welfare. The observance of *tapu* also included the practices followed by women during their menstrual cycle. This often-entailed self-imposed restrictions on water-related activities. Anahera and Pare explained,

> *"I've been told that as a Māori wāhine it's not okay to do that when you have*
> *your mate (period). Especially when you're going into places where there's kai,*
> *and for a whole lot of reasons actually, and so I generally refrain from water*
> *activities at that time." (Anahera)*

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"What I've learnt is to become more open about that korero. I have got my
ikura (menstruation) and this is what's happening to my body, and this is what
I'm going to do if I go into the water and pollute. I'm just totally about
whakanoa i te moana (don't affect the sea) and that is everything that belongs
in there." (Pare)

Mead (2003) confers that the state of being *tapu* and the act of gathering food in water is not a good mix because blood is very *tapu*, and blood can also attract sharks in the sea, therefore, must be treated with care. Despite the comments above inferring menstruation as to pollute the water environment, Murphy (2014) explains that menstruation also symbolises continuation of human existence and serves as a strong procreative agent for *wāhine* Māori that connects back to Papatūānuku. Bishop and Glynn (2003) call for a pedagogy that is "holistic, flexible, complex, and collectively tied to whānau/family interests, one that respects the 'mana' and 'tapu' of each individual child" (p.170), their lived experience, their identity, their cultural aspirations, and their surrounding environment. Additionally, people are not always in a state of *tapu* and *noa* and both male and female transition between the two conditions depending on the context (Mead, 2003). For the physical and spiritual safety of Māori people and their participation in aquatic education, teachers must recognise and respect the influence of *tapu* on individuals.

Mana

Māori pedagogies that link to aquatic education need to uphold the mana and integrity of the individual and their cultural connections with water. The term mana has various translations such as "authority, control, influence, prestige, power, binding, having influence, taking effect, being effectual" (Williams, 1985, p.172). As outlined in the five strands of Te Whāriki, mana implies spiritual power and authority in relation to *mana atua* (wellbeing), *mana tangata* (contribution), *mana whenua* (belonging), *mana reo* (communication), and *mana aotūroa* (natural environment) (Ministry of Education, 2017). In the context of aquatic education, Maka believes teachers can play a vital role in developing the *mana* of their students.

"Māori have a very close connection with water. For teachers to recognise
and enhance that relationship, that mana (authority, prestige) of a person

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through manaakitanga and guidance, that will go a long way to develop their
[students) physical, spiritual, and mental abilities in water, I think that is
paramount for our Māori students to learn their education in that way."

Although *mana* is closely linked to *tapu* and other cultural concepts such as *manaakitanga* and leadership (Ka'ai & Higgins, 2004), *tapu* is the potential power and *mana* is the actual power. Given Māori people descend from *atua*, a person's *mana* is often influenced by their whakapapa connections and chiefly lines of descent (Ka'ai & Higgins, 2004). However, mana can also be enhanced through individual actions and skills that add value to the *mana* of the whole *whānau* and community (Mead, 2003). For example, the following comment from Maia acknowledges the *mana* of the *tamaiti* to empower himself to dive under water, and the enhanced *mana* of his mother in taking pride and gratification in her son's achievements.

> *"The lessons offered opportunities for tamariki to make connections to water*
> *and Te Ao Māori. We had one parent see a big change in her tamaiti. At*
> *home he wouldn't put his head under running water, but at the end of our*
> *program diving under the water was his favourite thing to do. As kaiako we*
> *made small progressions with him to uplift his mana, taking care not to push*
> *his comfort levels." (Māia)*

According to Hemara (2000), the term *whakamana* transforms the word *mana* into an action as, to give effect to, give prestige to and rectify through a process that empowers children to grow and learn. The comment emphasises the importance of teachers recognising aspects of mana and the contribution these qualities can make to a child's overall learning development in water. Shirres (1997) points out that in a Māori world, a person's *mana* speaks of a person's worth, which can be either enhanced or devalued. That is, the recognition of a person's mana and hence their standing within a *whānau*, community, *hapū* or *iwi* (Rameka, 2015). Thus, taha wairua accounts for the presence of *mana* within people (Durie, 1985) as a psychic force' that originates from one's ancestors and *whakapapa* (*mana tūpuna*), from the gods of the Māori world (*mana atua*), from tribal links to the land (*mana whenua*) and waterways (*mana wai*), as well as from personal feats and accomplishments (*mana tangata*). Mana is a primary driving force behind all types of social relationships in the Māori world, and it is vitally important to recognise this in Māori aquatic pedagogy.

In summary, taha wairua describes the spiritual dimension of a person and their relationship with both the spiritual and physical worlds including the levels of consciousness that drives behaviour in certain situations (Ka'ai & Higgins, 2004). This means that *wairua* manifestations in and around water are significant determinants to how Māori students may learn and develop in aquatic education. For the participants, the spiritual relationship with water is just as meaningful to everyday realities as the physical world that surrounds them (Pere, 1982). This indicates taha wairua is vitally important in aquatic education for Māori because it is the point where the learner's spirituality, cultural values, emotions, and behaviours are integrated into the physical dimensions of water and a lived experience. A respectful teaching and learning environment that promotes spiritual awareness and well-being through the understandings of *wairuatanga*, *mauri*, *tapu*, and *mana*, can play a vital role towards enhancing the learning and development of Māori in aquatic settings.

Taha Whānau

Taha whānau recognises the importance of the extended family and other relational networks as the main support structure for providing care and support, not only physically but also emotionally and culturally (Durie,1998). This highlights the value of strong *whānau* ties and *whanaungatanga* as the foundation for both good health and educational achievement. Taha whānau also acknowledges the significance of *whānau* ideals (cultural aspirations) and social processes (cultural practices) where shared support and quality care is necessary to reduce and mitigate social and economic difficulties (Durie, 1998; Smith, 2017). Today, the term *whānau* is frequently used in mainstream health and education to refer to collectives of people who are not always related but who nonetheless adopt traditional *whānau* ideals and practises (Bishop, 2008). *Whānau* participation in Māori pedagogy is therefore encouraged and valued as it is the *whānau* base that assumes responsibility for the education of their children or students (Smith, 1997). Thus, the participants' relationship to learning aquatic education through *whānau* pedagogies (Skerrett & Ritchie, 2019) is described using the cornerstone of taha whānau.

Whānau Pedagogies

Whānau pedagogies inform us about who we are, our environment and all parts of the ecosystem, thus enabling us to face challenges through broadening our thinking and laying the foundations for the future (Skerrett & Ritchie, 2019). Traditionally, Māori children grew up learning various skills, attitudes, and moral codes to sustain the spiritual, intellectual, and

physical wellbeing of the *whānau* and *hapū* (Hemara, 2000). All the participants spoke fondly of learning to live near water, as well as the baskets of knowledge they were privy to obtain from while growing up. These teachings were passed down to them mostly through the aquatic pursuits of fishing, swimming, surfing, and gathering *kaimoana* alongside their *whanau*, their grandparents, and parents. For example,

> *"I have good memories of paddling out there with my grandmother and setting the net. She introduced me to net fishing. Then on another level with my father and my uncles, we would go out to the open coast. So, all these activities were happening in the harbour and then when the conditions were right, we used to go to the coast and go diving." (Maka)*

> *"We grew up spending a lot of time by the sea, and I believe that my whānau baskets of knowledge act as a keepsake for specific ways to go about things, and the ways of old are actually the right ways and they all have a place." (Pare)*

The comments illustrate how certain knowledge and skills pertaining to water related activities were *whānau* tutored so children were familiar with the tasks and responsibilities they were expected to carry out later in life (Hemara, 2000). This also reinforced *whānau* relationships and knowledge systems, values, and responsibilities as an integral part of their teaching and learnings. Whānau pedagogies, therefore, represent an influential learning pathway to aquatic knowledge and skills for many young Māori. However, many teachers lack the necessary skills to collaborate and engage with Māori children and their whānau, which is a cause for concern. Skerrett and Ritchie (2018) contend that educators must engage with whānau, and the concepts of whānau pedagogies if the curriculum is to transform the structural relations of inequality perpetuated in those settings.

Whanaungatanga

Whanaungatanga is a key concept in Māori culture that refers to the relationships and kinship connections between Māori, their *whānau*, *iwi* and communities (Reilly, 2004). In Māori pedagogy, *whanaungatanga* is integral to creating a supportive and inclusive learning environment, where Māori learners feel valued and connected to their cultural heritage and

traditions (Pere, 1982). Bishop et al. (2014) suggest, that *whanaungatanga* uses a pedagogic approach that can effectively support Māori students' engagement and learning in education. The influence of *whanaungatanga* for the participants on their aquatic education can be described using the concepts of *manaakitanga*, *tuakana/teina* relationships, *aroha*, and *kaitiakitanga*. Maka refers to the practice of caring for others and the environment.

> *"Two main customs for me would be manaakitanga and the other one would*
> *be kaitiakitanga. So, looking after one another and conservation, sharing the*
> *food and what you've got. So those are the two customs I think are relevant for*
> *me today and that I practice. Those were obviously taught to me by my elders*
> *of those times, and I still adhere to them today." (Maka)*

Manaakitanga is described as the act of giving and enhancing the *mana* of others especially through sharing, caring, generosity and providing absolute hospitality (Bishop & Berryman, 2009). *Manaaki*, derived from the word *mana*, is the central cultural concept of expressing *whanaungatanga* through the communal support of relatives (Reilly, 2004). Maka highlighted the significance of *kaumatua* within his *whānau* as 'knowledge-bearers' and their commitment to ensure *whānau* wellbeing and the transmission of knowledge to younger generations (Ka'ai, 2004; Metge, 1995). Shirres (1997) explains, the ability to *manaaki* is a person's actual *mana* and *tapu* to protect, safeguard and care for other people. Moreover, the values of *manaakitanga* around gathering *kaimoana* were customary practices for sustaining both taha whānau and the natural environment as voiced by Anahera,

> *"I would give thanks, ask to be nurtured and if we do take anything we're just*
> *taking what we need. Or if you have a catch to give away, or a part of your*
> *catch to 'manaaki i te tangata' - so in all those concepts it is about 'tiaki te*
> *whenua, tiaki te whānau'. Being grateful to be sustained by our taiao*
> *(environment)."*

The participants learnt to *manaaki* by developing connections with their natural environment and replicating the caring and respectful behaviours taught to them by their whānau elders. The pedagogy of *manaakitanga* is the teachers caring for Māori students as Māori, by building a supportive and caring educational environment (Bishop & Berryman, 2009). According to Pere (1982), all forms of *ako* result from carefully negotiated relationships, not

just with people but also with the land, seas, rivers, mountains, and spiritual domains, all of which have a bearing on our learning processes and methods related to taha whānau.

Tuakana Teina Relationships

Strong links within taha whānau that embrace *whanaungatanga* is the concept of *tuakana/teina* relationships, whereby older *whānau* members take on teaching and caring responsibilities for the younger ones (Nepe, 1991). Maka referred to the *tuakana/teina* practices within his *whānau* as an essential part of the supervision and safety of others around water.

> *"The safety aspect that came with experience was 'mā te tuākana te tēina e tiaki'. So, the older ones looked after the young ones…If we went out to the coast obviously my dad and my uncles were paying attention to the weather because I never remember going out there on the rough days." (Maka)*

For the participants, feeling safe, culturally, physically, spiritually, and socially is underpinned by values and beliefs that stem from years of observation and experience from older *whānau* members. Nepe (1991) identified *tuakana/teina* relationships as central in the transmission of knowledge in Māori society, functioning from *kaumatua* to *mokopuna*. For instance,

> *"Learning as a child from my kaumatua, my aunties and uncles and my parents about what water safety looks like and understanding the tides and wind conditions that influence this part of our coastline was essential to know." (Anahera)*

These reciprocal connections between the elder and younger, experienced, and inexperienced, are what make Māori pedagogy significant because they are based on nurturing relationships, *manaaki* and *tautoko* (support).

Aroha

When highlighting the importance of taha whānau, Māori frequently emphasise the virtues of aroha. Although the word *aroha* is frequently translated as love, its fundamental meaning is love and caring for others (Metge, 1995). *Aroha* is most meaningful when it is put into action as it is an essential component of *manaakitanga* and *whanaungatanga* towards

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others (Metge, 1995; Pere, 1982). As an expression of care, respect, and compassion, *aroha* acknowledges the source of one's well-being and actively works to promote it. Pare explained this in the context of her aquatic teaching practices,

> *"Knowing the whānau backgrounds plays a big part on whether that child or children are going to participate in the water. I think my own love for the water, different types of aroha for the water plays well in a great teacher…someone who is caring, supportive, and fun…and can pick up on all the tamariki's skills and abilities."*

This comment is an example of *aroha* towards the learner's *whakapapa*, *whānau*, identity, culture, and prior experiences. Ka'ai (1990) offers that *aroha* is an "intrinsic value" (p.35) of teaching Māori children in Kohanga Reo coupled with the concept of *awhina* (helping) and encouragement towards others. This also encourages humility for educators in seeking close relationships that nurture the well-being of the learner (Pihama et al., 2004) in water settings.

Kaitiakitanga

Kaitiakitanga is practised in many ways but ultimately involves two fundamental considerations. One, is the responsibility to live respectfully with the environment, and therefore seek to maintain a balance in accordance with the natural environment (Selby et al., 2010), and secondly, is caring for individuals within those environments. In the discussions with participants, Māori concepts and *whānau* practices to keep everyone safe near the water were mainly based around the notion of *hononga*. The deep connection to the water environment through the ideals of experience and respect. As Pare said,

> *"I think as soon as you make a 'hononga' through that respect, then the rest will just fall into place. Because I'm going into your realm [Tangaroa], I need to kit myself up, to make sure that my whānau are going to be okay. This means taking the right safety precautions and understanding the [water]conditions and capabilities of my whānau."*

Kaitiaki (caretaker) are agents that perform the task of active guardianship guided by *tikanga*, rules and specific cultural practices (Selby et al., 2010). Māori pedagogy acknowledges the

importance of the teacher as a *kaitiaki* in creating a safe learning environment for learners. This is based on the principles of *kaitiakitanga* towards caring, nurturing, connecting, and safeguarding the learner as being connected to the natural world (Burke & Rameka, 2015). A popular belief among the participants is the importance of effective relationships for teaching learners to engage with water activities and safe practices. This also relates to *whanaungatanga*, in that it encourages intimate water connections with others (Phillips, 2019). For example,

> *"A good relationship. So, if the teacher has a good relationship with the students. If everyone's feeling safe. Then in my opinion, people will learn a lot easier… the teacher doesn't have to be the best waterman, the most knowledgeable person in the world but if they've got a good manner, then people will learn what there is to learn, [what] that teacher has to offer in that water environment." (Maka)*

The comment suggests that teachers building relationships that support students' *mana* and wellbeing promotes learning as an enjoyable and stimulating experience (Berryman et al., 2018). As teachers our role as *kaitaiki* is an obligation to nurture and protect the physical and spiritual well-being of learners in their interactions with water environments (Burke & Rameka, 2015). Positive role modelling of *kaitiakitanga* principles in and around water means the mana of both the teacher and learner can be enhanced. Taha whānau ensures everyone has a place and a role to fulfil within their own *whānau* which contributes to both individual and collective wellbeing and social unity.

Wānanga

Several of the participants shared their experiences from a community-based water safety *wānanga* as part of strengthening their *whānau* connection to water and water safety practices (Phillips, 2018). Traditionally, Whare Wānanga referred to a house of learning where *tohunga* experts imparted formal knowledge and specialised skills to selected students (Best, 1974; Hemara, 2000) Today, the term *wānanga* also applies to teachings and research that advance higher knowledge (e.g, a university or polytechnic) and enable the creative mind or *mahara* (conscious awareness) to emerge in accordance with *āhuatanga* Māori (Māori traditions) and *tikanga* Māori (Royal, 2017). *Mātauranga* Māori and experiences are seen by Royal (2017) as sets of knowledge, a body or a continuum of knowledge with Polynesian

origins that have been developed over thousands of years across vast oceans. These thoughts are echoed in the following quote by Maka,

> *"Wānanga provides a means to access old Māori knowledge that needs to be revisited…In my opinion that's where the richness of culture lies, the experience and the kōrero (accounts), hītōria (histories), whakapapa (genealogies), ngā karakia (incantations), ngā atua (Māori gods), ērā taonga nui ki a ngāi tāua te tangata (the great gifts for us as people)."*

Mātauranga Māori is based on the teachings and customs that have endured over time and are adaptable to modern Māori contexts (Ka'ai, 2004; Metge, 2015). Several participants spoke about how the *wānanga* served as an opportunity to access *mātauranga* Māori alongside their own *whānau*, from young to old. Moreover, the *wānanga* offered a shared purpose of learning knowledge and water safety skills related to their local environment. For instance,

> *"Wānanga enables whānau engagement, so family time. I saw people and families come together and experience the enjoyment and support to be learning water safety skills in their local waterways… I thought a great thing to do as Māori people was to be in a wānanga space with one goal in mind. It includes our language, our gods, our customs."* (Maka)

> *"The water safety wānanga had an awesome impact on our whānau, especially having three whānau from our own kōhanga involved in the learnings."* (Pare)

Ka'ai (2004) suggests, the application of Māori contexts in teaching are a key indicator of Māori pedagogy that "…reinforces the value of the knowledge being imparted to the learner." (p.19). The nature of effective pedagogy for Māori can be described by how the teacher applies different understandings and concepts of *mātauranga* Māori. According to Anahera, giving our children a context for swimming that relates to how animals swim was fun and constructive. For example,

> *"I think a Māori context helped immensely…When our kaiako described things relative to how ika (fish)or a kuri (dog) swims, how a honu (turtle) and poraka (frog) swim, you immediately can relate to them…and 'swimming'*

doesn't seem so unattainable...Because we have different whakaaro
(thoughts), we have different ways of doing things, different ways of
explaining different applications of mātauranga [Māori]."

Smith (2017) describes a Māori context of learning as including all aspects of the environment, the natural, social, physical, and material worlds. Evidence supports culturally responsive practices that are more interactive and constructive to how Māori students may relate to the applications of knowledge and skills (Sleeter, 2011). A Māori context can be effective in not only influencing what the teacher brings to the learning situation, but more so what the learner takes away. This is reinforced by Maka and Anahera,

"I was brought in to support the language to be the kaikōrero (speaker) for
the haukainga (home people) to fulfil necessary protocols...hopefully people
went away with stuff that I had to offer because I definitely learnt a lot from
the water safety practitioners. A wānanga is just a natural thing that our
people do, they want to learn new things and share what they bring along."
(Maka)

"I'm learning all the time. I guess what I've learned is certain processes, like
tikanga for water safety procedures and finding my own limitations in the
water in a safe environment...mātauranga Māori is power and the more you
learn you can share… It's uplifting for our whānau." (Anahera)

The comments draw attention to the true meaning of *ako* as a relational process of reciprocal and shared teaching and learning (Bishop et al., 2003). It also recognises the value of knowledge being transmitted by *tohunga* or experts within the field (Ka'ai, 2004).

In Māori traditions, Tāne quest for knowledge was that he sought *wānanga* on behalf of others, where knowledge belongs to the group and individuals have a responsibility to share knowledge because the welfare of the group depends on the sum of collective knowledge (Smith, 1999). This supports the notion of Māori pedagogies being more focused on cultural and collective aspects of learning rather than age and individual aspects (Ka'ai, 2004). It also indicates how the well-being of the individual is embedded in the wellbeing of the *whānau* (Durie, 1998). The comments from Anahera and Pare give further insight.

"For our whānau, it was good for them to come in and whakawhanaunga, get to know other people within the community and realise their own abilities and limitations in the water." (Pare).

"It helped me and my whanau firstly by connecting, with some of the other whanau in our community. And then, being at the water and everyone doing activities together around water safety and survival techniques, we didn't know some things but with other whānau supporting us it helped us all learn together." (Anahera)

As mentioned previously, *whānaungatanga* is closely associated to *aroha* and *manaakitanga* (Metge, 1995) which was a key factor for the participants, and their sense of kinship solidarity throughout the *wānanga* (Reilly, 2004). This enhanced the shared purpose of learning specific knowledge and skills for their water related activities and tasks. From the *kōrero*, these *wānanga* were an opportunity for the participants to experience professional development in the context of *ako* within water safety. In doing so, the *wānanga* process strengthened their relationships with other *whānau* which became a pivotal component for enriching the overall pedagogical quality of the *wānanga* activities (Bishop & Berryman, 2009). It was where learning around water could occur in a safe space, one of support, participation, and engagement of all, where knowledge pathways were reshaped to accommodate *whānau*. This demonstrates how *wānanga* engages in cultural pedagogy and practice that reflects the core values of taha whānau, all of which are pertinent to Māori collective learning.

In summary, the importance of strong family relationships as a foundation for promoting health is accentuated by the taha whānau cornerstone. The participants emphasized the considerable value attached to *whānau* pedagogies and learnings about coexisting with water in their lives. *Whānau* knowledge and teachings fostered the development of their interpersonal skills and environmental responsibilities anchored to the principles of *manaakitanga*, *kaitiakitanga*, *tuakana/teina* relationships, *aroha*, and respect (Metge, 1995). A key learning outcome from this section of discussions was the importance of *mātauranga* Māori and *tikanga* Māori through water related practices that have not just being made up on the spot but derive from *whānau* baskets of knowledge. As traditional schools of learning, *wānanga* offer a learning forum that engages a richness of Māori culture and the sharing of

knowledge, where teaching interactions with Māori students occur through dialogue and meaningful practice (Bishop & Berryman, 2009). In terms of navigating their own meanings about aquatic pedagogies around a safe learning environment, the participants considered a combination of cultural systems and perspectives that will help frame their teaching ideas and delivery. These are all characteristics of taha whānau and preferred pedagogy for Māori.

Taha Hinengaro

Te taha hinengaro cornerstone of Te Whare Tapa Whā is about expressing your mind, heart, thoughts, and feelings (Durie, 1998). The profound connections Māori have to water can have a significant impact on their *waiora*, how they feel about themselves and the world around them. Taha hinengaro is holistic and recognises that thoughts, emotions, and feelings are synthesised as a whole, not in pieces, therefore it is important to understand how water helps people maintain their emotional and mental well-being. These attributes are vital for Māori pedagogies in aquatic education because they enable the capacity to communicate feelings and attitudes with others, as well as control behaviour (Durie, 1998). Another aspect of taha hinengaro is the unbreakable connection between theory and practice, communication and action, and language and culture (Pihama, 2001). Given the Māori language is vital to the survival of Māori culture and Kaupapa Māori principles of change within education (Smith, 2017), it is pertinent to incorporate te reo Māori into this study. The significance of *te reo* Māori for the transmission of Māori pedagogies in aquatic education is thus examined in the discussions with the thesis participants, including the role of *pūrākau* as a means of pedagogy.

Waiora

Water as a medium of expression is inextricably linked to *waiora*, *wairua*, and *wairangi* (a temporary, unbalanced state of mind) (Durie et al., 2017). Water is a powerful medium for the process of human thought and can be represented in both conscious and subconscious states. The potential of water to bring purity and clarity for the body and mind was overwhelmingly regarded by every participant as being vital to their own personal wellness. As Anahera mentioned,

> *"I'm always going to the water to whakatau (settle) myself and it puts me in a place of clarity...I know that for myself, water is also a cleansing element and I'm always drawn to it for that. Even if I have a shower, I feel cleansed*

afterwards. If I'm feeling taumaha (burdened) or if I have any worries or
anything going on in my own life…water brings me joy and a sense of peace."

In a Māori mind, the purest form of water is the spiritual and physical release of the tears of Ranginui for his beloved Papatūānuku. The power and quality of water on a person's mental health to influence emotions, attitudes, and behaviours through its direct link to *atua* Māori was described by Tame.

"The tears of Ranginui, there is a deeper meaning (to that) and a person
who cries knows what the value of that is…the power of tears to heal and to
express emotion." (Tame)

Pure water such as rain is termed *waiora* and has the power to create life, to maintain wellbeing and counteract negative feelings and emotions (Durie, 1998). Some other water statuses that Māori observe daily include, *waimāori* (freshwater), *waitai*, *waihuka* (frothy waters), *waitapu* (sacred water), *waikino* (bad water) or *waiariki* (hot spring) (Douglas, 1984). Water quality and its different statuses have significant meaning for Māori on the concept of healthy water - healthy communities (Durie, 1998, 1999). As suggested by Maka,

We're struggling with the decline of habitat so pollution…how good is the
water quality, without clean water you can't have any water activities…It's all
about the waiora of the water and so you know water quality is paramount for
my people and community."

The comment suggests future implications on the inability of schools and students to actively engage in open water activities due to pollution. Thus, Māori aquatic pedagogies need to incorporate water conservation through Māori concepts such as *waiora*, *mauri*, and *tapu* as an essential part of providing a safe aquatic environment for people's healthy growth and development. *Waiora* in health and physical education encourages learning experiences that reflect a Māori world view. This is described in the New Zealand Curriculum (Ministry of Education, 2007) as "he oranga ngākau, he pikinga waiora" (positive feelings in your heart will enhance your self-worth) (p. 1). Maia talked about how Māori pedagogies can have a dramatic effect on the *waiora* of the *tamariki*, and how they feel about themselves around water.

"I think that going back to the Māori pedagogy around water, and how waiora, water of life, is good for the soul. I think with water 'he wai ora' so it's good for the tamariki…water really calms them as well…some would get tired, but some had a really good day…just being able to touch the water and be in the water…we made a pool out of the sandpit, we dug a big hole and put the tarpaulin in and they just played in the water all day…and ka whakatau i te wairua o te tamaiti (settles the wairua of the child)."(Maia)

The symbolic meanings of water are just as important to Māori as its physical attributes and form a necessary part of pedagogical values within education for a healthy mind and body. Another function of Tāne denotes the name Tāne Te Waiora representing water as both the fountain spring of life and the quest of humans to seek enlightened knowledge, *te ao marama* (Best, 1974). Thus, the incorporation of taha hinengaro values suggests that when it comes to optimum health and positive outcomes, aquatic education for Māori is more holistic than analytical (Durie, 1998). These are all aspects of Māori pedagogies within aquatic education that can liberate the mind (Skerrett, 2018).

Te Reo Māori

Ka'ai (2004) suggests, a key indicator of Māori pedagogy is that *te reo* Māori is the main medium of instruction. This reinforces support for teachers to promote *te reo* Māori and the cultural aspirations of *whānau* in education (Smith, 2017) and water related activities that are desired by Māori themselves. Maka and Pare commented,

"The language is the soul of the people. Māori people should be able to express themselves in their own language and I think Māori people express themselves best through te reo. It gives more meaning when you're talking about Māori concepts and Māori customs. With water safety and education, the language should be the technicolour vibrant for Māori people to enjoy. If those things aren't prevalent then I don't think it's going to be very conducive for Māori people going into those spaces." (Maka)

"All our swimming lessons are delivered in te reo Māori, supporting the aspirations of our kōhanga tamariki and whānau. These lessons offer

> *opportunities for tamariki to explore and develop their emotional, physical,*
> *and social needs in and around water." (Pare)*

Fundamental to the Māori language are its different language expressions such as *whakatauki* and *kīwaha* (colloquial sayings) which help to convey symbolic understandings that drive the cognitive process of Māori thoughts and actions. For instance, *waiata* are a popular and effective way to engage *tamariki* in aquatic activities from a Māori world view as spoken by Maia.

> *"Within our lesson plans we sing waiata to make those connections between*
> *the water and te ao Māori. Waiata are essential for the tamariki in everything*
> *we teach so obviously taking it into the pool was a good way to extend on*
> *tautoko in the classroom. We made up some waiata for our swimming lessons*
> *with actions to demonstrate swimming strokes and body movements in*
> *water…like kau kuri (dog paddle), kau poraka (frog stroke), kau aihe (dolphin*
> *kick) so we can show our tamariki how a dog or dolphin swims."*

In this context, teachers draw on *waiata* to communicate knowledge and express *tikanga* actions in a typically Māori way. Likewise, Maka provided strong support for the use of *te reo* Māori in his surfing lessons as a crucial component of how Māori can express themselves in aquatic settings.

> *"For those children who are proficient in te reo Māori then the whole activity*
> *will be conducted in te reo. Water safety messages are delivered in te reo.*
> *Surfing terms all in te reo. The parts of the board, where to stand on the board*
> *and words for paddling, all in te reo…this encourages te reo to be heard and*
> *spoken in all situations." (Maka)*

The importance of the Māori language as the principal medium for the authentic expression and preservation of *mātauranga* Māori is invaluable (Nepe, 1991). Tito (2011) found that Māori students feel a sense of belonging in education when the Māori language is used in schools which can be further enhanced by the teachings and actions of Māori teachers. The participants spoke about the application of traditional Māori terminology as well as the inclusion of new Māori terms or transliterations for the modern generation of students. For example, in the context of teaching surfing and swimming lessons,

"It hasn't been difficult at all because Māori and Polynesian people have been surfing forever and so all those words are already there…People are evolving and when people evolve languages must evolve with them. The language that we speak today is not the language that they spoke 150 years ago. But some old words I use, for instance hekengaru (surfing), papangaru (surfboard), hau (wind), huka (foam), rehutai (sea spray), tai hauāuru (west coast), and hoe (paddle) remain in my teachings." (Maka)

"Absolutely, pupuri ki ngā kupu o neherā, (hold on to the old language) engari kia pūmau hoki ki ngā kupu o nāianei (but also utilise new words)." (Pare)

The evolution of *te reo* Māori has seen the development of new Māori *kupu* (words) to reflect a modern context. The merging or juxtaposition of two existing words is one method for creating new vocabulary in *te reo* Māori (Moorfield & Johnston, 2004). In essence, a new Māori word can still communicate and retain the essence and *whakapapa* of traditional understandings. As Tame explained,

"Tāku whakaaro mō ngā kupu Māori nei o tēnei wā, he whakapapa tō ia kupu. Ka āta titiro ki te pū o te kupu, mehemea ko te kupu nei 'hau-maru', e rua ngā pū ko te 'hau,' ko te 'maru'. He kupu tawhito ērā, engari ka whakamoea, ka whakahonohia hei kupu mārama mō tātou i tēnei ao, e whakataki tonu nei i a tātou i runga i te mata o te whenua."

(My thoughts on the Māori words of today, is that every word has an origin, if you look at. If you look closely to the root of the word, take for example the word 'haumaru,' there are two root words, 'hau' and 'maru'. Those are old words, but put together, they are joined to make a word we understand today, to continue to guide us in this world.)

The comments above reflect the depth of insight into the meanings and understandings of specific Māori words that provide cultural substance and context as to why they are used. *Te reo* is important for aquatic-related activities as it helps learners understand concepts in a Māori context. It is a vital source of knowledge transmission and crucial for the development

of Māori pedagogies within aquatic education because no other language can adequately express the complexity of a Māori worldview (Nepe, 1991). This endorses *te reo* Māori as fundamental to the taha hinengaro cornerstone because it articulates what people are thinking, how they feel, and how they communicate Māori concepts and traditions (Durie, 1998).

Pūrākau

Māori pedagogy is mixed with metaphors, allusions, local stories, community resources and relationships with the environment that act as directives and methods for teaching and learning (Hemara, 2000). As a medium of transmitting Māori knowledge, *pūrākau* as pedagogy reflects the values of *ako* (Pihama et al., 2019). *Pūrākau* are a form of *ako* that typify a pedagogical process and the interrelationships of a Māori world, provoking thought that is "inclusive, extensive, cooperative, reciprocal, and obligatory" (Pihama et al., 2019, p.143). They are Māori narratives that stem from oral traditions of truth in a culturally appropriate way, through language, signs, symbols, and cultural expressions that represent a vast information resource (Lee, 2005). Thus, *pūrākau* are important to Māori aquatic pedagogies because they play a major role in shared discussions that inform and reveal new meanings within a contemporary context.

Participants talked about the importance of *pūrākau* in relation to their *whānau* histories that link past ancestors, actions, waterways, and events to the present. For example, Maka described how *pūrākau* about *taniwha* are often used in teaching or *wānanga* sessions to help teach his *whānau* and *tamariki* about significant water related events that preserve the connections to *tūpuna* and guide interactions with the local water environment (Lee-Morgan, 2019).

> *"Te Ātai-ō-Rongo is our ancestor and local taniwha…he is seen as a log or whai (stingray). That's two of his different forms. He is our kaitiaki but unless you know the tides and the stories, you won't be able to see him."*

Tame gave a comprehensive explanation of what *taniwha* represent in his tribal region as a *kaitiaki* and symbol of abundant food resources. However, his account also issues a warning because many *pūrākau* about *taniwha* have been reduced to mere folklore, which

has led to a devaluation of the *mana*, authority, and dignity of the waterways they occupy. In his words,

"Ko ngā taniwha hei tiaki i te iwi, i te mana hoki o te taiao e noho nā tēnā taniwha. E rua ngā taha o ngā taniwha ki āku whakaaro, he taha tinana, he taha wairua. Ko te taha wairua, ko te tangata mārama, ko te tangata wairua anake ka kite, ka rongo, ka whāwhā i ērā momo taniwha. Engari ki te taha tinana kei konā anō ēnā mea hei tiaki. He maha ngā momo taniwha i te kāinga, hei tauira, ko ētahi he ika, ko ētahi he rākau, ko ētahi he aha noa iho, he aha noa iho, ana kei tēnā, kei tēnā ōna āhuatanga…Ka kawea mai e tētahi o ngā taniwha i te kāinga…e tohu ana i te huhua, i te mātotoru o te kai. Ko ia te kaitiaki e kawe mai ana i te kai, ka kite i te tohu o tēnā taniwha, ka mārama tonu te iwi ko te wa tēnei e matomato ana te kaimoana i te takiwā. Engari i roto i tōku pakeketanga kua kore haere ērā mea, kua kore e kitea, e kōrerohia rānei e te whakatupuranga o nāianei nā te mea he rongo taringa noa iho ki a rātou. Kāore rātou e tino haere ki ērā wāhi kia kite kanohi rātou i ngā taniwha, kia rongo rātou i te mana, i te wehi, te tapu o aua mea. Ka ngaro hoki te taniwha, ka ngaro te mana o taua wāhi".

(The taniwha protects the tribe, and the mana of its waterways. To me, there are two sides of taniwha, a physical side, and a spiritual side. The spiritual side is only understood and experienced by enlightened people, only spiritual people will see, feel, or touch those types of taniwha. But as for the physical side, they are there as guardians to protect the tribe, and the mana of the natural environment where that taniwha resides. There are many different types of taniwha back home, for example, some are fish, some are logs, and many other different types, each with its own characteristics. Some taniwha may live in a small waterway, and may belong just to the sub-tribes, or just the families of that area. Others travel further, but each taniwha has its own area which it will stay within. One of our taniwha at home is a guardian which brings food, when the signs of the taniwha appear, the tribe knows this is the time the seafood is abundant. But within my lifetime, those things have been disappearing, not to be seen, or spoken about by this generation as it is only stories to them. They don't really go to those places so they can actually see the taniwha with their own eyes, so they can feel the mana, the wehi, the tapu

of those things. When the taniwha disappears, the mana of that place also disappears.)

This *pūrākau* shares a wealth of *mātauranga* about *taniwha*, their characteristics and behaviours, their guardianship, their physical and spiritual presence, and the importance of *taniwha* to the *mana* and overall health of the *iwi* and water sources. Moreover, *pūrākau* communicate the values and practices around *kaitiakitanga* and the active relationships Māori have in nurturing, protecting, and sustaining the *mana* of their local waterways. However, as previously mentioned, implications arise for many teachers today regarding the authenticity and correct delivery of *pūrākau*. Therefore, the expertise of the narrator, as well as the setting and intent of cultural representations of Māori knowledge, play a significant role in the cultural reproduction of *pūrākau*. (Kai'ai, 2004; Lee-Morgan, 2019). This indicates that *pūrākau* within the constructs of taha hinengaro are vital in transmitting the knowledge systems of past generations to inform Māori in a Māori way.

In summary, taha hinengaro is holistic and acknowledges that thoughts, emotions, and experiences are a synthesised whole. For Māori, the physical, spiritual, and psychological nature of human relationships with water meet at the junction between the natural and transcendent worlds, that is, *te tai whakarunga, me te tai whakararo*. A vital component of the pedagogical principles within aquatic education for a healthy mind and body is the symbolic meanings of water, which are equally as significant to Māori as its physical characteristics in achieving a state of *waiora* (Pere, 1982). Also significant is how *te reo* Māori empowers Māori to express their mind and body in a variety of ways through thoughts, feelings, voice, and action; all of these are crucial for guaranteeing the appropriate transfer of Māori knowledge and cultural behaviours (Ka'ai, 2004). Recognising *pūrākau* as pedagogy offers the ideals of *ako* as a means of disseminating Māori knowledge. Thus, the cornerstone of *taha hinengaro* brings together *te reo Māori me ōna tikanga* as a social, cultural, and intellectual pathway for conveying one's thoughts and emotions.

Taha Tinana

Te taha tinana cornerstone refers to the physical health of the body including the physical environments that promote physical activities and well-being such as water (Durie, 1998). For the physical dimensions of complete health, hygiene, and well-being to be truly effective, a clear separation of *tapu* and *noa* is required (Durie, 1998). This is because ritualised procedures relating to physical activities, particularly water related, primarily

dominated all functions of bodily health in traditional and contemporary society (Durie, 1998). Physical growth and development are vital for *tamariki* and *taiohi* (youth) Māori given the significant educational and health disparities between Māori and non-Māori such as drowning, and water related injuries (Wilcox-Pidgen et al., 2020). Importantly, the spiritual and physical values of water to Māori are considered inseparable, and therefore considerations in terms of healthy physical engagement in aquatic activities are highly valued. Due to these factors, some of the key discussions among the participants focused on the value of *tikanga* Māori, *tohutohu* (guidance), learning water skills and the social factors that impact optimum physical growth in water-related contexts.

Tikanga

Tikanga is defined as the correct way of doing something, *tika* refers to what is right and appropriate, morally, physically, and socially (Mead, 2003). Traditionally, following *tikanga* was how Māori children learnt their aquatic talents and safety precautions (Hemara, 2000). *Tikanga* values and practises are firmly ingrained in all aspects of Māori society in some way or form. As mentioned in the interviews, the foundation of all *tikanga* is built upon the concepts of *manaakitanga* and *whanaungatanga* for fostering relationships, as well as *tapu* and *mana* to acknowledge a person's spiritual qualities, all of which are crucial to physical safety and wellness (Durie, 1998; Mead, 2003). Therefore, an added element of this study was to investigate how Māori participate physically and spiritually through *tikanga*-related water activities. For example, when gathering *kaimoana*, fishing, swimming, or surfing. The comment of Pare demonstrates the *tikanga* of *kaitiakitanga* for the reciprocity of removing *kaimoana* from the domain of Tangaroa using sustainable practices to avoid overfishing.

> *"There was also tikanga around taking the first kai, the first paua was*
> *always given back, the first ika was always given back to Tangaroa –*
> *Tukua – whāngai hau (ceremonial offering to Tangaroa)." (Pare)*

With water environments highly valued by Māori as a source of *mahinga kai* (food harvesting), *tikanga* guides how practice and responsibilities are actioned (Mead, 2003). It appears that these *tikanga* still influence the behaviour and practices of the participants. For example, Tame and Maka spoke about the *tikanga* of *karakia* for water related activities.

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> *"Ko te karakia…ka tiaki i te tangata e haere ana ki te wai ([karakia]protects the person who goes to the water) Yes, I perform karakia every time I enter and exit Tangaroa." (Tame)*

> *"Water is a significant part of our culture, a taonga (treasure) that should be respected and protected…I use karakia before entering the water to give thanks for its life-giving properties…seek protection from its potential dangers, and to acknowledge the physical and spiritual significance of water to our ancestors." (Maka)*

Royal (2010) suggests, *wai karakia* is embedded in everyday living as an open expression of Māori spirituality and physical well-being. Phillips (2018b) offers examples of water safety practices, as the right things to do in maintaining correct balance and harmony for both physical and spiritual protection. These water safety practices include checking weather and marine conditions and using correct safety equipment such as lifejackets when boating. When instructing and preparing *rangatahi* to learn surfing, Maka talked about the *tikanga* and safety processes he follows.

> *"We begin with karakia to acknowledge and show respect for our atua…we then identify the ocean hazards and the importance of staying afloat using the surfboard…there is water safety messages and signals, reading rips, looking at your ability, using a buddy system and using land markers to stay in the safety zones." Maka*

Tikanga is exercised as a form of *hauora* and as a way of teaching young Māori about water safety (Phillips, 2018). The connection of taha tinana with the environment is integral to a Māori worldview that can enhance and promote a heightened sense of spiritual and mental consciousness in people. Phillips (2018) believes it is crucial to teach *tikanga* Māori for different water situations because the safety messages are essentially the same. Pare described their *tikanga* to make safe decisions when teaching *tamariki* about ocean conditions for swimming.

> *"Karakia to the moana but always just watching the water first. Get the tamariki to just watch first, so that's about sitting and looking at the water wondering out of curiosity where should we swim, the children choose where*

they want to swim and then there's always a conversation with them...maybe
that water is a bit rough over there so we should move somewhere else.
Always have a conversation with them about the water and we must be aware
of their different skill sets."

As the comments suggest, upholding *tikanga* provides a physical check list of water safety considerations that are guided by cultural lore and practical norms. *Kaiako* role modelled significant aspects of people being safe and getting to know the open water environment through the *tikanga* processes of observation, predication, dialogue, messaging, inquiry, and correct equipment (Jackson et al., 2020). The reciprocal reward is the intimate scientific knowledge of water safety pertaining to *tikanga* that the learner will receive (Nepe, 1991). Pihama et al. (2004) explains, the successful elements of Māori pedagogies that are evident in Te Kohanga Reo and Kura Kaupapa Māori are sourced from *mātauranga* Māori and fundamentally taught through *tikanga* Māori practices. The metaphysical dimension of health and education, which is sanctioned in many ways by *tikanga* elements like *karakia*, serve as an important component of *ako* (Pihama et al., 2004). Given taha tinana and taha wariua are inseparable, to effectively teach and learn the physical requirements of aquatic education, the spiritual and mental requirements must also be actioned as well (Pere, 1982).

Tohutohu

In any setting, *tohu* is a crucial component of Māori pedagogy and *tikanga* procedures. The word *tohu* can be interpreted as a sign, mark, omen, or direction, among other things (Pere, 1982). *Tohutohu* as an extension of *tohu*, is to guide, direct, instruct, or advise, and a person who is proficient and an expert in a particular discipline or skill is called a *tohunga* (Pere, 1982). For instance, *tohunga whakairo* (expert woodcarver), *tohunga matakite* (expert of prophecy) *tohunga karakia*. Traditionally all superior forms of tribal lore and skill development were taught and preserved by the higher levels of the *tohunga* (Best, 1974). The participants discussed how they were taught as children to adhere to specific *tikanga* and *whānau tohutohu* for safe participation in water activities. Pare explained,

"For me, learning as a child from my aunties and uncles and my parents
about what water safety looks like…knowing the seasons to go and do that.
Knowing the currents, when not to go to pick pūpū [winkle], that was our
water safety. Our water safety commands were 'no', 'not yet' 'wait until
you're bigger'. So those were the types of instructions that were given to us."

Māori expertise is often drawn from those with experience. *Mana tangata* manifests in personal knowledge and skill, and *whanaungatanga* explains that this is enhanced through experience and relationships in communities. These *tohutohu*, 'no', 'not yet' and 'wait until you're bigger', were not only directives to ensure safety but also to enact *kaitiakitanga* responsibilities to maintain healthy shellfish stocks. Moreover, it was intergenerational knowledge attained over many years by adults and *kaumatua*. It also draws attention to the value of *ihi* or assertive communication as an essential part of Māori protocol (MacFarlane, 2000). Teachers whose behaviour reflects the quality of *ihi*, as well as *aroha* and *manaaki*, are more likely to establish effective relationships with learners (MacFarlane, 2000). This serves as an example of *whānau* leadership towards safe guidance and healthy living, highlighting the importance of *whanaungatanga* in relation to taha tinana and *tikanga* ideals (Mead, 2003). In this way, the teacher performs the role of a *kai tohutohu,* or one who demonstrates their expert knowledge and abilities. (Metge, 2015). According to Metge (2015) *tohunga* in a modern context are regarded as *tangata pūkenga*, people as storehouses of knowledge, skilled experts, educators, and industry professionals. The term *pūkenga* is akin to *ako* in that it can be described as the sharing and reciprocation of knowledge and skills, ultimately taught by the student in their capacity as an expert teacher. Owing to *whānau* knowledge and guidance, Maka and Pare talked about learning different *tohu* associated to their local waterways. For instance,

> *"There are so many learnings and teachings around tohu (signs), it was like a roadmap…beside that pōhutukawa go down to the right a bit and to the left there are pūpū (cockles)and around the corner at Pīpīrua swim across there and you got some kūtai (mussels)...and I knew that from my whānau, parents, kaumatua and kuia." (Maka)*

> *"We are lucky here because we have the water right out our window. So, we can watch the water, the sand movements, the wind, and that determines whether we go out into the water. Growing up we were always told certain areas of the West Coast where we were allowed to play, we had landmarks, the trees were our markers where to go and swim between." (Pare)*

Memorisation has always been regarded as a significant quality and attribute towards higher learning among Māori (Metge, 2015). The participants remembered a variety of

distinct physical characteristics and circumstances that would affect whether their experiences in water were successful or not. In Vygotsky' ZPD, memorisation is what the learner can easily do on their own, like observe others. As a result, the child's zone of proximal development shifts to serve as a beacon for subsequent development as they learn and internalise the activity through language signals and personal experiences. The participant's views reinforce the value associated with using *tohunga* or *pūkenga* in specific learning situations to not only ensure accurate transmission and application of knowledge and skills (Ka'ai, 2004; Hemara, 2000), but also advise on safety aspects.

Pūkenga Wai

Taha tinana can be greatly enhanced by swimming and water related activities. In addition to *pūkenga* as being skilled, the term *pūkenga wai* can refer to the water skills and competencies of people. For many Māori, living close to open water environments in Aotearoa has always been a part of daily life that extends to aquatic activities for recreation, work, and play (Durie, 2003). In the literature, learn to swim programmes in Aotearoa have traditionally prioritized the teaching of classical swimming techniques, which may not be ideal for open water conditions (Button et al., 2017). Therefore, as part of a wider understanding of what may constitute *pūkenga wai* in aquatic pedagogies, the kinds of water skills and *tikanga* practices the participants were taught as youngsters was of interest to this research. All the participants learnt to swim primarily in open water environments, but some spoke about having stronger connections and skills relevant to the body of water that they resided close to. For instance,

> *"I grew up swimming more in rivers as opposed to the moana because of where we lived. I wasn't really exposed to a lot of water activities, just swimming, whānau picnics and all of that by the river. Swimming was just a part of it." (Anahera)*

> *"As a young person growing up here in Whaingaroa, the moana was our 'pataka kai, the food basket for our whānau, and my earliest memories of learning ocean skills was when we gathered pūpū at low tides, oysters and mussels." (Maka)*

The comments indicate that learning to swim and survive is considered an essential part of health and education for Māori children and skilled pedagogical practice is important for their physical growth and development. The Māori language gives us the word *kau* meaning to swim, and *whakakau*, the act of swimming (Williams, 1985). Best (1976) describes traditional Māori being highly proficient in different methods of swimming, *kau tāhoe* (a form of sidestroke); *kau āpuru* (a form of breaststroke); *kau tāwhai* (a form of freestyle, head up); and *kau kiore* (a form of backstroke and treading upright in water). Each swim stroke has a distinct *tikanga* of physical movements and cognitive patterns, all of which have a specific purpose in various aquatic environments. As Tame and Maia recalled,

> *"Learning how to swim at school was pool-focussed, but with whānau it was moana and awa-focussed…we had our own teachings around how to swim in rivers, ways of reading the river flow and adapting your swimming style to suit, way different to school." (Tame)*

> *"I was always in the water and just being in the water, you couldn't help it [to swim], learning different strokes from my whānau…if you are in the ocean or in rips and that sort of stuff there are different ways of swimming and navigating the currents." (Maia)*

Perhaps more than any other socialiser to water, the family-kinship or *whānau* group is of most significance for young Māori to learn and develop their aquatic skills and abilities. Swimming is a skill for Māori that extends beyond exercise and swimming proficiency to embody special connections with local waterways that serve as a *taonga* for *whānau* (Raureti, 2017). This also applies to *tikanga* procedures for preventing water related injuries as Pare pointed out,

> *"We were told, never turn your back to the water. Never ever…and it was growing up now that I understand why because there is always that freak wave. There's always that current or that hidden danger that you can't see. So, the tikanga was always eyes on the water." (Anahera)*

The comments signal the convergence of cognitive, emotional, and behavioural factors that link taha tinana to taha hinengaro. Metge (2015) suggests, this development of *pūkenga* happens by absorbing the information and water-related experiences that emerge organically in the context of family and community life. Anahera and Maia make mention of this point,

"My dad was always in the water so I would jump on his surfboard with him on his back and he would paddle. Once we went across the harbour, so I was always in the water, jumping off the bridge, even up at school there was a pool, so we did swimming lessons, I also did nippers at the surf club."
(Maia)

"I don't remember having lessons as such, I just remember going into the river and swimming. I don't remember being taught how to swim, I just watched my brothers and then did it…all around play really and I think we didn't really understand then that you were actually learning a skill."
(Anahera)

The remarks demonstrate two aspects of learning aquatic skills. One, Maia water confidence was positively influenced by her father's trust and confidence in his water knowledge and proficiency. In pedagogy, effective teachers are often competent practitioners with high levels of self-efficacy (Hawk et al., 2002). This highlights the need for aquatic educators to have access to practical opportunities to observe, experience, and rehearse safe and physical practice, including making decisions (Brown et al., 2021). Two, Anahera learnt to swim mainly through play and by observing her brothers swimming in the river. This demonstrates how water play can create vital mental and physical patterns in our lives that serve as a network for interacting with others, fostering personal development, and enabling us to find meaning in our experiences (Huizinga, 1949). As Pare said,

"Growing up I started playing in shallow water and just got a bit more courageous and then started to float out a bit more, swim out a bit more with my uncles and hold [floating] bags."

Bandura's Social Learning Theory describes how people learn social behaviours and actions by observing and imitating the behaviours and performances of others, often through play. The approach acknowledges the confidence in one's capacity to plan and carry out the courses of action necessary to control potential situations (Bandura, 1999). Self-belief in one's water confidence and skills whilst still feeling safe in the company of whānau were important determinants to how the participants thought, felt, and actioned their behaviours. There is reference to the steps (e.g., Poutama model) of learning specific water safety

procedures that are in line with the way tikanga is performed. In Māori pedagogy, this practice of learning through *whakarongo titiro* reflects how *mātauranga* Māori has been passed down to future generations (Metge, 2015), and can offer culturally appropriate ways to encourage water-based activities such as swimming. However, despite years of exposure and cultural practice in open water environments, some participants remarked that swim programmes at school were at odds with *whānau* teachings back home. For instance, as Maka described,

> *"We learnt to swim in the ocean and creeks, mainly head up swimming styles…but when we went to school, we were told to swim with our head down so we would have better technique." (Maka)*

Although technical proficiency for the participants may have improved at school, in many cases the place of *tikanga* was compromised especially for Pare regarding water related activities and menstruation.

> *"I love swimming, but I've been taught that swimming and menstruation is not right and then I come to high school, and it's flipped everything that I've been taught by my parents… Yes, so there were a lot of conflicting messages when I went to school." (Pare)*

From a Māori perspective, learning aquatic skills is more about the relationship one has with the water environment, the intangible, and then comes the physical. Literature has addressed the challenges for physical educators to deconstruct their own historical discourses and develop Māori inclusive pedagogies that integrate *tikanga* Māori into state curricula (Hokowhitu, 2004; Slater, 2000; Heaton, 2011). This entails providing a Kaupapa Māori approach to aquatic education, wherein the learners' *tapu* and *mauri* are constantly safeguarded and strengthened as an essential component of their taha tinana. There should also be no unreasonable expectations placed on the learners to act or perform in a one size fits all manner (Ka'ai, 2004).

Haumaru Wai

Haumaru wai is the concept of Māori water safety which is derived from important *tikanga* concepts related to *hauora*, safety, and wellness in and around water (Haimona & Takurua, 2007; Phillips, 2019;). In the context of Māori aquatic pedagogies, taha tinana is significant as it relates to the physical safety and wellbeing of Māori engaging in aquatic

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activities. Thus, it is important to accept that your taha tinana is not always in good shape and susceptible to external elements outside of one's control. *Haumaru wai* plays an important role in drowning prevention for Māori, who have disproportionately higher rates of drowning compared to other ethnic groups in New Zealand (WSNZ, 2018, 2020). This was spoken about by the participants who offered various reasons as to why drowning is a major issue for Māori.

> *"Māori are quite high up in drowning statistics…young male, men going to get a kai…young children struggling to get swimming lessons and the lack of cultural education for the parents and whānau in terms of how to stay safe, keep your children safe around water." (Maka)*

> *"We have a lot of Māori that drown. If you look in a community like this, these kids wouldn't even have access to swimming lessons, probably due to the cost and accessibility. It is $150 a term [for swimming lessons] for one child. So, it's $300 a term if you have two. Usually, Māori families are bigger…and the ability to get them [tamariki] there before and after work is too difficult for many of our whānau." (Maia)*

The comments reflect a range of social, cultural, and environmental factors (Peden et al., 2020), including limited access to swimming and water safety education, and a lack of culturally appropriate water safety initiatives (Giles et al., 2014). Neoliberal reforms in physical education, a lack of swimming pool facilities and teaching resources in New Zealand schools (Culpan & Bruce, 2007; Stevens, 2016) have contributed to the commodification of activities such as Learn to Swim, whereby user pay systems have become a barrier for Māori *whānau* to access their aquatic education. Given Māori children and youth are actively exposed to open water environs and the associated risks of injury and drowning (WSNZ, 2018, 2019), there is a great need to provide culturally responsive pedagogies in aquatic education that consider one's individual skills and the socio-cultural circumstances that can affect their quality of life (Giles et al., 2014). As Anahera and Tame suggest,

> *"There is a great need for our tamariki to get back out into their taiao (environment) and re-establish their cultural connections to water…a lot of*

our tamariki do not get these opportunities now…What they get taught in school is mainly mechanical aspects of how to swim." (Anahera)

"We need to promote expertise in water using mātauranga Māori, to engage our tamariki and Māori communities in water safety education that promotes cultural safety, care and respect towards water as an integral part of one's physical and spiritual wellbeing." (Tame)

These remarks support the literature, which demonstrate the benefits of drowning prevention initiatives responsive to Māori values, beliefs, and cultural water practises that place a strong emphasis on learning as Māori (Jackson et al., 2016; Phillips, 2018). These programmes also incorporate *tikanga* Māori and *te reo* Māori alongside *whānau* support to help build cultural confidence and promote cultural identity. As Bishop and Glynn (2003) suggest, the benefits of Kaupapa Māori education that flow back to the home and community, where *whānau* can participate and assist meaningfully in the education of their *tamariki*, are a crucial component of Māori pedagogies.

In summary, the viewpoints of the participants show the importance of Māori pedagogies that promote *tikanga* Māori, expert advice, and acquiring the necessary water skills to maintain one's well-being and safety in aquatic situations. Swimming and water-related activities promote the cornerstone of taha tinana and how we rely on water to care, sustain, protect, and nourish our body. For the participants, the physical dimension of aquatic education is just one part of health and well-being that is essential to the other dimensions of mind, spirit, and *whānau*. The participants emphasized the considerable value of adhering to *tikanga* and *tohutohu* as being crucial to physical safety and wellness within the aquatic environment. They consider knowing how to swim in open water as an essential part of health and well-being that requires skilled pedagogical practice for physical growth of our Māori children. It is also important that Māori have access to water safety programmes that are culturally inclusive of *tikanga* concepts related to *hauora*, safety, and being physically active in water.

Conclusion

There is a prominent Māori proverb, *'Ko te kai a te rangatira, hē korero'* (Dewes, 1975), which refers to the value of kōrero as being the food and sustenance of chiefs. Through narrative discussions with the participants, this chapter of the research highlighted the cultural significance of *wai* to Māori as a medium for teaching and learning aquatic practices and traditions. Viewed through the cultural concepts of *ako* and *hauora*, aquatic pedagogy positions *wai* as the teacher by embodying, contextualising, actualising, and role-modelling *tikanga* practices as a living system of *mātauranga* Māori and the holistic relationships Māori have with nature. The research findings identify distinct components of aquatic pedagogy that support whenua/wai, taha tinana, taha wairua, taha whānau, and taha hinengaro within a culturally inclusive learning environment.

The next chapter concludes this research with a presentation of the themes and main findings. These conclusions are illustrated within the framework of Tāne Whānau Mārama and the teaching pedagogies that align with the cornerstones of Te Whare Tapa Whā and the pursuit of knowledge and action for Māori within aquatic health and education.

Chapter V: Conclusion

He oranga tō te wai

Water is the source of life and is vital to all living things (Durie, 1998). For Māori, *wai* is paramount to physical and spiritual well-being, a *taonga* of considerable value bound in a *mauri* of *whakapapa* and ancestral histories (Durie, 1998; Royal, 2010). The presence of these *taonga* has resulted in the implementation of culturally responsive pedagogies in the education system, empowering Māori to take control of their own learning and prioritise relationships between students, teachers, and whānau (Smith, 2017). This approach to teaching offers an effective pathway to develop Māori learners at the social, physical, spiritual, and cognitive levels of education (Bishop, 2008; Ka'ai, 2004; Pere, 1982). The strengths-based approach of culturally responsive pedagogy values *mātauranga* Māori as a unique way for understanding the world, and the importance of Māori language and culture in creating a meaningful learning environment (Royal, 2017). Such an environment enriches the transformation of *ako*, to teach and to learn, into *wheako*, those experiences that provide a means of empowerment for the learner (Ka'ai, 2004).

This research set out to describe the core components of Māori pedagogies that can enhance aquatic education for Māori. Te Whare Tapa Whā model (Durie, 1998) was used to frame this study within the essential cornerstones of Māori health and educational development. While Western teaching practices of aquatic education in New Zealand have long been regarded as the most conventional methods of imparting water-related knowledge, awareness, and fundamental swimming and survival skills (Brown et al., 2021; Moran, 2010), the findings of this research demonstrate that culturally responsive pedagogies within aquatic education are more effective than mainstream pedagogies and will impact positively to promote stronger teaching interactions and relationships with Māori learners. Therefore, the primary finding of this research is the development of a new Māori pedagogical framework for aquatic education termed, Tāne Whānau Mārama.

Tāne Whānau Mārama Framework

A new Māori pedagogical framework for aquatic education is the primary conclusion of this research. The following framework called Tāne Whānau Mārama, outlines the pedagogical components that have emerged from the research findings. These components

are founded on cultural practices and experiences that strongly influence Māori relationships with water. Each pedagogical component is grouped under the distinct cornerstones of Te Whare Tapa Whā to illustrate the connections between Tāne Whānau Mārama and the light-giving or knowledge seeking pathways of a Māori world within aquatic education.

Given that Tāne nui a Rangi is the source of knowledge and retrieved the baskets of knowledge from the heavens, and Tāne te waiora arranged the whānau mārama on the breast of his father, Ranginui, it is fitting that each cornerstone and associated research theme be reorganised under the various given names of Tāne. This reflects the significant role of Tāne in the development and evolution of Māori aquatic pedagogies. Each table in the following sections identifies Māori pedagogical components that are derived from the accomplishments of Tāne in the creation of knowledge and its transmission. The Tāne Whānau Mārama (Table 1) provides an overall outline of Māori aquatic pedagogies under each of the respective headings, Tāne nui a Rangi to represent Whenua/Wai, Tāne te Hiringa represents Taha Wairua, Tāne te Wānanga represents Taha Whānau, Tāne te Waiora represents Taha Hinengaro, and Tāne te Pūkenga represents Taha Tinana. Each of the respective headings are expanded on in separate tables which continue to link Māori pedagogy to mātauranga Māori, including teaching indicators that are responsive to the needs, aspirations, and experiences of Māori learners.

Tāne Whānau Mārama: Māori Pedagogical Framework for Aquatic Education

Table 3: Tāne Whānau Mārama

Pedagogical Components of Wheuna/Wai	Description	Teaching Indicators of Tāne nui a Rangi
Whakapapa	Genealogy	*Whakapapa* relationships to *wai* and *whenua*.
Taonga Tuku Iho	Treasures	Water as taonga and treasure for future generations.
Taha Wairua		**Teaching Indicators Tāne te Hiringa**
Wairuatanga	Spirituality	Taha wairua connections with water.
Mauri	Life Force	Recognition of states of *mauri* that demonstrate different levels of a person's wellbeing.
Tapu	Sacred	Respect of *tapu* on a learner's interactions with water.
Mana	Prestige	Nurturing the *mana* of learners in aquatic settings.
Taha Whānau		**Teaching Indicators of Tāne te Wānanga**
Whanaungatanga	Relationships	*Whānau*/group relationships with a shared purpose.
Whānau Pedagogies		
Manaakitanga	Culture of Care	Providing care within a culturally supportive teaching and learning environment.
Kaitiakitanga	Guardianship	Safeguarding cultural connections to water and the natural environment.
Tuakana teina	Mentor Relationships	Mentoring others with reciprocal learning relationships.
Aroha	Love and Kindness	Showing compassion, love, and kindness to fostering each learner's abilities and achievements.
Wānanga	Knowledge Sharing	Collaborative learning and the co-construction of knowledge.
Taha Hinengaro		**Teaching Indicators of Tāne te Waiora**
Waiora	Health, Soundness	Reaffirming the power of water to stimulate and revitalise both the mind and body.
Te reo	Māori language	Asserting the value of *te reo* Māori and *tikanga* practices associated with water skills and activities.
Pūrākau	Māori narratives	Using *pūrākau* to share Māori cultural perspectives about aquatic education.
Taha Tinana		**Teaching Indicators of Tāne te Pūkenga**
Tikanga	Protocols	Using tikanga practices for water related activities.
Tohutohu	Instruction	Emphasising the importance of signs, and local expert guidance in and around water.
Pūkenga wai	Aquatic Skills	Demonstrating pūkenga wai in a range contexts and aquatic environments.
Haumaru wai	Water Safety	Development of aquatic knowledge and skills to improve personal safety and the wellbeing of others.

Whenua/Wai – Tāne nui a Rangi

Tāne-nui-a-Rangi is known in the creation story for separating his parents, Ranginui and Papatūānuku, to bring light and space to the world. Tāne is also a central figure in Māori culture because he acquired the baskets of knowledge and in doing so formed the relationship between Māori people and the natural world, to *whenua* and *wai*.

Table 4: Māori Pedagogical Components of Whenua /Wai

Pedagogical Components	*Description*	*Teaching Indicators of Tāne nui a Rangi*
Whakapapa	Genealogy	Affirm the importance of Māori identity, culture, and *te reo* in establishing *whakapapa* relationships to *wai* and *whenua*.
Taonga Tuku Iho	Cultural treasures	Value water as a living entity, an ancestor and treasure that possesses deep knowledge to be passed on to future generations.

In a Māori world, people preserve their holistic relationships with *wai* in order to sustain a strong sense of health, identity and cultural belonging. For the thesis participants, the elements of *whakapapa* and *taonga tuku iho* came to the fore when discussing their relationship with water as Māori people – the *tangata whenua* and *tangata wai* of Aotearoa (Bargh, 2007). These are essential components of Māori aquatic pedagogies that connect Māori learners to *atua* Māori, to their *tūpuna* and all that exists in the world. This in turn gives educators the chance to emphasise *whakapapa* as a means of enquiry from which knowledge and Māori kinship relationships with nature emerge (Hemara, 2011). *Whakapapa* as pedagogy within aquatic education represents an exploration of unlimited knowledge potential that links ancestors of influence to present generations (Williams, 2004). In aquatic education, *Whakapapa* plays a central role in guiding tikanga and the transmission of mātauranga Māori by making direct connections to *atua* Māori, tribal waterways, ancestors, and marae (Hemara, 2000; Pere, 1982). In addition to preserving that knowledge, teachers are tasked with the duty of enriching it with their own teachings. (Metge, 2015).

Water is a *taonga tuku iho*, a treasure handed down from the ancestors. It is a living entity that embodies the *mana* of *atua* Māori which forms the foundations of intellectual and philosophical traditions (Pihama, 2001). This study recognises *taonga tuku iho* as a powerful component of pedagogy and the value Māori people place on water as a treasure of cultural heritage. Essential in aquatic teaching pedagogies therefore, is the requirement to respect and

support the identities of Māori learners' and their relationships with water as akin to that of land in affirming their being-ness and cultural identity (Ritchie & Rau, 2010). As an assessment tool, *whakapapa* places a strong emphasis on improving and unlocking the potential of the spiritual and physical well-being of Māori children (Paki, 2007). Thus, the research supports *whakapapa* and *taonga tuku iho* as unique qualities of Māori aquatic pedagogies that offer meaning in terms of *mātauranga* Māori and the physical and spiritual interactions we have with *wai*.

Taha Wairua – Tāne te Hiringa

Tāne te hiringa is another characteristic of Tāne that signifies the spiritual vitalities and forces of a Māori universe. These synergies empower and connect a person's spiritual and physical dimensions to sources of esoteric knowledge and ritual practice.

Table 5: Māori Pedagogical Components of Taha Wairua

Pedagogical Components	*Description*	*Teaching Indicators Tāne te Hiringa*
Wairuatanga	Spirituality	Value a person's spiritual health and taha wairua connections with others, including water as being essential to their identity and survival as Māori.
Mauri	Life Force	Recognise that mauri is a life force that permeates both people and water. Different states of *mauri* can help to explain different levels of wellbeing (e.g *mauri ora, mauri noho*).
Tapu	Sacred, Restricted	Respect *tapu* on the learner's freedom of action around water and safeguard its effects on their moral, physical, social, and spiritual wellness.
Mana	Prestige, Power	Uphold and nurture the *mana* of learners and their actions around water through a process that empowers them to grow and learn.

The significance of water to Māori is the spiritual connection to nature and significant others (such as ancestors) which highlights the importance of Māori pedagogies in fostering the taha *wairua* cornerstone. Overwhelmingly, the participants in this study felt the spiritual bonds they have to water are crucial in determining their positive health and wellbeing. Their views support the idea that valuing a learner's spiritual dimensions complements and strengthens their physical attributes (Metge, 1995). This demonstrates how Māori students in aquatic education can be greatly aided by teaching and learning methods that foster one's

spirituality within aquatic-based settings. As pointed out by Ka'ai (2004), when Māori pedagogy is clothed in the medium of *wairua*, the feelings and emotions expressed by the learners are recognised as being central to the learning process. These findings are consistent with similar views of taha wairua in connection to the essence of water put forward by others in the literature (Durie et al., 2017; Durie, 1998; Pere, 1982; Phillips, 2018). Subsequently, ways of further understanding taha wairua within aquatic education are captured within the spiritual attributes of *wairuatanga*, *mauri*, *tapu*, and *mana*.

Wairuatanga can be described as two streams merging as a river (Love, 2004), which reflects a person's relationship between the physical and the spiritual dimensions of a Māori world. This study referred to *mauri* as the life force of all living things, especially water. *Wairua* is vital to how Māori connect with the environment, to others, to situations, and is thus directly responsive to and affected by teaching and learning (Durie et al., 2017; Pere, 1982). Teaching under these principles incorporates how the health of water directly affects the mauri of people who interact with it (Morgan, 2006). By integrating perspectives on *mauri,* water, and spirituality into pedagogical approaches, educators can support a more culturally responsive learning environment. The study also emphasises how crucial it is for pedagogies in aquatic education to carefully consider the influences of *tapu* and *mana* on students and the implications for their moral and spiritual wellness (Bishop & Glynn, 2003; Rau & Ritchie, 2011). This emphasises how crucial *wairua* is to a student's development and learning, and how it must be nurtured and safeguarded for the learner to realise their full potential (Rameka, 2015). Te Whāriki curriculum highlights the vision for children as being competent and confident learners, "… healthy in mind, body, and spirit." (Ministry of Education, 2017, p.5). Taha wairua is vitally important in aquatic pedagogy for Māori because it is the point of where the learner's spiritual dimensions are interwoven into the physical dimensions of water and a lived experience.

Taha Whānau – Tāne te Wānanga

As Tāne te wānanga, the quest of Tāne to scale the heavens and obtain the three baskets of knowledge was to seek *wānanga* on behalf of others. Here the sum of collective knowledge determines the welfare of the *whānau* and community, and where individuals have a duty to share their knowledge.

Table 6: Māori Pedagogical Components of Taha Whānau

Pedagogical Components	Description	Teaching Indicators of Tāne te Wānanga
Whanaungatanga	Strengthening Relationships	Create *whānau*/group kinship relationships, cohesion, and cooperation for a shared purpose.
Whānau Pedagogies		
Manaakitanga	Culture of Care	Provide care, respect, and supportive learning culture for Māori learners.
Kaitiakitanga	Guardianship	Safeguarding, role modelling, nurturing connections with the natural environment.
Tuakana teina	Mentor Relationships	Encourage mentoring others, sharing, reciprocal relationships, peers tutoring.
Aroha	Love, Care and Kindness	Show compassion, trust, and kindness, fostering learner's abilities and achievements.
Wānanga	Knowledge Sharing	Engage in collaborative learning, professional development, sharing and co construction of knowledge through dialogue and practice.

The importance of strong *whānau* relationships as the foundation for promoting health and educational achievement is accentuated by the taha whānau cornerstone. W*hānau* pedagogies were acknowledged as having the most impact on participants' learning and development (Skerrett & Rau, 2019) of aquatic skills as both children and adults. The thesis participants own teaching pedagogies for aquatic education have been co-constructed with the aid of intergenerational transmission of *whānau* knowledge and experiences. These pedagogies offer cultural insights of Māori aquatic learning experiences that are comprised of *whānau* knowledge and *tikanga,* which are shown in table 5. They are grouped together to acknowledge the value of *whānau* unity, *kotahitanga*, and collective ways of teaching pedagogies and learning (Bishop et al., 2003). It is in these educational contexts within which aquatic pedagogies for Māori can take place effectively given the right support. That is, teachers see Māori learners as constituting a whānau group, demonstrating responsibilities to look out for and support each group member while still adhering to the collective purpose of the group (Bishop et al., 2014). These methods of learning through *whānau* knowledge, experience, relationships and significant others, are consistent with the elements of effective teaching practice as described in 'Te Kotahitanga' (Bishop et al. 2003), as well as Durie's (2003) model of *whānau* development capacity. Findings from Button et al. (2017) point to the importance of 'Water Skills for Life' being an integral component of the school

curriculum and the need for *whānau* participation and engagement in introducing children to aquatic environments safely.

The relevance of *whanaungatanga* as a central component to foster overall pedagogical quality and build trusting relationships with Māori learners (Bishop et al., 2014) is clearly supported by the research findings. However, although *whanaungatanga* was seen as essential to Māori engagement in aquatic learning processes, this study found that it worked best when practiced within taha whānau like relationships of *manaakitanga*, *kaitakitanga*, *tuakana/teina*, *aroha* and *wānanga*. In turn, this acknowledges the importance of whānau, like that of the teacher, as a *kaitiaki* that assumes responsibility in creating a safe learning environment for students (Metge, 2015; Smith, 1997). Despite *whānau* personnel not always having the formal qualifications of aquatic education many remain rich in *mātauranga* Māori and the applications of *tikanga* for specific water related activities. Hence, it is important that teachers are aware of what a student brings to the learning process, including their *whanau*, their cultural heritage, their knowledge, and experiences as well as their strengths and flaws (Bishop & Glynn, 2003). Getting to know the *whānau* background of the learner plays a significant role in determining whether that child will engage in learning with confidence.

Assessment approaches must also take account and support connectedness of the learner's access to water-related experiences within their *whānau* capacities (Rameka, 2011). The study, therefore, provides a deeper understanding of taha whānau and Māori pedagogical concepts that can contribute to the empowerment of Māori learners within aquatic education (Durie, 2003). It highlights the true essence of Māori aquatic pedagogies that are relationship-based, reciprocal, and fosters a shared teaching and learning process that is collaborative towards individual goals and *whānau* needs (Bishop & Berryman, 2009). A specific focus on taha whānau development is an effective way of addressing the needs of Māori children in aquatic education for the future (Durie, 2003).

Taha Hinengaro – Tāne te Waiora

Tāne te waiora is the personified form of Tāne representing water as the source of life and enlightenment. In Māori tradition, bathing in the waters of Tāne releases feelings of well-being, purification, cleansing and positive emotions to enhance one's self-worth and aspirations.

Table 7: Māori Pedagogical Components of Taha Hinengaro

Pedagogical Components	Description	Teaching Indicators of Tāne te Waiora
Waiora	Health and soundness	Inspire learners to explore and engage their mind, body, and spirit by affirming the capacity of water to cleanse, purify, heal, and stimulate all senses.
Te reo	Māori language	Assert the value of *te reo* Māori and the authentic communication of Māori concepts, expressions, and practices associated to water and related activities.
Pūrākau	Māori narratives	Enhance cognitive abilities with *pūrākau* and stories of ancestors' water exploits that provoke ideas, dialogue, and fresh perspectives on current situations.

This research gave insight into how Māori participate in aquatic activities to maintain their mental well-being. The research findings indicate that when Māori people are in good mental health, water is a significant contribution to those feelings. The term *waiora* refers to a broad understanding of human wellbeing, grounded in *wai* as the source of *ora* that is good for the soul'. *Waiora* is centred on *wairua*, so it incorporates all the cornerstones of wellbeing to strengthen and enhance a person's *mauri*, *mana*, and vitality (Pere, 1982). Because water is a powerful medium for the process of human thought, a person's emotional and mental health can be supported or diminished by their relationship with water. Thus, creating such a state of *waiora* also connects the learner to water as a source of well-being, purification, cleansing and positive feelings to enhance self-worth. Given taha hinengaro derives from inside the individual, it is essential to also recognise how external environmental factors affect one's *waiora*. For example, the water quality of aquatic environments, and the learning processes and social relationships that support an individual's emotional well-being (Durie, 1998; Morgan, 2006).

In a Māori world the process of knowledge and cultural transmission to succeeding generations is best achieved through *te reo* Māori (Karetu, 1992). The Māori language is the life principle of *mana* Māori (Hohepa, 1990), and no other language can fully convey the intricacies of Māori concepts and traditions, making it essential in the transmission of Māori pedagogies in aquatic education (Nepe, 1991). The study participants spoke of the

preservation and usage of old Māori *kupu* but did not preclude adaptation and change for keeping terms relevant to their learners and the present time (Metge, 2015). *Te reo*-based aquatic activities provided learners with the opportunity to expand their language skills with greater adeptness and creative thinking (Moorfield & Johnston, 2004). This strengthens the support for teachers to promote *te reo* within aquatic education as a means of encouraging Māori participation and opportunities to support their cultural aspirations.

The research found *pūrākau* as pedagogy offers the ideals of *ako* as a means of disseminating Māori knowledge and traditions. For example, *pūrākau* provide us with a wealth of teachings and learnings about tribal waterways as conveyed in the taniwha stories by the participants. These *pūrākau* offer a way for people to share *mātauranga* Māori, which ensures the survival and sustainability of the culture. However, the authenticity and correct delivery of *pūrākau* are important considerations for teachers to be mindful of (Ka'ai, 2004; Lee-Morgan, 2019). They are essential for comprehending the Māori world as they provoke ideas, thoughts, emotions, hidden meanings, and cautionary statements (Lee- Morgan, 2019; Pihama et al., 2019). These cognitive benefits further highlight the relevance of *pūrākau* to the taha hinengaro cornerstone. Likewise, *te reo* Māori empowers one to express their mind and body in a variety of ways through thoughts, feelings, voice, and action. Essentially, the cornerstone of taha hinengaro brings together *te reo* Māori *me ōna tikanga* as a social, cultural, psychological, and intellectual pathway for conveying one's thoughts and feelings within aquatic learning settings.

Taha Tinana – Tāne te Pūkenga

In his capacity as Tāne te pūkenga, Tāne personifies the pursuit of knowledge and skill development, the transformation of *mātauranga* Māori into *tikanga* Māori, the application of theory to practice, and the integration of a person's mind and body with action.

Table 8: Māori Pedagogical Components of Taha Tinana.

Pedagogical Component	*Description*	*Teaching Indicators of Tāne te Pūkenga*
Tikanga	Protocols	Affirm tikanga and rules of practice for water related activities, e.g karakia for personal protection and rāhui for conservation.

Tohutohu	Instruct and Guide	Emphasise the importance of natural signs, symbols, language, metaphors, local and expert guidance in and around water.
Pūkenga wai	Aquatic Knowledge and Skills	Develop, practice, and perform pūkenga wai in a range aquatic contexts and environments.
Haumaru wai	Water Safety	Incorporates physical and socio-cultural factors alongside skill development and strategies that affect personal safety and the wellbeing of others.

Tikanga practices are fundamental to their own teaching pedagogies. For instance, the use of *karakia* to ask for spiritual protection and give thanks (Metge, 2015; Phillips, 2018) respect for *rāhui* and conservation practices (Mead, 2003); demonstrating *kaitiakitanga* (Burke & Rameka, 2015); the importance of readiness (Metge, 2015), adhering to local *tohutohu* and customs (Pere, 1982); practising in safe contexts (Phillips, 2019); and respect for the *tapu* associated to bodily functions in aquatic environments (Mead, 2003; Metge, 2015). These *tikanga* carefully consider the influences of *tapu* and *noa* states on the *mana* of Māori students and the implications for their bodily health and function (Mead, 2003; Durie, 1998). When teachers create a culturally responsive environment that incorporates Māori values and practices to facilitate teaching and learning, Māori students are more likely to reach their full potential (Bishop et al, 2003). Thus, *tikanga* in aquatic pedagogy encompasses the values of respect, reciprocity, and collective responsibility, all central for shaping the learning environment and promoting positive relationships between teachers and Māori learners.

This research acknowledges the benefits of swimming and aquatic activities for Māori, this promotes taha tinana and the cultural significance of being in and around water. Considering Māori children and youth are regularly exposed to aquatic environments and the risk of drowning incidents (WSNZ, 2018, 2019), these findings suggest that culturally responsive pedagogies can be a significant component of Māori student learning within aquatic education (Giles et al., 2014; Phillips, 2018). In addition to the long-term effects of learning physical activities during childhood and adolescence, the cultural context in which these activities are taught can have a substantial impact on physical wellbeing and social development (Bandura, 1999; Tangaere, 1997). This research highlights the value of teaching pedagogies that promote *tikanga* Māori, knowledgeable guidance and supervision, and the

learning of aquatic skills necessary for safety in open water environments. The research indicates that these competencies and skills relate to an individual's physical literacy, their motivation, self-assurance, and abilities to engage in physical activity, as well as their cultural knowledge and awareness of how being physically active benefits their life (Sport New Zealand, 2020).

The concept of *pūkenga* is akin to *ako* in practice, in that it refers to the reciprocal transfer of knowledge and skills with the goal of eventually transforming the student into the skilled teacher. For the research participants, the development of *pūkenga wai* occurred from a young age by absorbing the knowledge, water skills and *tikanga* practices that were modelled and taught to them by *whānau* members and *tohunga*, including ways of swimming that were typically Māori (Metge, 2015). Thus, aquatic skills are a critical component of students' physical literacy in education and health in New Zealand (Button, 2016), and appropriate pedagogical practices are essential for their physical and cultural development. The conclusions drawn from this study on how Māori children may acquire their aquatic skills and behaviours were consistent with the following theories about learning. Firstly, experiential learning and progressive development (e.g., The Poutama Model), where students learn by doing, playing, mimicking, and through hands-on experiences. Again, there is reference to the steps and procedures of learning specific water safety procedures that are in line with the way tikanga is performed. Secondly, learning in a Māori context, which emphasizes social processes, the integration of *te reo* Māori, and activities that reflect cultural experiences and understandings. Thirdly, place-based learning, where aquatic skills are taught within the context of the local environment, focusing on various aquatic environments and activities involving the whānau and community. In these teachings, learning is co-constructed by the teacher and students, as both move from *ako* to *wheako*.

The practice of *haumaru wai* is important in Māori aquatic pedagogies as it relates to the physical safety of people, and the potential risks involved in water activities. From this study, drowning is a major issue among Māori due to a suite of factors including limited access to swimming lessons and Kaupapa Māori water safety education. Culturally responsive pedagogies in aquatic education that consider individual skills and socio-cultural circumstances are needed to promote cultural connections to water and relative education strategies. Hence, there is potential to improve the Māori drowning situation through Māori aquatic pedagogies that are grounded in *te ao* Māori (Phillips, 2018). In addition, the need to

redefine teaching practice and move away from the one size fits all culture (Ka'ai, 2004) by incorporating teaching methods that are best suited to the needs of the individual (Giles et al., 2014; WHO, 2017). Aquatic teaching and learning contexts that are centred on Kaupapa Māori education can effectively connect with the cultural backgrounds and socioeconomic conditions of Māori people (Smith, 2017). Hence, implementing Māori aquatic pedagogy is not solely a formal process of education between just the teacher and student, but also inclusive of understanding Māori *whānau* and the needs of the community (Phillips, 2018; Smith, 2017). This aligns with the focus of the Physical Health and Education curricula to recognise the social and environmental factors that impact on taha tinana and the wellbeing of Māori students (Ministry of Education, 2007). In essence, the physical dimension of aquatic education is just one part of health that is essential to the other aspects of mind, spirit, and *whānau* (Durie, 1998).

Research Implications

Recognising the cultural significance of water to Māori as a *taonga* and the significant role that water-based activities play in Māori culture and society, this study highlights the importance of culturally responsive pedagogies for Māori students. The study's findings provide insight into the key components of Māori pedagogies that can improve Māori aquatic education, incorporating Māori concepts, values, principles, and customs, sourced from a Māori worldview. Taken together these findings suggest how such cultural components transmit the significance of *ako* within aquatic education. Moreover, the cultural perceptions of water between Māori students and teachers, and the different ways they see, understand, and interact with the aquatic environment, can lead to positive learning relationships and experiences. Thus, a key implication of this research is that Māori aquatic pedagogies have potential benefits for Māori learners and can inform the professional development of educators and teaching practices in this field (Bishop et al., 2003; Ka'ai, 2004). These implications can also improve Māori learners' engagement and interest in water-related activities, which can positively impact on their achievement and educational outcomes. Ultimately, it is hypothesised that such an approach can improve Māori drowning rates.

Limitations

Two important aspects related to the development of the thesis findings must be taken into account. Firstly, the pedagogical components derived from this research are based primarily on participant responses and related literature and do not necessarily represent the views of all Māori. The small number of research particpants means this study can be considered to lack a wider range of perspectives and experiences. Unfortunately, limitations due to Covid 19 constraints around social distancing and personal safety measures prevented several practical research activities from taking place such as observational analysis of *tamariki* swimming lessons with Kōhanga Reo. It is important to acknowledge these limitations and their potential impact on the validity and reliability of this study. Nevertheless, studies across other learning subjects show similar findings to those reported here and demonstrate the efficacy of Māori pedagogies in helping to raise Māori achievement (Bishop et al., 2003; Jackson et al., 2016; Phillips & Mita, 2016; Washburn, 2018).

Secondly, Māori teaching pedagogies are not static but constantly shaped by many factors such as the surrounding environment, people's perspectives, relationships, attitudes and behaviours, events and actions. Some scholars suggest that there is no best way to teach, but there are better ways to teach specific content to particular students (Rink, 2001). Indeed, this research has shown that Māori relationships with water are so distinct that educators in this field need to emphasize the importance of respecting Māori values related to water based activities. Thus, in order to include Māori concepts of learning into teaching practices, educators need to first shift their own cultural understandings and practices. By seeking proven Māori research and literature, and by listening to the guidance of Māori *pūkenga*, teachers can learn more about *tikanga* protocols and procedures in a culturally responsive manner (MacFarlane, 2009). The study participants of this research strongly emphasised the importance of a Māori perspective in aquatic education to encourage effective *whānau* support of their *tamariki* and *mokopuna*. In addition, the need for adequate resources, professional development, and ongoing support to increase teacher capacity in promoting Māori pedagogies in aquatic education was widely recognised by the participants.

Future Research

Although this study provided only conceptual findings highlighting the effectiveness of Māori pedagogies to engage Māori learning within aquatic education, it would be beneficial to conduct empirical research to determine the effectiveness of these findings. Future research should continue to investigate the relevance of a Māori world-view to aquatic education as well as culturally responsive strategies for drowning prevention. Developing a better understanding of Māori connections to water can lead to better collaboration and a more holistic approach to addressing the problem of Māori drowning. This study suggests Māori water safety practices are an underutilised source of knowledge and practice that would benefit both Māori and westernised pedagogies of aquatic education in Aotearoa (Phillips, 2018; Pringle, 2016).

Another area that would benefit from further research would be the potential barriers that educators may face when implementing Māori aquatic pedagogies. For instance, cultural dimensions within education can pose challenges for educators because they are so value laden (MacFarlane, 2004). Additionally, costs associated to aquatic education can be a barrier for teachers, parents, and schools, particularly those who struggle to obtain necessary resources and quality teaching providers. Finally, Kaupapa Māori research could be conducted to assess peoples' attitudes and understandings towards the cornerstones of the Whare Tapa Whā model (Durie, 1985), or other Māori health models such as Wai Puna (Phillips, 2018). Such research would contribute to the body of literature on the relevance of Māori aquatic pedagogies within Māori health and education frameworks that are grounded in a Māori worldview.

Final Thoughts

With Māori children and youth continually exposed to aquatic environments and the risk of drowning incidents, culturally responsive pedagogies need to be a significant component of their learning experiences. By identifying core pedagogical components, this thesis has provided valuable insights for educators and policymakers seeking to advance aquatic teaching practices and water safety in Aotearoa. Notably, the creation of a Māori aquatic pedagogical framework from this research will positively impact Māori and promote effective aquatic teaching pedagogies that integrate *ako* and support Māori cultural aspirations. To fully promote Māori learning potential and embrace Māori values and practices in and around water, Māori paedagogies are vitally essential in aquatic education.

In concluding, the research is indicative of the distinct Māori pedagogical components that can support Māori models of health and education to incorporate aspects of taha whenua/wai, taha whānau, taha wairua, taha hinengaro, and taha tinana within a culturally responsive learning environment. It is perhaps fitting to end this thesis with a *karakia* that seeks to embody one's ongoing pursuit of knowledge and water skills development.

Whaia, whaia, whaia ki te uru tapu nui o Tāne

Tāne te waiora,

Tāne te hiringa,

Tāne te wānanga,

Tāne te pūkenga,

Tāne te whakaputina,

Ki te whai ao ki te ao mārama

Tihei mauri ora!

Appendices

Appendix A: Ethics Letter of Approval

The University of Waikato
Private Bag 3105
Gate 1, Knighton Road
Hamilton, New Zealand

Human Research Ethics Committee
Roger Moltzen
Telephone: +64021658119
Email:humanethics@waikato.ac.nz

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

13 October 2020

Mark Haimona
Te Huataki Waiora: School of Health
DHECS
By email: m.haimona@xtra.co.nz

Dear Mark

HREC(Health)2020#67 : Māori Pedagogies – A Customized View of Water Safety Education and Health in Aotearoa

Thank you for your responses to the Committee's feedback.

We are now pleased to provide formal approval for your project.

Please contact the committee by email (humanethics@waikato.ac.nz) if you wish to make changes to your project as it unfolds, quoting your application number with your future correspondence. Any minor changes or additions to the approved research activities can be handled outside the monthly application cycle.

We wish you all the best with your research.

Regards,

_____

Emeritus Professor Roger Moltzen MNZM
Chairperson
University of Waikato Human Research Ethics Committee

Appendix B: Information Sheet

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Semi Structured Interview – Cover Letter

Date:

Recipient's name:

Organisation:

Address:

Tēnā Koe (insert name of participant),

My name is Mark Haimona and I am a student at the University of Waikato, Te Huataki Waiora: The School of Health, undertaking a Masters research thesis in the area of Māori water safety pedagogies and practices. My topic of research is titled - **Māori Pedagogies: A Customised View of Water Safety Education and Drowning Prevention in Aotearoa.**

The main objectives of the research are to:

- Validate Māori traditional teaching and learning practices in and around water

- Explain how Māori needs and effects differ from westernised norms and practices

- Identify the key success factors of Māori pedagogical approaches to health education and drowning prevention

- Develop a conceptual framework for water safety practices and emergent themes that support a cultural view of effective teaching

You have been identified as an interview candidate who has access to the forms of water safety practices that contain cultural knowledge which the research would like to include. As such, I invite you to participate in a one to one interview of about 50-60 minutes in duration. I hope that you will consider this as an opportunity to express your views, knowledge, expertise, and experiences regarding this topic of research. Research findings will be published as part of the researcher's thesis publication and will also be included in an executive summary report made available to all research participants. If you wish to participate, please read the information sheet attached and I will contact you soon to schedule a suitable time to meet. I thank you for considering this project, please contact me if you have any further queries.

Nāku iti noa,

Nā Mark Haimona

Mobile: ██████████

General enquires can be directed to the Researcher, Email m.haimona@xtra.co.nz ; OR my Research Supervisor: Dr Jordan Waiti, Email Jordan.waiti@waikato.ac.nz

Appendix C: Consent form

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Consent Form for Participants

Māori Pedagogies: A Customised View of Water Safety Education and Drowning Prevention in Aotearoa.

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage. I know that:

1. My participation in the project is entirely voluntary.

2. Participants are free to withdraw until three weeks following data collection.

3. Personal identifying information such as audiotapes will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years.

4. This project involves an open-questioning technique. The precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind.

5. The results of the project may be published but every attempt will be made to preserve my anonymity should I choose to remain anonymous.

6. I, as the participant:

   a) agree to being named in the research, YES/NO

   OR;

   b) would rather remain anonymous YES/NO

7. I agree to take part in this project.

.... (Name)

.... (Signature)

……………………(Date)

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