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Fanning the divine spark:

Gaining understandings of micro-interactions in New Zealand classrooms

A thesis

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Fanning the divine spark: Gaining understandings of micro-interactions in New Zealand classrooms

Abstract

New Zealand's Treaty of Waitangi was signed by representatives of Iwi Māori (Indigenous tribal groups) and the British Crown. Inherent in the heritages of both signatory groups is the ontological positioning that children are born of greatness; carriers of the divine spark from Tama-nui-te-rā (the central sun) and created in the image of God. Almost all New Zealand children attend school. For some, their ongoing classroom experiences with educators fans their divine spark and works towards the realisation of their innate potential. For others, schooling is not a positive experience and their divine spark may be neither recognised nor celebrated.

This research explores the relationships and pedagogical practices that underpin the classroom micro-interactions experienced by children. Children's schooling experience is made up of small interactions in classrooms that are situated in the social, political and legal contexts of schooling. Therefore, this research applies both a centripetal and a centrifugal examination of the macro and micro contexts of classroom interactions.

In examining the macro-context, ontological views of the child and the theoretical frameworks that guide pedagogy are considered. The Education Acts governing New Zealand schooling have successively contained an ontological contradiction that enforces both a factory model as the preferred means of schooling for New Zealand and a requirement to honour the Treaty of Waitangi, including the worldviews of both signatories. I conclude that educators within the compulsory schooling sector are not provided with specific guidance on how to navigate these contradictory worldviews. Neither ontological views of how children are perceived within the system, nor theoretical frameworks that could and should inform views of knowledge and how learning occurs, are made explicit for educators.

At the micro-context level, relationships and pedagogical practices are explored through case studies in three different New Zealand classrooms. In each case, from video-recordings of classroom interactions, critical incidents were extracted and used to support interviews with participating teachers, students, parents and members of the wider school community. Employing culturally responsive research methodologies, the interactions with participants were relational and dialogic. The research found that classroom micro-interactions are pervasive and complex. All participants, students, teachers and whānau, draw from the knowledge, understandings and positionings of the individual's own cultural toolkits in classroom interactions. Their cultural toolkits contain a range of factors to support learning, all of which were necessary and interdependent.

The thesis calls for all children to receive an education that fans their inherent divine spark. While this experience is not yet the case for all, there is opportunity in the rhetoric and structures already within New Zealand's education system for this to occur. Some schools and communities have begun to successfully challenge and address the prevailing theoretical and pedagogical status quo. Therefore, there is reason for radical hope for a system-wide fanning of the divine spark in every child.

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A note of gratitude, also, to those connected to the three schools represented in this thesis. It has been a true privilege to have walked alongside you through this research. Each of you are truly inspiring - it was an honour to witness your journey.

Dedication

To my mokopuna – the most wonderful grandchildren in the world. To the nine who have been part of this journey, the one on the way and those yet to come – I dedicate this thesis to you. May you truly know, and may your educational journeys truly confirm, that you are tamariki – born of spiritual greatness, carriers of the divine spark and created in the image of God.

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Chapter 1: Introduction

Fanning the divine spark

Schooling, including learning in classroom settings, is a common experience for almost every child in Aotearoa New Zealand (henceforth referred to as New Zealand). Compulsory schooling has been legislated through the Education Act since 1877 and, currently, 99.2 per cent of all New Zealand children obtain their education through school enrolment (Ministry of Education, 2020a). Through this very pervasiveness, schooling has an unprecedented influence on how children view themselves and the world they live in.

The Treaty of Waitangi, signed in 1840, is unique to New Zealand, the only country in the world where schools are obligated, through legislation, to honour this Treaty. Honouring the Treaty requires schools to reflect the different heritages, worldviews and cultural values of both Iwi Māori and the British Crown, these groups being the signatories of the Treaty. A core component inherent in these worldviews is how children are perceived and positioned. In this thesis I argue that the heritages of both Treaty partners could and should position every child as born of greatness (Marsden, 2003), created in the image of God (Genesis 1: 26-27) and a carrier of the divine spark from Tama-nui-te-rā (the central sun) (Pihama, Smith, Taki & Lee, 2004, p.22). Therefore the role of schooling, drawing from these worldviews, should be to fan that divine spark, providing the conditions and support for each spark to burn brightly. If this were so, classrooms would be the places where, in a blaze of potential, the uniqueness and spiritual greatness of every child was at the fore in every teaching and learning relationship and interaction.

However, the classroom experiences of individual children are variable, not every experience is a positive one. Over my career, I have been a teacher, a Government official and a researcher. In this time, I have visited hundreds of classrooms, observing the classroom interactions of several hundred teachers and thousands of students. In my current role, I have the privilege of

working with schools who are implementing the *ako: critical contexts for reform* model, a model for school reform aimed at transforming the experiences of children within New Zealand schools and improving their subsequent educational success. Through all these experiences, I have seen the busy-ness and activity of every classroom. No matter how well-planned a teacher is, the very act of teaching requires them to rapidly respond to the myriad of student demands and responses. Students are also making a multitude of learning and teaching decisions within micro-interactions.

In some classrooms, children appear to be flourishing and thriving within their learning interactions. These children appear confident that those who are interacting with them value them, their whānau (extended family) and their cultures. While I have seen many positive learning interactions, I have also observed many classrooms where the experiences for all students, for some students, or for groups of students are not positive and children appear to be enduring rather than enjoying their education. Sadly, both New Zealand's history and current national statistics demonstrate that many of the children for whom schooling is a negative experience are Māori, those of minority cultures and those with special education needs; in short, those learners most vulnerable within the system. The incorporation of the Treaty of Waitangi in the Education Act has not, in itself, been sufficient to ensure a positive schooling experience for all.

The varied range of classroom experiences and outcomes for our nation's children inspired this doctoral research. The surface observations of different classrooms had not provided me with useful understandings or insights into why the experiences of children differ. In some cases, the contextual factors appeared very similar, in the same school, with the same classroom environments and with teachers of similar experience and qualifications, yet the observed classroom dynamics and outcomes for children appeared to be very different. In other cases, the contextual factors between classrooms or between schools seemed to be quite different, but the observed classroom dynamics appeared to be similar. Regardless of individual classroom contexts, the outcomes for individual students and groups of students at a class,

school and national level continues to show a significant disparity in the enjoyment and achievement of educational success for our very predictable and most vulnerable students. Most troubling is the ongoing failure of our education system, over successive generations, to close the gap in the experiences and outcomes for vulnerable students, particularly Māori students. Puzzling over the variety of classroom experiences and learning and social outcomes led me to wonder, and now investigate, why there is this variation in student experiences and what makes for effective classroom micro-interactions, both relationally and pedagogically.

Classroom micro-interactions

Classroom life is a series of interactions. For the teacher alone, a day can contain over a thousand decisions and responses (Shavelson, 2003). Students are also interacting with the teacher and with each other. In every interaction students are choosing whether they will engage or not with the learning and whether they will invest or not with the relationship. Student influence is as significant to classroom culture as that of the teacher (Nuthall, 2007; Siope, 2013). How each participant interacts, relates and learns in an interaction is continuously shaped by their personal social, cultural and historic influences and drawn from the factors within their personal 'cultural toolkits' (Bruner, 1996; Swidler, 1986), that is, the sum of the elements from their cultural contexts that informs their behaviour and decision-making.

An examination of classroom interactions is, therefore, very important in gaining a deeper understanding of students' schooling experiences and, indeed, New Zealand's collective future. Classroom micro-interactions have been called the "most immediate determinant of student success or failure in school" (Cummins, 2003, p. 51). My observations and New Zealand research (for example, Berryman & Eley, 2017a; Bishop & Berryman, 2006; Office of the Commissioner for Children & New Zealand School Trustees Association, 2018) showed that, for too many children, their daily classroom interactions were often negative and destructive. For these children, positive or negative classroom experiences were a matter of luck, they had few

means of selecting or rejecting the classrooms to which they were assigned. Their teachers, though, are overwhelmingly well-intentioned. Almost every teacher I have spoken to, throughout my career, has said that they wish for every child in their class to succeed. Despite these intentions, students' experiences with teachers are not the same, and up to 59 percent of variance in New Zealand student performance can be attributed to differences between teachers (Alton-Lee, 2003, p. v). In addition, the daily interactions with their peers, although harder to quantify (Kimbrough et al., 2017), also impacts significantly on children's ongoing well-being and academic success. Research on what makes for effective and successful classroom interactions is therefore essential for improving outcomes for all children.

This doctoral research examines classroom micro-interactions with the intent of helping policy-makers and educators understand how they might improve the learning experiences of all children. One part of the research provides a close investigation of specific, critical incidents within three case study classrooms. The very close, fine-grained analysis of the component parts of micro-interactions can be described as taking a centripetal perspective (Durie, 2011). The research also examines, from a centrifugal perspective, the macro-context in which classroom interactions are located. This wider view looks outwards to the ontological and epistemological perspectives that underpin both schooling and classroom practices and the influences from wider society.

As with the work in *Relational and responsive inclusion: Contexts for becoming and belonging* (Berryman et al., 2015), the standard APA convention of writing foreign (non-American) words in italics for the first time will not be adhered to. As these authors state, this allows that all the words are given "the same space" (2015, p. 2). All te reo (Māori language) words are explained the first time that they are used and are included in the glossary.

The research questions

The research questions at the heart of this thesis reflect both a centrifugal exploration of the macro-context of schooling and classroom practices, and the centripetal examination of the micro-interactions. Throughout this research, I have continued to refine the research questions, developing these as my understandings grew about the need to view learning within both macro and micro contexts. In this final iteration, the research questions are:

1. How does the macro-context of the Treaty of Waitangi underpin and inform the micro-context of classroom interactions in Aotearoa New Zealand schooling?
2. What theoretical frameworks underpin the relationships and pedagogical practices in New Zealand classrooms?
3. How are the cultural toolkits (knowledge, understandings and positionings) of teachers, students and parents drawn on within classroom micro-interactions?
4. How does the *ako: critical contexts for change* model support effective classroom micro-interactions?

Outline of this thesis

Chapter Two presents a literature and document review that explores the ontological and epistemological positionings in New Zealand schooling. It shows the potential in New Zealand for an education system that draws on the promises inherent in the Treaty of Waitangi. Given the absence of explicit guidance, on either the ontological views of children within the heritages of the Treaty partners or the theoretical frameworks that could underpin the relationships and pedagogical practices in New Zealand classrooms, these promises have become mere rhetoric. This absence provides no assurance that the Treaty promises will be realised for every child. Instead the goals and standards of a factory model of schooling that standardises both the experiences and the educational outcomes of children (Leland & Kasten, 2002; Sleeter, 2015) has become the default ontological positioning in New Zealand schools.

Chapter Three presents a literature review on classroom practices and interactions. The chapter includes an outline of six factors, drawn from the literature and research, that participants could draw on in classroom interactions. The six factors are the understanding of: subject content; curriculum content; assessment requirements; learning strategies; the learner and the learner's cultural context. Effective responses in micro-interactions are complex as teachers, students and whānau bring their own knowledge, understandings and positionings across this range of factors.

In chapter four the research methodology and methods are detailed. The research methodology is culturally responsive research methodology in that it embraces cultural and epistemological pluralism; deconstructs Western colonial traditions of research; and recognises the primacy of relationships within a power-sharing dialogical encounter (see Berryman et al., 2013). The research methods include document analysis, a literature search and multiple case studies.

Chapters five, six and seven each present one of three case studies. Chapter five presents the information and findings from Case Study One, set in Totara Intermediate School. In this case, an expert in subject, curriculum and assessment knowledge, demonstrates this expertise in the teaching of writing. Case Study Two, chapter six, showcases exemplary practice in cultural relationships for responsive pedagogy, in a classroom at Harakeke College. The final case study is set in Nikau Primary School. This case was selected due to the school's reputation for demonstrating powerful home, school and community connections. All schools', students' and teachers' names have been anonymised in this research.

In chapter eight the key learnings from this research are presented as a synthesis of the three cases. The thesis concludes with chapter nine, the implications of these findings for educators and policy makers.

Chapter 2: Schooling practices in New Zealand mainstream education: the macro-context for children's learning

Introduction

The nature of micro-interactions significantly impacts on children's views of themselves as culturally located beings and of themselves as learners (Cummins, 2003; Wearmouth et al., 2011). The overall purpose of this research, set in New Zealand state schools, is to explore the nature of the learning micro-interactions in classroom practice. Schools, classrooms and the daily lives of all who are connected to them are not isolated units, but are located in the wider social, cultural and political contexts, the macro-context of education. Both the macro and the micro-contexts of classroom interactions impact on the experiences and outcomes for children and are explored in this thesis.

Outline of this chapter

This chapter begins by outlining the legal requirement for schools to both honour and enact the principles set out in the Treaty of Waitangi. In the second section, the search for guidance on the recommended theoretical underpinnings of New Zealand English-medium education in schooling documentation is described. The third section investigates the implications of the introduction of mass schooling to New Zealand. The chapter continues with an examination of how the theoretical frameworks in New Zealand's early childhood education curriculum could underpin or influence schooling practices. It concludes with the *ako: critical contexts for change* model, currently being used in many New Zealand schools, as an example of a change model that incorporates a focus on the theoretical and pedagogical underpinnings of schooling practices.

Centrifugal and centripetal thinking

For this research I have drawn from Durie's (2011) description of two types of thinking. One type is 'centripetal thinking' where the 'force' of the thinking moves in an inwards direction and

understanding comes from the analysis of smaller and smaller component parts, the isolation and examination of differences leads to understanding. The second type of thinking is 'centrifugal thinking', where the 'force' of the thinking moves in an outward direction, understanding is drawn from larger contexts and wider relationships, the search for similarities helping to develop the essence and nuances of meaning. Durie describes the common, Western-model 'scientific thinking' as generally centripetal – "a well-worn cognitive track where understanding comes from dissecting the whole so that the component parts can be further analysed and conclusions reached" (p. 25). He compares this to the centrifugal thinking demonstrated by many Indigenous peoples who, from their close and enduring relationship with each other, lands and territories, "reach conclusions by thinking outwards rather than inwards, so that understanding comes more from observations about the nature of wider relationships than from an analysis of internal structures" (p. 25).

Given the important, interdependent nature of centrifugal and centripetal thinking, this research draws on both in examining classroom micro-interactions. This chapter, Chapter 2, examines the macro-context for children's learning, a centrifugal view. Chapter 3 examines the micro-context, a centripetal view of the small component parts of classroom micro-interactions. The employment of both types of thinking provides a deeper insight into classroom micro-interactions than would be obtained from reliance on either centrifugal and centripetal thinking alone.

Section 1: The Treaty of Waitangi in New Zealand Education

The legal status of the Treaty in schooling

The Treaty of Waitangi, signed in 1840, was an agreement between the British Crown and some Māori chiefs from different iwi (tribal groups). Today the constitution of New Zealand continues to "reflect the Treaty of Waitangi as a founding document of government in New Zealand" (The Office of the Governor-General, 2019, p.1). The Treaty by itself has no legal

standing in New Zealand, it can only be enforced when explicitly referred to in an Act of Parliament (Ministry of Justice, 2019). The Education Act of 1989 is one Act that does enforce an honouring of the Treaty, placing a legal obligation on education institutions to uphold the principles of the Treaty. The New Zealand Curriculum envisions that, through their education in New Zealand schools, there will be "young people who will work to create an Aotearoa New Zealand in which Māori and Pākehā recognise each other as full Treaty partners, and in which all cultures are valued for the contributions they bring" (Ministry of Education, 2007, p. 8).

Guidance for schools on understanding and enacting their obligations in honouring the Treaty is provided in a Ministry of Education report (2012): *The New Zealand Curriculum Update: The New Zealand Curriculum Treaty of Waitangi Principle*. This resource provides guidance for schools against three broad principles of the Treaty: partnership, protection, and participation (Royal Commission on Social Policy, 1988). Schools are advised that, when the partnership principle is working well, all learners will benefit as "it harnesses the knowledge and expertise of the diverse people who can contribute to students' learning, including families, whānau [extended family], iwi, and other community members" (p. 2). Schools are required to share power, control, and decision-making with their communities "while validating the unique position of Māori as tangata whenua [people of the land]" (p. 3). Enacting the protection principle requires schools to actively protect Māori knowledge, interests, values, and other taonga (treasures). Educators are challenged to commit to "knowing, respecting and valuing where students are, where they come from and building on what they bring with them" (Ministry of Education, 2013, p. 20). The third principle, participation, is about "equality of opportunity and outcomes" (Ministry of Education, 2012, p. 4), and requires schools to ensure the students have equal opportunities to explore the languages, cultures and heritages of the nation.

Strengthening the legal obligation to enact the principles of the Treaty are the responsibilities incurred as a signatory to the United Nations Convention on the Rights of the Child (UNCROC). UNCROC was passed by the United Nations in 1989, and ratified in New Zealand in 1993, the

obligations immediately incorporated into the Education Act. Articles 28 to 31 address a child's educational rights (United Nations Human Rights, 1996). Article 28 describes a child's right to an education. Article 29 outlines the nature and the quality of the education that is the child's right, including "the development of the child's personality, talents and mental and physical abilities to their fullest potential" and "the development of respect for the child's parents, his or her own cultural identity, language and values". Article 30 states that a child "who is Indigenous shall not be denied the right, in community with other members of his or her group, to enjoy his or her own culture, to profess and practice his or her own religion, or to use his or her own language". These articles state that New Zealand is obligated to provide an education system that focuses on the holistic development of the child, respects the child's culture and provides an education where the cultures of both Indigenous and tauiwi (immigrant) are acknowledged, valued and prioritised.

The requirement for all schools to enact the Treaty of Waitangi, supported through the ratification of UNCROC, carries responsibilities to the worldviews of both Treaty signatory partners. When considering classroom micro-interactions and, therefore, the daily experiences of children in the classrooms, educators are required to be aware of how children are viewed in the ontological positionings of each Treaty partner.

Ontological Positionings

Ontology is the branch of philosophy that studies concepts such as existence, being, becoming, and reality. Ontology raises basic questions about the nature of reality and the nature of the human being in the world . . . the consideration of what is, what exists, what it means for something - or somebody - to be (Lincoln & Guba, 2000, p. 164). Within the education system, through schooling policy and documentation alongside the views of teachers, parents and children themselves, there is a need to question how children are viewed, how they exist and what it means for them to be, a notion I refer to as 'ontological positioning'. Magrini (2013) argues that a model of education that seeks social efficiency has silenced ontological

questioning and understanding. He challenges his readers with the question: “How are we conceiving the human being in contemporary standardized education, and does this view do violence to who we are as phenomenological subjects?” (Magrini, 2013, p. 3).

How a child is viewed influences the way their learning experiences will be constructed. For example if learning is viewed as a socially constructed activity, “it must be grounded in a social ontology that conceives of the person as an acting being, engaged in activity with the world” . Packer and Greco-Brooks (1999) challenge the use of the term ‘student’ as opposed to child in schools, saying “there are forms of discourse associated with the position of student” (p. 133). These authors describe interactions within a first-grade classroom where the teacher “worked to establish an impersonal "you" - a subject who must raise a hand to be recognized as speaker, who must follow the classroom rules, pay attention, put a thinking cap on - where the students are indexed as a class instead of as individuals” (Greco-Brooks and Packer, 1999, p. 1). Students in this classroom were encouraged to shift from a consideration of their being from 'family member' to 'student', a process described as an “ontological transformation” (Greco-Brooks and Packer, 1999, p. 1).

Views of the child within the ontologies of the Treaty partners

A key principle within mātauranga Māori (the body of knowledge originating from ancestors, including the Māori world view and perspectives) is Te Ira Tangata: everyone is born of greatness and imbued with inner potential and conscious awareness (Marsden, 2003). This principle is demonstrated in the words ‘tamariki’ and ‘mokopuna’, both translated as ‘children’ in English. Pihama, Smith, Taki and Lee (2004) explain the concepts behind the term ‘tamariki’ as “Tama is derived from Tama-te-rā the central sun, the divine spark; ariki refers to senior status, and riki on its own can mean a smaller version" saying “children are the greatest legacy the world community has” (p. 22). Mokopuna, often translated into English as grandchildren, also carries concepts of uniqueness, greatness and spiritual connections to their lineage. The word ‘mokopuna’ comprises moko which can be translated as tattoo or blueprint and puna, a

spring (of water). This term recognises that children are the blueprint of their ancestors and the well-spring or hope for the future, relating and interacting with the world from conception (see, for example, Lee, 2009; Rameka, Glasgow, & Fitzpatrick, 2016).

The second signatory partner, those representing the British Crown, draws from a Western heritage. Children in this heritage are also considered very special. The concept that "God created people in His own image" (Genesis 1: 26-27; James 3:9) is a foundational truth, embedded in a Western worldview, and articulated in the Christian and Judaism faiths, and. Both of these ontologies position the child as born of greatness, imbued with potential and carriers of a divine spark. I contend that the notion that one's child is both unique and born with greatness is a prevailing belief in both Māori and Pākehā (New Zealander of European) parents, regardless of the strength of connections to, or belief in, the religious and cultural connections described above. This is part of the cultural heritages of both Māori and Western traditions.

Despite how widespread these personal beliefs are, there is little guidance for educators in the New Zealand system on these ontological positions and the implications for a schooling system that honours the Treaty. Neither the Education Act nor the policies and documents that guide schooling in New Zealand explicitly outline the world views of both Treaty partners, or how these should underpin children's education experiences.

Schooling in New Zealand

Education for Māori in Pre-European Times

Education was well-established in Māori society before the arrival of European settlers. In traditional Māori society, there were systems of knowledge transfer and skills, with traditional curricula "closely related to the spiritual, intellectual, social and physical wellbeing of the community and individual" (Hemara, 2000, p. 8). The learning process began in the womb (Berryman, 2008), mothers chanting oriori (lullabies) to their unborn children and connecting to

their child through mirimiri (massage). When a child was being born, tohunga (expert practitioners, including matters of spirituality) would undertake rituals to prepare the child for entry to this world and their future role within their iwi. Children were involved in all aspects of iwi life including gathering, harvesting and preparing food, and weaving, carving and warfare. For such activities there was a mixture of on-the-job training and formal learning, similar to an apprenticeship (Calman, 2012). Games and activities that mimicked adult activities were an important part of the learning process (Berryman, 2008).

A ritual often marked each step in the learning process, including "some form of test for the student" (Calman, 2012). Group learning and cooperative teaching was the norm, with whānau members all playing important roles. Tangaere (2012) describes tuakana/teina (older, more expert sibling/younger sibling, apprentice) and kaumātua/mokopuna (elder, more expert person/grandchild, apprentice) relationships being of particular importance. In these two relationships "the tuakana or kaumātua are support systems in the teina or mokopuna learning" (p. 113). A respect for tapu (spiritual restrictions) and knowledge of its operation was an essential aspect of the education process. The tools for transmitting knowledge, history, values and models of behaviour included waiata (songs), whakataukī (proverbs), kōrero tawhito (history), pūrākau (stories) and whakapapa (genealogy) (Calman, 2012; Pere, 1994; Tangaere, 1997). There was also a system of higher education for those of chiefly lineage or identified as having special giftings or responsibilities for dedicated tasks. The relatively small number of participants were carefully selected and learning was conducted in a state of tapu, away from the village (Calman, 2012; Hemara, 2000).

The introduction of compulsory schooling

A mass schooling system for New Zealand arrived with the early settlers from Great Britain. The first European-style school was established by a missionary, Thomas Kendall, at Rangihoua in the Bay of Islands, in 1816 (Barrington & Beaglehole, 1974; Simon & Smith, 2001). By the 1830s there was a school attached to most mission stations. In the late 1840s, George Clarke, Chief Protector of Aborigines, reported a European-style mission school in nearly every village

he visited (Calman, 2012). Adults and children attended these schools, with instruction conducted in te reo Māori. It was estimated that, in the early 1840s, half of the adult Māori population was literate in te reo Māori (Simon & Smith, 2001). The first state support for mission schools came from the Education Ordinance Act, 1847, this funding dependent on instruction being in English. By 1851, the numbers attending these schools had dropped to between 700 and 800 students, significantly fewer than in the 1830s. The Native Schools Act of 1858 provided annual funding of £7,000 per school and added further regulations, including that all enrolled students needed to be boarders. By the 1860s, most mission schools had closed and, in 1879, the remaining Native Schools were placed under the authority of the Department of Education.

Compulsory education for all New Zealand's young people was introduced through the Education Act of 1877. Through the passing of this Act the British system of schooling was adopted for both Māori and Pākehā learners. This Act set in law that the institution of schooling was the preferred education system, introducing compulsory schooling ahead of Great Britain where it was introduced in the 1880s (Soysal & Strang, 1989).

The factory model of schooling

When the Education Act was passed in New Zealand, compulsory mass schooling was, internationally, a relatively recent phenomenon. Large formal schools were introduced in Prussia in the early nineteenth century, the first country to move the responsibility for education from families to that of the state (Melton, 2001). The Prussian system introduced compulsory attendance for boys and girls, specific training for teachers, national testing and a prescribed national curriculum for each grade level – factors which have remained features of mass schooling across the Western world. The underlying philosophy was that learning is a regimented activity that occurs in ages and stages. New Zealand was an early adopter of mass schooling, and "from its inception took on board a set of 'values', 'ideals' and 'standards', more or less coherent with the cultural history of Britain and Europe, that had evolved over several hundred years" (Penetito, 2004, p. 90).

The mass schooling model closely followed the structure of factories, also a relatively new phenomenon, as industrialisation took hold. Within mass schooling, large numbers of students were placed in grades according to their age, and moved through successive grades as they mastered the curriculum. Education moved from being a family-based activity to being impersonal, efficient, and standardised.

The term 'factory model of schooling' has been used to describe this system (Callahan, 1962; Labaree, 2010; Leland & Kasten, 2002; Sleeter, 2015), and is the term used throughout this thesis. At its inception, the efficiency of the factory model was a source of pride in the early stages of industrialisation. In 1916, an influential educator E. Cubberly (cited by Kliebard, 1971) said: ''our schools are, in a sense, factories in which the raw products (children) are to be shaped and fashioned into products to meet the various demands of life'' (p.75). Mokyr (2001) refers to the vested interests of the industrial capitalists in the role of schooling in preparing children for working futures within their factories. He said this form of education "was not technical in nature but social and moral. Workers had to be taught to follow orders, to respect the space and property rights of others, be punctual, docile, and sober" (p. 10). Pennac (1994, p.92) said "school cannot be a place of pleasure, with all the freedom that would imply. School is a factory and we need to know which workers are up to snuff". The ideology of a factory model, or a doctrine of social efficiency, became a "pervasive influence" (Fallace and Fantozzi, 2013, p.142), although these authors point out that the "doctrine of social efficiency" was not was not specifically named in school policies in the United States. Callahan (1962), *in Education and the Cult of Efficiency* details Taylorism's influence on school management and curriculum and "the pervasive application of scientific techniques to school management" (p. 263). Church and Sedlak (1976, p.255) discuss two 'camps' within those who promoted the factory model of schooling, one camp viewing mass schooling through the factory model as a means to social justice, the other as a means to social order.

The factory model of education spread quickly to the United States, Klıebard (1995) identifying the influence of industrial 'giants' in the design of schools that were established to be as efficient as possible, a practice enhanced by 'age-grading' (Leland & Kasten, 2002).

Sleeter (2015) says that "core practices and structures for this purpose, still used today, include grouping students by age, distributing them into 'egg crate' buildings, standardising curriculum, measuring student learning for purposes of comparison, and standardising teacher work" (p.112). Welch (2016) describes the good intentions of the model, but says these intentions "often achieved at a considerable cost in social terms, particularly in terms of a loss in equity and a narrowing of the curriculum (p.257). Kaestle (2011) refers to the widespread influence of desire for standardisation, saying that "both the workplace and the schools, as well as other nineteenth-century institutions, were partaking of the same ethos of efficiency, manipulation, and mastery" (p.69). Sleeter says that there are many criticisms of the model and highlights the following three: the model is "highly inequitable, reproducing social stratification based on race and class"; "its curriculum is standardised, based on a White upper-middle class worldview that limits perspectives, funds of knowledge, and intellectual inquiry, and bores the diverse students in schools"; and, it is "oriented around compliance with and maintenance of the status quo, rather than social transformation" (2015, pp. 112–114).

While there have been voices that have praised the efficiency of the factory model, there has also been considerable disquiet about the structures, systems and processes that underpin it. One cause for disquiet is that all children are treated as inputs into the system, the standardisation of both their experiences and outcomes is depersonalised. A second cause for disquiet is that the system causes inequities – some children are more disadvantaged than others in this system, particularly those who are "stigmatized students of color" (Murphy & Zirkel, 2015, p.28) and those with special learning needs (Meyer, 2001; Morris, 2002).

The factory model in New Zealand schools

In New Zealand, the impact of the factory model of schooling on Māori students has been particularly disadvantageous (Pihama & Lee-Morgan, 2019; Sleeter, 2015). Compulsory mass schooling was imposed on the New Zealand population through the 1877 Education Act. I could find no evidence of consultation with the Māori population over their agreement for this model of schooling, this despite the Māori population (especially the number of children) considerably outnumbering the tauiwi population. The decision that the education system would model that of Europe was an act of colonisation, an act that has been detrimental for Māori and for Indigenous people around the world (Shields et al., 2005). As Pihama and Lee-Morgan (2019) say:

> Education was both a target and tool of colonialism, destroying and diminishing the validity and legitimacy of Indigenous education, while simultaneously replacing and reshaping it with an 'education' complicit with the colonial goals. Schooling as a colonial structure served as a vehicle for wider imperialist ideological objectives (p. 21).

Current system-level responses to Māori student achievement

Over time, there have been "a number of government initiatives and policies … focused on reducing the ongoing disparity of outcomes between Māori and non-Māori" (Berryman and Eley, 2017a, p.57). In 2008 the Ministry of Education launched *Ka Hikitia - Managing for Success: Māori Education Strategy 2008-2012* (Ministry of Education, 2008). The term Ka Hikitia, defined as a means to "'step up', 'lift up', or lengthen one's stride'" (Ministry of Education, 2008, p.10), was positioned as "a call to action" (p.11) in order to step up "the performance of the education system to ensure Māori [students] are enjoying education success as Māori" (p.10). In 2013, the policy was refreshed and *Ka Hikitia – Accelerating Success 2013 – 2017* (Ka Hikitia) was released (Ministry of Education, 2013a). In both iterations of Ka Hikitia, the Ministry of Education recognised the need for an extensive change in educational policy, requiring school leaders and teachers to understand the principles behind the document and create the vision of "Māori enjoying and achieving education success as Māori". The effectiveness of this policy framework has been evaluated by the Office of the

Auditor General (2012, 2013, 2015, 2016a, 2016b). The Auditor General (2013) was reasonably positive regarding the potential of the policy: "overall, I found reason to be optimistic that Ka Hikitia will increasingly enable Māori students to succeed" (p.6). However, the report also states:

> The Ministry of Education (the Ministry) introduced Ka Hikitia slowly and unsteadily. Confused communication about who was intended to deliver Ka Hikitia, unclear roles and responsibilities in the Ministry, poor planning, poor programme and project management, and ineffective communication with schools have meant that action to put Ka Hikitia into effect was not given the intended priority. As a result, the Ministry's introduction of Ka Hikitia has not been as effective as it could have been. (p.7)

To support the Ka Hikitia policy, the Teaching Council and Ministry of Education (Ministry of Education, 2011a) developed *Tātaiako: Cultural Competencies for Teachers of Māori Learners* (Tātaiako). The purpose of Tātaiako is to support teachers "to personalise learning for, and with, Māori learners, to ensure they enjoy educational success as Māori" (p.1). However, the diagrammatic presentation of the competencies (p.3) does not refer to enjoyment, centring the competencies around the phrase "Māori learners achieving educational success as Māori" (p.3). Each of the five competencies describe behaviours for teachers "at different stages of their teaching career" and teachers are required to "ensure they have the competencies of all stages up to their current level" (p.2). While there is no legislated requirement for Tātaiako to be implemented in the formal appraisal of teachers' performance, there was an expectation that these competencies would be included in teacher appraisal and registration as they would be "linked to the Education Council's Practising Teacher Criteria" (p.17).

The Practising Teacher Criteria (Education Council, 2015) have been superseded by the *Code of Professional Responsibility and Standards for the Teaching Profession* (New Zealand Teachers Council, 2017). This document describes both "the high standards for ethical behaviour that are expected of every teacher" and "the expectations of effective teaching practice" (p.ii). Under the code of professional responsibility, all New Zealand teachers must demonstrate "a

commitment to tangata whenuatanga [active acknowledgment of Māori as first people of the land] and Te Tiriti o Waitangi partnership in the learning environment" (p.10)

A further system response to addressing the disparities in educational outcomes between Māori and non-Māori students are the revised *School Evaluation Indicators* (Education Review Office, 2016b). The Education Review Office (ERO) says that "achieving equity and excellence in student outcomes is the major challenge for New Zealand education" and that New Zealand has "a long history of inequitable learning opportunities available to Māori young people" (p.5). In response to this, and drawing from their strategic response to the Ka Hikitia policy, the outcome indicators that underpin all school evaluations are derived from *The New Zealand Curriculum* and *Te Marautanga o Aotearoa* and "support the three goals identified by Mason Durie as critical for the educational advancement of Māori: enabling Māori to live as Māori, facilitating participation as citizens of the world, and contributing towards good health and a high standard of living" (p.16).

However, despite the policy intentions of New Zealand's various education agencies, the disparities in outcomes for Māori students compared to non-Māori students continue.

Outcomes for Māori students in the current education system

New Zealand's national statistics show that Māori students neither engage nor achieve as well as non-Māori students. In 2019, 56 percent of European/Pākehā students left school with an NCEA Level 3 qualification, compared with 35 percent of Māori students (Ministry of Education, 2020b). Māori students continue to be stood down from school more than any other group of students. In 2019 this was 44.3 per 1,000 students compared to European/Pākehā students: 20.9 per 1,000); and to be excluded from school:

> Māori students (2.9 per 1,000) continue to be excluded at a greater rate than the other ethnic groups. They are two and a half times more likely to be excluded than European students (1.1 per 1,000) and nearly twice more likely to be excluded than the national age standardised rate of exclusion (1.5 per 1,000) (Ministry of Education, 2020c).

Māori students also have lower attendance rates than other groups of students. The Ministry of Education indicator for attendance is "students who attend school regularly", this is counted as those who attended more than 90 percent of Term 2. In 2019, 44 percent of Māori students attended school regularly, compared with 61 percent of European/Pākehā (Ministry of Education, 2020d).

Māori students report that their school experience is negative. As far back as 2001, following extensive interviews, Bishop and Berryman (2006) summed up that Māori students' "experiences in education were overwhelmingly awful, year after year" (p. 255). From Māori students interviewed in 2015, Berryman and Eley (2019) report that the most compelling message was that to be successful as Māori within the school system, Māori students "had to be able to resist and overcome other people's low expectations and negative stereotypes about them being Māori" (p. 9). Children in New Zealand schools report that they experience racism, one child stating "racism exists – we feel little and bad" (Office of the Commissioner for Children & New Zealand School Trustees Association, 2018, p.18).

The factory model as the ontological default

The absence, in the documentation that guides schooling, of any explicit guidance on implementing the ontological positionings inherent in the heritages of both Treaty partners has, I believe, left a vacuum. This vacuum has been filled with the processes and structures of the factory model of education driving views of the child in schooling. In the factory model, the State prescribes what should be learnt, to what standard and at what age, resulting in the child being described in terms of how well they meet the artificially prescribed requirements and steps required to meet the next requirement. Descriptions of the child in terms of what they need to do next are firmly rooted in a deficit model, an outworking of which is that children can be viewed as incomplete and imperfect, always needing to achieve the next curriculum goal or standard. The child is not viewed as having agency over their learning, but as an empty vessel needing to be filled (Freire, 1996).

The influence of the factory model across the Western world has resulted in a pervasive discourse that the purpose of education is to support children to meet the standards of State-set curricula and assessments. Some educators have resisted this influence and decried its prevalence. For example, Luria and Vygotsky (1992) argue that the child should be viewed as special in their own right, not as incomplete and deficient until they meet the learning requirements deemed appropriate for adulthood:

> The incorrect belief that children and adults differ only in quantitative terms has become firmly entrenched in the general consciousness. Its proponents argue that if you take an adult, make him [sic] smaller, somewhat weaker and less intelligent, and take away his knowledge and skills, you will be left with a child. The child … is a very special creature with his own identity ... qualitatively different from the adult. (p. 62).

Section 2: Theoretical Underpinnings of English-Medium Education in New Zealand

Theoretical Frameworks in Te Whāriki – The Early Childhood Curriculum

New Zealand's Early Childhood Education curriculum*, Te Whāriki, He Whāriki Mātauranga mō Ngā Mokopuna o Aotearoa, Early Childhood Curriculum* (Ministry of Education, 2017b), known as Te Whāriki, makes explicit the theoretical underpinnings of teaching and learning in pre-school education settings. Teachers within Early Childhood Education settings are told that "effective curriculum and pedagogy are underpinned by evidence-informed theories about how children learn and how adults can play a role in facilitating this process" (Ministry of Education, 2017b, p. 60). The recommended theoretical approaches are:

- Kaupapa Māori Theory;
- Bioecological Model;
- Sociocultural Theory; and,

- Critical Theories.

Epistemological understandings within educational practice

The explicit reference to the theoretical frameworks in Te Whāriki provides a framework for teachers in early childhood education to consider and, if necessary, challenge their beliefs about knowledge and the formal teaching and learning context. The questions raised are epistemological questions, epistemology being "a branch of philosophy concerned with the nature and justification of knowledge" (Hofer & Pintrich, 1997, p. 88). In this thesis, the term "epistemology" is defined as the beliefs held by teachers on the nature of knowledge and how this is imparted or acquired.

Whether acknowledged or not, decisions about teaching are based in an educator's beliefs about both the nature of knowledge and how knowledge is acquired, and, "with a knowledge of alternative theoretical approaches, teachers and instructors are in a better position to make choices about how to approach their teaching" (Bates, 2015, p.93). Magrini (2010) outlines the complexity of the relationship between teachers' and learners' beliefs and the enactment of these beliefs, saying "there is a complex relationship between the establishment of educational aims and goals and their enactment in the practical activities of the classroom . . . there is a fundamental epistemological issue underlying this web of relations" (p. 8).

Theoretical frameworks guiding schooling practice

In contrast to early childhood, there is no explicit setting out of the theories underpinning educational policies and pedagogical practice in the guiding documentation for English-medium state schools. Through the Education Act 1989, schools are required to implement the National Education Guidelines, which establish goals and guidelines for their performance. The National Education Guidelines include the National Education Goals (NEGs), that is the teaching and learning responsibilities of schools; National Administration Guidelines (NAGs), the desirable

principles of administration for school managers and boards of trustees in achieving the NEGs; national curriculum documents (for English-medium schools, this is *The New Zealand Curriculum* (Ministry of Education, 2007); and specific curriculum statements. A search of these documents reveals no references to bioecological models; sociocultural theory; Kaupapa Māori theory, critical theories nor any specific reference to theoretical concepts that underpin education in state schools.

Te Kete Ipurangi (TKI) is the main resource support system for teachers and leaders and, with the credibility from being owned and overseen by the Ministry of Education, is highly trusted by New Zealand school leaders and teachers. Defined as the online knowledge basket, TKI "provides New Zealand schools and students with a wealth of information, resources, and curriculum materials to enhance teaching and learning, raise student achievement, and advance professional development for teaching staff and school managers" (Ministry of Education, 2011, p.1). However, a search of TKI using the terms from the theoretical frameworks presented in Te Whāriki gave very few returns. For example, a search using the keywords "sociocultural theory" returned zero hits. A search for "Vygotsky" returned 14 hits across the thousands of pages on this website, none of which outlined the core elements of the theory or provided any sense of expectation that this theory should inform teaching practice. Similarly, a search for the term 'Kaupapa Māori Theory' gave 38 responses across the website, but, in only two places was Kaupapa Māori theory mentioned as a theoretical underpinning to decision-making. This lack of information on these theories through the 'online knowledge basket' that is the main source of information for teachers and school leaders, neither helps educators to realise the importance of these theoretical frameworks nor supports them to build their theoretical base.

A blog on TKI gives detailed information on links between Te Whāriki and The New Zealand Curriculum, including the principles, values, competencies, dispositions and learning areas. However, this blog makes no reference to theoretical frameworks for teaching and learning. It does not acknowledge that these are presented in Te Whāriki but absent in The New Zealand Curriculum

Te Whāriki states that the explicit statements of the theoretical approaches inform "how children learn and how adults can play a role in facilitating this process" (Ministry of Education, 2017b, p. 60). By making the theoretical approaches explicit in Te Whāriki, policy makers and educators are supported to consider their epistemology and theories that underpin teaching and learning in early childhood settings. The absence of stated theoretical frameworks for schooling, though, does not mean that school policies or teaching practices are atheoretical – "all classroom practice reflects a theory of education, whether explicit or not" (Dell'Angelo et al., 2014, p. 13). Freire (1996) urged educators to resist a "banking pedagogy" (p.11), one in which information is deposited into the students, which maintain systems of oppression. Instead, he calls for teachers to embrace a transformative pedagogy, pedagogy guided by overarching philosophical views or theoretical positioning about knowledge, the learner and the learning process. Freire refers to teaching as an "ontological vocation" (1996, p. 12), saying it is a career that requires a theory of existence, which views people as subjects, not objects, who are constantly reflecting and acting on the transformation of their world – leading to an equitable and socially just society. In the absence of stated theoretical approaches in New Zealand schooling documentation, the processes and structures of mass schooling can end up driving practices, these potentially becoming the default basis for teachers' views of the child, of families and of learning itself.

Section 3: The implications of applying the theoretical frameworks within Te Whāriki to schooling

To recapitulate, the four theoretical frameworks listed in Te Whāriki are Kaupapa Māori theory, bioecological models, sociocultural theory, and critical theories. Concepts from these frameworks, and how they can apply in a schooling context, are explored in this section.

Kaupapa Māori Theory

Kaupapa Māori presents the "conceptualising of Māori knowledge" (Pihama, 2015, p. 6), prioritising and respecting mātauranga Māori. Mātauranga Māori is defined as "Māori knowledge – the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices" (Moorfield, 2019). While rooted in ancient values, mātauranga Māori is living and constantly evolving, and is usually extended to include present-day, historic, local, and traditional knowledge; systems of knowledge transfer and storage; and the goals, aspirations and issues from a Māori perspective (Pihama, 2015; G. Smith, 1997). Mātauranga Māori provides insight into perspectives about knowledge and knowing that are significantly different to Western perspectives.

Kaupapa Māori is "a culturally defined theoretical space" and "relates to Māori philosophies of the world, to Māori understandings on which our beliefs and values are based, Māori worldviews and ways of operating" (Pihama, 2015, p. 7). There has been some resistance to appending the word theory to the term Kaupapa Māori. Pihama (2015) advises that for some, this could result in "literally, a contradiction in terms. Kaupapa Māori is conceptually based within Māori cultural and philosophical traditions. Theory, however, may be said to be conceptually based within European philosophical traditions" (p.8). Graham Smith (1997), contends that Māori, as a subordinate group, must critically engage theory as a site of struggle, and calls for the deliberate use of the term 'theory' as a means to challenge dominant Pākehā notions of theory and provide "counter-hegemonic practice and understandings" (p. 455).

Learning and development within Kaupapa Māori theory

Both the English and te reo versions of Te Whāriki refer to the principle of mana atua. This is defined in English (Ministry of Education, 2017b, p. 35) as "children understand their own mana atuatanga - uniqueness and spiritual connectedness". In te reo it is: *"e ai ki tā te Māori he atua tonu kei roto i te mokopuna ka whānau mai ana ia ki tēnei ao"* (Ministry of Education, 2017b, p. 18). This statement speaks of the godliness or spiritual essence each child inherits from their ancestors when they are born (Early Childhood Development, 1999; Rameka, 2015; Reedy, 2003). It says that, not only is the child endowed with spiritual potential or divine spirit, but the

world the child is born into also exercises spiritual influences (Rameka, 2015). Educators are therefore obliged to treat the child with the reverence and respect the 'divine spirit' deserves, and to be mindful of the spiritual influences around that child. The child will develop in positive ways when the environment and people that surround them embody the notion of aroha (Pere, 1994). Aroha is encompassing care that is "loving, affectionate, caring, compassionate, kindly, sympathetic, benevolent" (Moorfield, 2019). These forces all shape the child's personality: "in the Māori world one's personality does not develop in isolation" (Tangaere, 1997, p. 55). Pere and Nicholson (1991) says that the child belongs to te aorangi (the universe) and surrounding the child with aroha helps them reach the "outer realms of the universe" (p.8) or their full potential.

When a child is born they are already imbued with mana from their parents and ancestors (Hemara, 2000; Marsden, 2003; Mead, 2016; Rameka, 2015). The term 'mana' carries complex and nuanced meanings. Hemara (2000) describes mana as "authority, control, influence, prestige, power, psychic force, effectual, binding, authoritative ... and take effect" (p. 68). Pere and Nicholson (1991) translate the concept as "respect, acquired knowledge, control, intrinsic value, dignity and influence" (p. 41). Mana is either handed down through whakapapa or is earned (Ministry of Culture and Heritage, 2012). It is a "crucial aspect of Māori perceptions of the world and of the self, with almost all activities linked to upholding and enhancing mana" (Rameka, 2015, p. 86). Shirres (1997) warns that, without an understanding of mana, we cannot understand the Māori person or the child.

Including mātauranga Māori perspectives in schooling ought to lead to an understanding of the exceptionality and the potential of every child, and a recognition of a spiritual dimension of their learning and development. Fraser (2004) says that schools that take Māori values seriously have a "moral obligation to provide opportunities for the spiritual dimension alongside the emotional, the intellectual, the physical and the social" (p.93). However, this dimension is often overlooked in New Zealand education settings. Rameka (2015), says that, despite the references to spirituality in Te Whāriki, there "is little [evidence] to indicate that the

spiritual dimensions of the child or the world are recognised in early childhood education practice" (p. 82). It is even less obvious as children move into the mainstream compulsory schooling sector. The New Zealand Curriculum (Ministry of Education, 2007) does not refer to the spiritual dimension of the learner (nor the mental, emotional or relational dimensions) in the vision, values competencies or principles of the curriculum. There is a reference, in the Health and Physical Education Learning Area, to four "underlying and interdependent concepts" (Ministry of Education, 2007, p. 22), one of which is hauora, defined as "a Māori philosophy of well-being that includes the dimensions taha wairua, taha hinengaro, taha tinana, and taha whānau, each one influencing and supporting the others". These four dimensions comprise Durie's hauora model, Te Whare Tapa Whā (Ministry of Education, 2007, p. 48), all four dimensions needed to ensure well-being. The curriculum explains these dimensions: "taha wairua relates to spiritual well-being; taha hinengaro to mental and emotional well-being; taha tinana to physical well-being; and taha whānau to social well-being." (Ministry of Education, 2007, p. 48). The inclusion of taha wairua in the learning area framework, while acknowledging a spiritual dimension, relegates spirituality to subject knowledge rather than a paradigmatic view of the child as held by teachers and students.

Rameka (2015) attributes the lack of acknowledgement of spirituality to the dominance of Western society's views in our education system which is "essentially secular, leaving little room for ideas and beliefs of the sacred or spiritual" (p. 82). She says:

> Western science has effectively disconnected spirituality from other aspects of individual and institutional existence, and has embedded belief systems that position reason, truth and logic over faith and spirituality. As spirituality cannot be proven scientifically, it is often viewed as illogical and unsophisticated and therefore has no place in educational theory and practice (pp. 82–83).

Fraser (2004) refers to a "false binary where Indigenous people, such as Maori, are 'spiritual' and others (especially white westerners) are 'rational'" (p.94).

In addition to a prevalent discourse that spirituality is illogical and unsophisticated, is a structural challenge. The 1877 Education Act declared that schooling in New Zealand would be

free, compulsory and secular and these three requirements have not changed in updates of this Act. The term 'secular' is not defined within the Act and this is, therefore, open to interpretation. The Education Act 1877 s84(2) prescribed that "teaching shall be entirely of a secular character". Herring (2016) says that the term 'secular' at the time was not synonymous with 'non-religious': "the terms 'secular' and 'religious' did not describe opposing worldviews" (p. 144). Sangster (1984) argues that the clause grew from the lawmakers' "fierce distrust of anything to do with the denominational differences they had hoped to leave in Europe" (p. 96) and was intended to keep the influences of various denominations out of state schools, rather than all religious teachings. Herring (2016) agrees, saying that the clause was to "counter sectarian strife", stating that "secular education in the 19th century was not opposed to religious instruction … It was not intended to promote a lack of religious belief or affirm atheism" (p. 171).

Herring (2016) also argues that a second meaning of the term secular refers to different areas of inquiry, "the 'secular' being the observable and material world, and the 'religious' as the spiritual or unseen world" (p. 144). Schools were to focus on the "common subjects of daily routine, as grammar, geography, arithmetic, the events of history, &c [sic]." (Taylor, 1870, p. 25), religious instruction would occur out of school hours and be the responsibility of churches. The lack of clarity about the meaning or the term 'secular' and how the term is applied today may lead to a reluctance on the part of educators to focus on spirituality and a fear of breaching the secular clause in the Act.

From a Kaupapa Māori theoretical perspective, learning cannot be separated from the whole child, and spirituality (along with mental, physical and social well-being) should be integral to educational provision. Durie (1989) has argued that education systems must attend to a holistic view of the child, decrying what he calls the "reductionist Cartesian separation" of mind and body. Swann, Swann and Crockett (2017) warn that the notion of multiple dimensions is "often misread as a need to attend to the dimensions one at a time" (p. 34), and describe this tendency as a product of Western rationalism. Other Māori researchers urge educators to ensure that learning occurs within a climate of care and a focus on holistic learning – where the

head (cognitive functions), the heart (emotions) and the hands (physical development) are all nurtured (Fickel et al., 2017; Sergiovanni, 1994). This position is also embedded within the sociocultural view of learning, described below, with Vygotsky having been described as holding a 'monist' position, going "beyond the boundaries set by dualism, and to see how man and world, mind and reality can become the source of growth and change for each other" (Liu & Matthews, 2005, p. 397).

Bioecological models

Another theoretical framework presented in Te Whāriki is the ecological model of human development, presented by Urie Bronfenbrenner (1979a). Bronfenbrenner proposed that the child develops in interaction with their environment, viewed from an historical and cross-cultural perspective, where "the process and product of making human beings clearly varies by place and time" (1977, p. 517). Bronfenbrenner (1979b) defined the ecology of human development as involving:

> … the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded (p. 21).

Within this theory, Tharp (1989) argues that the more the values, beliefs and practices are compatible between the settings, then the stronger the links and the more likely that learning and development will be optimised.

Learning and development in bioecological models

In bioecological models, the child is located in the centre of a series of concentric systems. These move from the intimate home system to the larger school system, and outward to includes society and culture. Each of these ecological systems interact with and influence each other. Bronfenbrenner (1979a) described these systems as fitting together as a set of "Russian

nesting dolls" (p.3), the developing child being surrounded by layers of relationships Initially Bronfenbrenner identified the following four systems:

- The microsystem - the smallest and most immediate environment in which children live. Interactions within the microsystem typically involve personal relationships with family members, classmates, teachers and caregivers. In a later work, Bronfenbrenner (2005) said his earlier work had underestimated the intrafamilial processes of parent-child interactions.
- Mesosystems - the complementary or conflicting practices between the microsystems in which the child is involved, encompassing the interaction of the different microsystems in which children find themselves. It involves the linkages between home and school, between peer group and family, and between family and community.
- Exosystems - wider societal influences such as local government or parent's workplaces.
- Macrosystems - the social institutions of the child's culture, composed of the cultural patterns and values that impact on the child, specifically dominant beliefs, political and economic systems.

Bronfenbrenner (2005) later added a fifth system – the chronosystem – to his model, acknowledging that the dimension of time, both within the child's lifetime and historical events and changes within the child's cultural group, also impacted on development. Others have agreed that individuals' development is influenced by species change, community historical change, individual lifetimes, and individual learning moments (Berger, 2012; Scribner, 1985; Silva et al., 2015; Wertsch, 1985).

Time as an important influence on a child's development and their ongoing learning within mātauranga Māori. The importance of whakapapa (genealogy), of being in the right space and right time, is central to the celebration of each child (Mead, 2016). From a Western viewpoint time is often viewed as immutable, with people responsive to the impacts of time. From a te ao Māori perspective time is fluid, relationships and the kaupapa (the processes and purpose of

the matter at hand) are more important than timekeeping (Durie, 1999; Metge, 2013). Durie (1999) says that:

> … far from being a commodity, something to be purchased at a set rate, time becomes a servant to human journeys and allows the past to be blurred with the future. It ceases to be king; it is captured by the weight of the moment and must itself move at a pace determined by the rhythm of human encounter (p. 353).

In her writings, Rogoff (1994, 2003, 2008; Rogoff et al., 1993) supports and extends Bronfenbrenner's emphasis on studying the relations among the multiple settings in which children and their families are directly and indirectly involved, and how children and families negotiate the movement between their different ecological settings. However, she challenges the separative notion of the nested systems, saying this "constrains ideas of the relations between individual and cultural processes", and that individual development "must be understood in, and cannot be separated from, its social and cultural-historical context" (2003, p. 50). The act of describing culture as an entity that influences individuals goes against the integral nature of the force: "people contribute to the creation of cultural processes and cultural processes contribute to the creation of people. Thus, individual and cultural processes are mutually constituting rather than defined separately from each other" (p. 51).

Sociocultural Theory

Sociocultural theory has its origins in the writings of Lev Vygotsky (1896 – 1934). It is based on the concept that human learning is a social process and human intelligence originates through interactions with others, therefore, learning is "social and cultural, rather than an individual phenomena" (Kozulin et al., 2003, p. 1). For Vygotsky (1980), "learning and development are interrelated from the child's very first day of life" (p. 84). Social and cultural interactions are a pre-requisite to learning and all development, Vygotsky stating that: "the social dimension of consciousness is primary in time and in fact. The individual dimension of consciousness is

derivative and secondary" (cited in Wertch & Bivens, 1992, p. 30). All skills are learnt through interaction with others, and then through the internalising of that learning.

Across this development, "every function in a child's cultural development appears twice, first on the social level, then on the individual level" (Cole et al., 1978, p. 1). Vygotsky (1997) called this the 'genetic law of development', saying that development occurs on two planes "first the social, then the psychological, first between people as an intermental activity, then within the child as an intramental category" (p. 105–106). The terms in this translation of Vygotsky's work are "intermental" and "intramental"; these are also variously described as "interpersonal" and "intrapersonal" (Burns, 2005, pp. 17–18) and "interpsychological" and "intrapsychological" (Wertsch, 1979, p. 2). Stengel (2004) describes this as a double movement, saying that:

> (1) knowing arises not merely as a function of an individual consciousness at work but as a by-product of the interaction, the relations, between and among persons in particular contexts, and (2) that to know, to have knowledge, is, in the first place, to (be able to) respond to others in particular circumstances (p. 141).

Learning and development within sociocultural theory

Vygotsky's sociocultural view of learning directly challenged the prevailing behaviourist view where the growth of intelligence was linked to responses to biological instincts. Within behaviourist theory, learning is regarded as an external process and development as internal. Vygotsky (1980) was particularly critical of Piaget's theory in which "maturation is viewed as a precondition of learning, but never the result of it" (p. 80). He instead proposed that learning awakens internal processes that operate only when the child is interacting with people in their environment. Building on Vygotsky's theory, Cole, John-Steiner, Scribner and Souberman (1978) say that "culture becomes part of each person's nature" (p. 6). How people "use or apply their born-with mental abilities is mediated through the cultural context in which they grow up" (Wearmouth et al., 2011, p. 92).

Vygotsky (1997) identified that a series of transformations are required for learning to be internalised. This, he argued, has implications for schooling. Teaching and subject delivery in school should always build on concepts students engaged with before they began school and outside a school context. Curriculum decisions on what should be learnt, and when, should, therefore, be identified through a child's interests, knowledge and prior experiences – not standardised at state level according to a child's age and grade.

Vygotsky (1980) also grappled with how learning could and should be matched to development levels, concluding that "the only good learning is that which is in advance of development" (p. 89). Vygotsky said educators must determine two developmental levels. The first is the child's actual developmental level – what he described as "the development of a child's mental functions that has been established as a result of certain already completed developmental cycles" (p. 85). The second, a more valid measure of a child's ability, came through an understanding of what the child could do when supported to solve a problem. This is the zone of proximal development: "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 85).

The concept of the zone of proximal development has become incorporated into the Western views of education, and theorists have conceptualised this in different ways. This has included views of learning as distributed (Cole & Engestrom, 1993), interactive (Chang-Wells & Wells, 1993) contextual (John-Steiner et al., 1994), guided participation (Forman & McPhail, 1993) and as the result of the learners' participation in a community of practice (Rogoff, 1994, 2003). An influential proponent of the idea of the zone of proximal development has been Bruner who, with his colleagues, coined the term "scaffolding" to refer to the act of supporting children's learning (Wood et al., 1976). Bruner (1999) later describing learning communities as places where:

> learners help each other, each according to her [sic] abilities. This does not exclude someone serving in the role of the teacher. It simply implies that the teacher does not play that role as a monopoly, that learners 'scaffold' for each other as well. (p. 162).

Within a sociocultural perspective, it is believed that "learners learn best through collaboration with each other" (Wearmouth et al., 2009, p. 151). The learning relationships and interactions within the classroom become important mediators of how students come to understand the world of school and see themselves as learners, or not.

The child as a culturally-located being

Within the three theoretical frameworks described above (Kaupapa Māori theory, bioecological model, and sociocultural theory), the child is culturally located, and cannot be considered in isolation from their social and historical foundations. For Vygotsky, as with Liu & Matthews (2005), an individual could not be "seen as autonomous from the social cultural group [for] the relationship between the social and the individual in the historical processes of social and individual development is one of dialectical interaction and functional unification" (p. 392). Rogoff (2003) says the efforts of individuals are not "separate from the kinds of activities in which they engage and the kinds of institutions of which they are a part" (p. 50). Liu and Matthews (2005) see an individual as both growing out of their placement within their culture and history and, through the intra-personalisation process, able to lead their social group forward. They contend "individual mastery and development must be based on history and culture; moreover, the individual should be enabled to stand above the social collective because of the ability of the mind to generate personal understandings" (p. 392).

In Kaupapa Māori theory, individuals and culture are mutually constituted and cannot be separated. All children are intricately intertwined within their society and their culture. Tangaere (1997) says "in the Māori world … the child is immersed in the context of cultural values" (p. 46). The connections of a child, or any individual, to their wider community and to

the place where they belong are made explicit through whakapapa (Graham, 2009). According to Toanui (2013), the term 'whakapapa' "carries a nuanced reference to the means by which connectedness to people, place, ātua and tīpuna (ancestors) is made" (p.1). Rameka (2015) says that whakapapa is linked to the creation of the world and should reify "connections to past generations and those generations to come, and asserts that Māori will continue to exist as long as the land continues to exist" (p.84; see also Ministry of Justice, 2001; Williams, 2004). Sadly, for some Māori, links to identity through whakapapa, because of colonisation and policies of assimilation (often enacted through the education system and other state institutions) and intermarriage, may have been deliberately disrupted and re-storied (Te Huia, 2015).

Ako

New Zealand educators use the Māori term 'ako' to describe teaching and learning as a reciprocal process, where both parties in the learning situation can simultaneously be both learner and teacher. This reciprocity has close ties to John-Steiner and Mahn's (1996) notion of mutual negotiation and collaboration within the zone of proximal development in order to build knowledge. However, a simple definition does not convey the complexity integral to the term 'ako'. Pere (1991) describes ako as the "interaction between key concepts in tikanga Māori", explaining this interaction as "multi-formed and indicating customs as appropriate to a given context" or "customs that are seen to be right for a particular occasion" (p. 15). Pere lists 14 concepts from te ao Māori that underpin the notion of ako (1994, pp. 54–69). One of these concepts is matapuna (literally, the source of the river and, figuratively, the source of learning and transmission of culture). This concept rests on the principle that "every person is a learner from the day they are born (if not before) until the day they die" (Pere, 1994, p. 54).

This principle is repeated in Rukuhia Rarangahia – "ako is naturally occurring in all humans, that is, we are born with a natural instinct of how and what to learn" (Ministry of Education, 2014, p. 15). In response to this principle, the teacher needs to know their learners – "who they are,

their whānau, their interests, their desires, their dreams, their passions, their learning needs, and their natural talents" (p. 15).

Pere (1982) challenges key characteristics of the factory model, that is, a focus on content and the need to specify learning into curriculum frameworks – what should be learnt at what age. Instead, Pere (1994) says, Māori emphasise ways of knowing according to the "responsibilities it was collectively recognised a child should be carrying or experiencing"; builds on "what a child already knew or was experiencing" and supports the "inherent growth of dignity and mana among Māori children" (p. 4). She contrasts this with a Western view where children are expected to recognise the inherent status and authority given to a teacher, often with neither party realising nor demonstrating that this respect should be reciprocated.

Critical theories

Critical theories grew out of the Frankfurt School of Sociology (Horkheimer, 1982). In contrast to 'traditional theory' aimed at understanding or explaining the world, critical theories (used in the plural as the theories are applied across a range of disciplines) are social theories oriented toward critiquing and changing the world: "a theory is critical to the extent that it seeks human emancipation, to liberate human beings from the circumstances that enslave them" (Horkheimer, 1982, p.244). A critical theories lens has been applied to a diverse range of social and political arenas, with social justice through empowerment being the central objective. Dell'Angelo, Seaton and Smith (2014) state that the commonality is that "all critical theorists are concerned with issues of inequality and oppression, and beyond theorising oppression, critical theorists struggle toward social change and the creation of a more fair and just world" (p. 1).

According to Horkheimer (1993), critical theorists work towards a socially just society in three main ways: their work is explanatory, practical, and normative:

- for oppression to be addressed, it must first be explained and understood;
- there must be practical changes instituted that interrupt the process of social reproduction, or the recreation of existing inequalities across time;
- the work must be normative – it accepts that we do not need to "prove" that equality and freedom are somehow more "natural" or "pragmatic" ways to configure a society.

The normative approach means the theory is rooted in a deep belief that a just and participatory society is the norm to which we must compare ourselves, and that society must work towards a goal of creating a more open society, one in which individuals of all walks have the greatest possibility of achieving self-actualisation. As part of our acceptance of this norm, "we must accept that we are all located within and influenced by oppressive societies" (Dell'Angelo et al., 2014, p. 8). This is particularly pertinent for a colonised country, the colonisation process in New Zealand having had a devasting effect on Māori. Moana Jackson describes colonisation as "a very simple process of brutal dispossession in which States from Europe assumed the right to take over the lands, lives, and power of Indigenous Peoples who had done them no harm" (2019, p. 102). The oppression from colonisation continues as "oppressive acts have been developed, maintained, and reproduced as means for the justification and the ongoing perpetuation of oppressive systems" (Pihama, 2019, p. 30). Education is both a "target and tool of colonialism" (Pihama & Lee-Morgan, 2019, p. 19), and a means for perpetuating oppression. Darder (2002) argues that education contributes to the production and maintenance of the economic and political conditions that have led to the poverty prevalent amongst Indigenous and minoritised people.

Dell'Angelo et al. (2014) contend that critical theories in education recognise that:

> (a) educational systems are at least complicit in oppression (though many would go farther and state that these systems are the most powerful mechanism for the reproduction of social inequality), and (b) there must be a corresponding plan for emancipatory action through education (p. 9).

The call to emancipatory action requires that educators do more than simply uncover and describe oppression (Freire, 1994). Hattam and Smyth (2015) warn that understanding injustice

is insufficient; without a plan for action it is possible to confuse "emancipatory knowledge interest with its realization" (p. 281). Freire (1994) argued that, if the examination of oppression is conducted without hope for change, it results in a sense of hopelessness in students.

Freire (1996) believed that schooling systems were set up as a means of perpetuating injustice, saying that, if students' schooling experiences replicate a dictatorship, it accustoms students to accepting dictatorial subjugation, and perpetuate it as normal themselves. He was not hopeful that the situation would change, due to the vested interest of the state in keeping its citizens subjugated, saying that "the interests of the oppressors lie in changing the consciousness of the oppressed, not the situation which oppresses them; for the more the oppressed can be led to adapt to that situation, the more easily they can be dominated" (p. 74).

Pedagogical practices can also be a tool of oppression with knowledge being considered "a gift bestowed by those that consider themselves knowledgeable upon those they consider to know nothing" (Freire, 1996, pp. 243–244). Regardless of the information taught, pedagogy practices send a message to students that teachers hold unquestionable authority, their words must be believed, and teachers, and therefore all authority figures, have a right to dictate what is right and wrong in terms of personal life and beliefs. Freire was adamant that "liberating education consists in acts of cognition, not transferrals of information" (p. 245). Dell'Angelo et al (2014) describe Freire as exposing the "hidden curriculum" (p. 12) as a means to perpetuate inequalities, oppression and a devaluing of behaviours, priorities and cultural norms different to the teacher's own. Freire encourages teachers to look beyond the specific requirements of a curriculum or assessment and to imagine the relationship between teachers and students differently. Dell'Angelo et al. (2014) say that, in Freire's ideal, "teachers share in knowledge building with their students, valuing their extant knowledge of the world, and sharing with students the power to determine curriculum as well as rules of conduct" (p. 13).

Through critical theories, there is a means to "examine one's situatedness and sense of self in the broader social structure and history, as well as in the local context over which the individual can arguably have the greatest impact" (Dell'Angelo et al., 2014, p. 11).

Kaupapa Māori and Critical Theories

There are close links between kaupapa Māori and critical theories. Graham Smith (1997) states that the fundamental focus of kaupapa Māori is the improvement of outcomes for Māori. There is a great deal of evidence, though, to show that the education system, in its current form, continues to underserve Māori students. This is contrary to the goals and aspirations of Māori parents (Durie, 2001, 2004). It has become clear, over long periods of time, that the status quo of New Zealand's education system is not meeting the potential or needs of Māori students. There is a need for a change in practice: "there is limited scope for the socio-economic redevelopment of Indigenous populations without a prior or simultaneous educational revolution" (G. Smith, 2011, p. 7)

There has been Māori resistance to continuing with the status quo and a desire to see their children succeed in education and to reach their full potential. Graham Smith says the pathway to achieving this goal comes through kaupapa Māori, rooted in critical theories. This requires a process of conscientisation, resistance and transformative praxis (Freire, 1996; G. Smith, 1997). Smith (1997), describing these concepts through a kaupapa Māori lens, defines conscientisation as "revealing the reality", the need to "critically analyse and de-construct existing hegemonies and practices which entrench Pākehā-dominant social, economic, gender, cultural and political privilege" (p. 37). Resistance is "the forming of shared understandings (through suffering) to derive a sense of 'collective' politics" (p. 38). Transformative praxis is the bringing about of positive change in existing conditions of Māori underachievement in education and in all social, political, economic and cultural spheres.

Section 4: A Framework for Reform – Ako: Critical Contexts for Change

In this section I introduce a model, the *ako: critical contexts for change* as a means for examining the macro and micro-contexts of classroom interactions. This model places the mauri or divine spark of every student at the centre of educational practice and draws from the four theoretical frameworks described above.

The development of the ako: critical contexts for change model

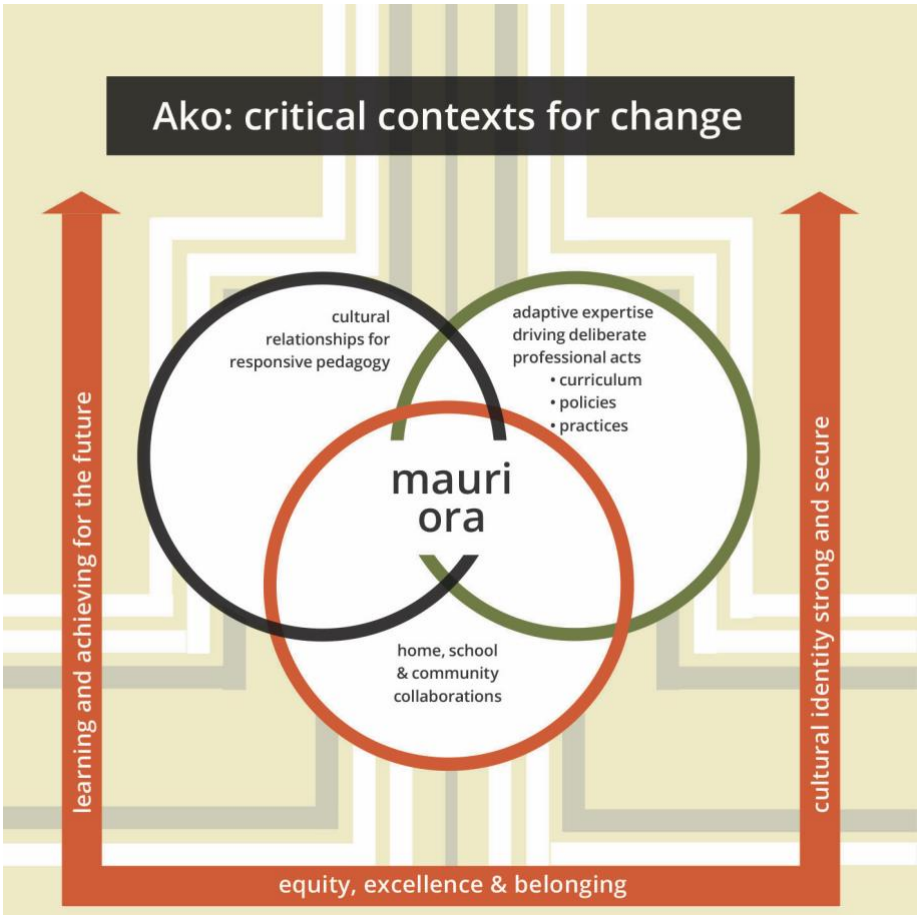
The *ako: critical contexts for change* model grew out of twenty years of research and initiatives focussing on "what is needed to raise the performance of our education system" (Berryman et al., 2016, p. 58). Parts of the model were instituted through Te Kotahitanga, a professional learning and development programme instituted in selected schools between 2000 and 2015 (Ministry of Education, 2019c). Evaluated across all five on the Best Evidence Syntheses (BESs) (Alton-Lee, 2003; Anthony & Walshaw, 2007; Biddulph et al., 2003; Robinson et al., 2007; Timperley et al., 2007), Te Kotahitanga was found to have had a positive impact on valued outcomes for Māori and other learners. It was the only New Zealand cross-curricular professional development intervention that met the criteria for inclusion in the *Teacher Professional Learning and Development* BES (Alton-Lee, 2015, p. 16). Te Kotahitanga was "refined iteratively through five phases by means of a rigorous research and development process" (Alton-Lee, 2015, p. 7), the final iteration being known as Phase Five. Funding for Te Kotahitanga ceased in 2012.

Berryman and colleagues (2016) found that although "the good intentions of policy-makers, school leaders and teachers, and a number of discrete interventions aimed at fixing the Māori student problem, may be necessary conditions for change, they are not in themselves sufficient" (p. 64). A further initiative, also funded by the Ministry of Education, Kia Eke Panuku, sought to address this by introducing a more complex response – schools were required to undertake "a journey of collective responsibility, accountability and commitment to transformative school reform" (Eley & Berryman, 2019, p. 126). The learnings from Kia Eke

Panuku, with accompanying iterative research and evaluation of effectiveness, led to the development of the *ako: critical contexts for change* model, which was then developed and tested in schools. When funding for the Kia Eke Panuku programme ceased, researchers from the University of Waikato continued to develop and refine the *ako: critical contexts for change,* implementing it in a new programme of work through the Poutama Pounamu unit.

The *ako: critical contexts for change* model (see Figure 1) is described below. Although the component parts of the model are described separately, they are interdependent. Accelerated achievement for students "occurs when school leaders and teachers deliberately attend to all contexts at the same time" (Eley & Berryman, 2019, p. 130).

Figure 1: The **:** *Ako: critical contexts for change model (used with permission)*



The components of the *ako: critical contexts for change* model

Mauri Ora:

The centre of the model is mauri ora. Durie (2016) uses the term *mauri* as a basis for understanding how identity, language and culture are essential for students' wellbeing and sense of belonging in schools. He describes mauri as the particular vitality, integrity, uniqueness and energy that exists within every person and ora as one's holistic wellbeing. Mauri ora is demonstrated by an enlightened spirit; an alert and inquiring mind; a fit-for-purpose and pain-free body and a set of relationships that are nurturing and mutually beneficial (see Durie, 2015). Durie (2015, 2016) refers to situations where relationships are disempowering and humiliating, leaving the individual's mauri in a weakened state, one that is constrained by a loss of hope and an apprehensive mind – a state he calls mauri noho.

As can be seen in Figure 1, mauri ora sits at the centre of the *ako: critical contexts for change* model. Having all parties (learners, whānau, teachers and school leaders) experiencing mauri ora is, simultaneously, the vision of the model, the outcomes of the effective application of the separate contexts and an ongoing evaluative tool. If all parties are not demonstrating mauri ora, then that particular policy, pathway, relationship or practice should be addressed.

Equity, excellence and belonging

The *ako: critical contexts for change* model requires educators to focus on equitable outcomes across groups of learners, academic excellence and strong sense of belonging for all. A factory model of education encourages a focus on achieving the prescribed outcomes and "an unrelenting focus on academic achievement may be desirable and even laudable" (Berryman & Eley, 2019, p. 3) in that model. However, a focus on academic achievement may be detrimental if academic achievement is pursued at the cost of an individual student's or groups of students' well-being or sense of belonging.

Simultaneous Success Trajectories

The *ako: critical contexts for change* model is bound on either side by the simultaneous success trajectories: *cultural identity strong and secure* and *learning and achieving for the future,* both of which are essential if we are realise the goal of equity, excellence and belonging (Berryman & Eley, 2017b). The model requires educators to attend to both the learner's academic progress and work to ensure that their cultural identity is strong and secure. The simultaneous success trajectories are predicated on the understanding that a Māori student's sense of wellbeing and belonging is influenced by whether they are seen for their strengths, uniqueness and potential or, conversely, for perceived challenges and deficits.

Disrupting the theoretical and pedagogical status quo

Inside the framing for the *ako: critical contexts for change* model is the challenge for educators to disrupt the status quo, both pedagogical and theoretical.

To challenge the pedagogical status quo, we must challenge the "traditional transmission teaching [that] continues to be the dominant pedagogy" (Berryman, 2018). Māori learners have said that, in addition to transmission teaching, they also wanted to have a say in their learning and share their ideas with others (Bishop & Berryman, 2006), that is, a pedagogy based on socio-cultural view of learning.

The model draws on kaupapa Māori and critical theories to challenge the theoretical status quo in New Zealand schools. The implementation of these theories help New Zealand school leaders meet their obligations under the Treaty of Waitangi (Berryman et al., 2017). When these theoretical approaches underpin practice, schools engage in more equitable practices, are "responsive to the needs and potential of individuals, in particular those who may be disadvantaged, and can promote excellence for all" (Poutama Pounamu, 2017).

Adaptive expertise driving deliberate professional acts

In the *ako: critical contexts for change* model, there is a requirement for the professionals within the school to responsively use strategies in order to improve outcomes for students. Deliberate professional acts are the steps taken by the professionals in the school in response to evidence gathered, analysed, then applied in response to the specific circumstances. There is considerable evidence showing how, when this context is applied, learner outcomes improve (Berryman & Eley, 2017a; Eley & Berryman, 2019). The evidence includes deliberate acts by teachers to improve their teaching practice, Hattie (2009) showing that teachers considered 'excellent' attain achievement gains for their students of an effect size of *d=0.6* or higher. An effect size of 0.40 is generally agreed to be the point at which the intervention has had a statistically significant impact on student achievement over a year. Robinson and her colleagues (2009) demonstrate the impact of school leaders' deliberate professional actions on student achievements, with effect sizes of up to 0.84.

Cultural relationships for responsive pedagogy

In this model, cultural relationships for responsive pedagogy, based on Māori metaphors, underpin effective classroom and school-wide practice (Berryman et al., 2018, p. 5). Evidence on the impact of cultural relationships for responsive pedagogy is drawn from Te Kotahitanga (Bishop et al., 2014). A wide-ranging external evaluation of Phase Five of Te Kotahitanga in schools presents considerable data showing the effectiveness and impact of this intervention. For example, the achievement of Māori students (as measured in the National Certificate of Educational Achievement) improved at around three times the rate of Māori in the comparison schools (Alton-Lee, 2015, p. 7). The evaluators stated that "impacts of this magnitude are rare in large-scale reforms" (Alton-Lee, 2015, p. 5).

Powerful home, school and community collaborations

The context of home, school and community collaborations recognises that all learners in our schools are culturally-located beings. Whānau involvement can influence an improvement in learning outcomes to a marked extent. In addition, Alton-Lee et al (2009), drawing on extensive

research, examined the impact of whānau-school collaboration on student achievement and found that certain kinds of school and family connections and interventions can have large positive effects on the academic and social outcomes of students. The intervention with the highest effect size (*d = 1.81*) was a literacy programme designed and implemented in relational and responsive ways, both in the school and with whānau.

The poutama

The model has been presented against a poutama, a design usually found on a traditional Māori tukutuku panel (woven lattice). The poutama shows a stairway (aratiatia) that represents the climb of Tane-nui-a-Rangi to the uppermost realm of the universe to seek three baskets of universal knowledge. The use of the poutama in the the *ako: critical contexts for change* model provides a number of messages. First, that mātauranga Māori is valid and valuable, and should be recognised in our education system. Second, it gives a visual representation of bioecological models and sociocultural theory: the child grows and develops surrounded by a social and cultural network of support. The third message is that the purpose of education is not solely for personal gain. Instead, the nested stairways of the poutama show development "as progressive steps up towards enlightenment and then down the stairways to share that knowledge with the iwi" (Tangaere, 2012, p. 25). The learner is supported in their learning and, in turn, brings the learning back to benefit their society. Gaining knowledge is accompanied by a personal responsibility to nurture that knowledge and to share it with others.

Conclusion

This chapter has presented a centrifugal perspective, a view of macro-setting of New Zealand schooling. The macro-context is highly influential on classroom micro-interactions, even if most children in New Zealand schools are unaware of its influence. Policies and practices are located within the macro-context and are determined by the ontologies and epistemologies that underpin views of children and how they learn. These views, in turn, contribute to the ongoing schooling experience of every child. They are outworked though the classroom micro-

interactions, the focus of chapter three which presents a centripetal view of classroom experiences.

Chapter 3: Classroom interactions in New Zealand mainstream schools: the micro-context for children's learning

Introduction

New Zealand's education system, the macro-system described in Chapter 2, is large and complex. For most of the children in that system, their involvement within that system is fully mediated through their experiences in the school they are attending, particularly their daily classroom experiences. In this chapter, classroom practices and quality of the micro-interactions are examined, a key microsystem in a child's life (Bronfenbrenner, 1979a). In contrast to the previous chapter that employed a centrifugal examination of the macro-system, the wider context of New Zealand schooling, the examination in this chapter moves to a centripetal process (Durie, 2011). That is, the small, component parts of the 'whole' of classroom interactions are examined and explored.

Outline of this chapter

This chapter contains two sections. In Section 1, the contexts for learning in the classroom and the learning moments that arise as participants engage in the learning process are examined. Section 2 focuses on aspects of the cultural toolkit (Bruner, 1996; Glynn, 2013) that participants bring to learning conversations that occur within the classroom micro-interactions.

As will be shown, much of the prevailing research and advice to educators on classroom interactions has a teacher-centric focus, and research on the role of the learners and their whānau or community in the interactions is less prevalent. Research on classroom interactions appears to respond to a pervasive theoretical perspective that places the teacher as the more-dominant participant in all classroom dynamics. The learners (although this is rarely specified) are relegated to passive recipients of the teacher's directives. For both sections in this review the challenge has been moving beyond the expectations and information about the teacher's role in classroom micro-interactions, both as a participant and as a More Knowledgeable Other,

to that of other participants. As discussed in the previous chapter, this discussion rests on the premise that learners are culturally-located beings, bringing their prior knowledge, understandings and views of the world into every learning interaction; therefore every participants' contribution to the interactions is significant.

Section 1: Classroom Interactions

In this section the role of teachers, including the multiple demands on teachers to attend to the learning needs and to respond to the multitude of interactions with the children in their care, is explored. Students are also interacting with and learning with and from each other. Both teacher-student and student-student interactions impact significantly on a student's sense of belonging or not-belonging in the classroom, and on their identity as a learner. The influence of whānau and community (whether physically present or not) in classroom micro-interactions is also considered.

The professional practice of teaching

A teacher's day is made up of multiple interactions and a myriad of decisions. A secondary teacher may interact with over 100 students in a day, and a teacher in a primary school, who may interact with fewer students, will do so over greater periods of time and over a greater range of subject matter. It has been suggested that a teacher makes over a thousand decisions in a day (P. Jackson, 1971; Shavelson, 2003). The nature and content of many of these interactions and decisions are likely to be outside of the teacher's planned lesson and activities. They will be required to make many decisions on the spot as they respond to the requests and needs of their students. Various names have been attributed to these spontaneous teaching interactions including "teaching on the fly" (M. Heritage, 2007, 2013; Shavelson, 2003); "teaching-in-the-moment" (Black & Wiliam, 2003); the "micro-acts of teaching" (Cummins, 2003) and "deliberate acts of teaching" (Ministry of Education, 2006).

There is considerable, ongoing research into what 'good teachers' do within the act of teaching that best supports their students. Aspects of the practice include monitoring and interpreting complex situations and interactions; evaluating what they observe; and, making quick decisions on what actions to take in response to the situations. Researchers have described good teachers as employing, within those quick decisions, sophisticated classifications systems and effective declarative, procedural and metacognitive knowledge that underpins their understanding and interpreting of classroom phenomena (see, for example, Beijaard, Verloop, & Vermunt, 2000; Berliner, 2001; Shavelson, 2003; Shavelson & Stern, 1981; Sternberg & Horvath, 1995). Other research (for example, Beijaard et al., 2000; Schunk, 2012; Sternberg & Horvath, 1995) examines the teaching toolkits that underpin the many decisions made by teachers, identifying three fields of responses. The first field is domain knowledge, referring to the knowledge of the subject area and of pedagogy. The second field is the efficiency that teachers bring to problem solving and analysing causes, effects and likely solutions. The third field is that of insight – going beyond the analysis of a situation to "seeing into a problem deeply" (Sternberg & Horvath, 1995, p. 15). McNaughton (2002) argues that, central to effective teaching, is the 'meeting of minds' between the learner and the teacher.

Closely paralleled to the notion of insight, is Rukuhia Rarangahia's call for "teaching practice that acknowledges the use of tairongo" – the notion of sensing either through physical senses or through "a feeling sense, sometimes referred to as intuition" (Ministry of Education, 2014, p. 16). The authors encourage the readers to challenge a world view that insists that "rationality is what should prevail when making decisions about learning" and to listen more to the "inner voice, that gut feeling, that little something instinctual from within that tells us how we feel beneath those layers of logic" (Ministry of Education, 2014, p. 16). This takes the learning interactions beyond the well-planned, well-researched and well-executed actions on the part of the teacher. It moves it into a place of 'ako', where all participants are alive in the learning moment – with senses engaged, hearts and minds open, and drawing from the cultural toolkits of all parties.

Teachers' decisions and interactions

The New Zealand Curriculum requires teachers to "gather evidence that is of the moment, analyse and interpret the information on the spot, and then use the insights gained to shape their actions as they continue to work with their students (Ministry of Education, 2007, p. 39). Cordingley (2008) talks of teachers' need to respond in the "blink of an eye in interactive classroom settings" (p. 3). Desforges (1995) describes how "teachers' knowledge interacts with the flow of classroom and school experience" (p. 385) to shape their actions. He argues that experience per se is not sufficient to create effective teacher responses, but requires explicit learning from classroom experiences. Without this focus, Desforges says, there is a danger that teachers close down on, rather than learn from, their classroom experiences that include unexpected observations or disequilibrium that results in teachers' cognitive conflict.

While some of the interactions in a day may appear to be transactional or pragmatic (for example, "may I leave the room to go to the toilet?"), some of the on-the-spot decisions and interactions may well turn out to be key learning moments for the students. Rowland, Huckstep, & Thwaites (2005) called some of these spontaneous interactions Pivotal Teaching Moments, subsequently defined as "an instance in a classroom lesson in which an interruption in the flow of the lesson provides the teacher an opportunity to modify instruction" (Stockero & Zoest, 2013, p. 127). While these researchers appear to discriminate between pragmatic interactions and those that provide opportunity for the teacher to modify instruction within a lesson, other researchers take a broader view of learning occurring within all transactions. Pere (1994) speaks of "moment-to-moment pedagogical decision-making" within a view of ako (p. 4). In this view, the content within the Pivotal Teaching Moment is of less importance than supporting learners' "ways of coming to know", building on what the child is experiencing and facilitating their "inherent growth of dignity and mana" (Pere, 1994, p. 4). In Pere's view, the manner in which the pragmatic question is responded to is as important as a question focussed on the subject matter of the planned lesson (see also May et al., 2004). Bomer (2011) locates every decision and every interaction (or decision to not interact) by teachers within the context

of an inner dialogue of continual choices: “no moment of teaching is an island, entire of itself. Every move I make, every decision to speak or keep silent, every utterance emerges out of a larger, ongoing professional conversation” (p. 56).

Students’ decisions and interactions

Interactions in the classroom are also occurring among students. Nuthall (2007) refers to four cultures within a classroom: the culture of the teacher; the culture of the students; the student peer culture; and, the overall classroom culture. This research emphasises that students are as influential in classroom dynamics as the teacher (see also Siope, 2013). Johnson and Johnson (1985) concluded that “how students perceive and interact with one another in the classroom is a neglected aspect of instruction” (p. 22). They describe classrooms as places where “a teacher and 25 or more students interact with each other over an extensive period of time” (p. 22).

Students have reported that they benefit from working with each other. In interviews, students described as ‘engaged students’ reported the benefits of working with others, for example, “working with a mate is good because you find things out together” and “by talking to someone else about it you get to find the answers ... you can get help from a mate if you are allowed to talk in class” (Bishop & Berryman, 2006, p. 115). Students described as ‘non-engaged’ were also very enthusiastic about working with peers, with the authors concluding that the students “all agreed that working with their friends was great … sitting with friends added value to their work” (p. 63).

Johnson and Johnson (2009) refer to the essential role of peer interaction and relationships in socialisation and learning. David Johnson (1981) identified nine influences from peer-to-peer classroom interactions that impinge upon educational aspirations and achievement, socialisation of values and attitudes, and attitudes towards school. The positive effects of peer-peer interactions do not automatically arise from proximity, but they must be “characterised by

acceptance, support and liking" (p. 9). The National Bureau of Economic Research commissioned a working paper on the impact of peer-peer interactions on learning. Drawing from a range of research, they concluded that peers have "non-trivial effects on students' learning" and that "little is known about peer-to-peer teaching because it is never observed in field studies" (Kimbrough et al., 2017, p. 1).

Peer interactions have an impact on student learning in general (that is, outside of explicit learning within a unit of work) and school-based friendships may be one of the main motivations for some students for going to school. Feeling lonely or excluded at school affects classroom performance, proximity or "social contact per se does not lead to favourable attitudes [to school]" (Avramidis & Norwich, 2002, p.138). Poor relationships with their peers affects students' concentration and ability to learn (Alton-Lee & Nuthall, 1992; Donald Beasley Institute, 2004; Morris, 2002). Six 'frames of friendship' can describe children's experiences of friendship (Meyer, 2001). All of these frames are valued in people's lives in different circumstances and with different people. Difficulties arise when children become stuck in only one or two frames, particularly the frame that is described as "ghost or guest in the classroom" (Meyer, 2001, p. 12). Although both students and parents highlight the importance of friendships in school life (particularly students with special learning needs and their parents), research suggests that student-student friendships are rarely given priority in planning, teaching, or the unstructured environment of the playground (Davis & Watson, 2001; Donald Beasley Institute, 2004; MacArthur, 2002).

Classroom interactions and students' sense of belonging

From a sociocultural perspective, classroom learning relationships and interactions are important mediators of how students will come to understand the world of school and see themselves as learners or not (see Wearmouth, Berryman, & Whittle, 2011). Cummins (2003) views the micro-interactions between educators and students as the "most immediate determinant of student success or failure in school" (p. 51). Using reading instruction as an

example, Cummins proposes that classroom micro-interactions can be viewed through two lenses:

1. The lens of the teaching-learning relationship in a narrow sense, represented by the strategies and techniques teachers use to promote reading development, content knowledge and cognitive growth.
2. The lens of identity negotiation which is represented by the messages communicated to students regarding their identities – who they are in the teacher's eyes and whom they are capable of becoming (p.54).

Drawing from sociocultural theory, he describes the classroom as an interpersonal space, consisting solely of the micro-interactions between educators and students. Inside this interpersonal space, "learning occurs and identities are formed" (Cummins, 2003, p. 52); power is created and shared where "minds and identities meet" (p. 53). Cummins further states that the ways in which identities are negotiated between educators and students is "at least as fundamental in determining student achievement as any of the myriad techniques for teaching reading or other academic content" (p. 51).

Crucial to positive identity formation is a student's sense of belonging in school. Osterman (2000) describes 'belongingness' as a "basic essential to human growth and development" (p. 325). When students feel they belong in school, there is an increase in participation and learning; along with less fear of judgment from other students or the teacher (C. Watson, 2005).

When micro-interactions are positive, students form a strong sense of belonging, which, in turn, is "central to both their psychosocial well-being and their academic success" (Chiu et al., 2016, p. 175). Baumeister, Twenge and Nuss (2002) have demonstrated the positive relationship between social connectedness and cognitive performance. Walton, Cohen, Cwir and Spencer (2011) add that "the mere sense of social connectedness" (p. 529) enhances students' motivation to achieve, as they respond to and quickly adopt the goals of others as their own, within a group environment. A review of a range of literature shows that adolescents with a

greater sense of belonging at school achieve higher academic performance, have greater intrinsic motivation, and are more positive about school (see, E. M. Anderman, 2002; L. H. Anderman, 2003; Gonzalez & Padilla, 1997; Goodenow, 1993; Roser et al., 1996). Furthermore, students with a higher sense of belonging at school generally have fewer psychological health and social problems, specifically: lower rates of delinquency; reduced social rejection from peers; lower depression; fewer incidences of dropping out of school; and less use of illicit drugs (E. M. Anderman, 2002; Finn, 1989).

Interactions within the Zone of Proximal Development

The nature of classroom interactions, the quality of the in-school relationships and the attitudes of the society in which these are located play a significant role in a child's development as a socially and culturally located being. Effective learning and development is contingent on individuals "develop[ing] as participants in their cultural communities, engaging with others in shared endeavours and building on cultural practices of prior generations" (Rogoff, 2008, p. 5).

Assimilation into the social and cultural expectations of a community begins as soon as the child interacts with others. The socio-cultural context of school has a major influence on a child's sense of identity as a learner and their sense of belonging within the educational system and wider society (see, for example, Liu & Matthews, 2005; Rogoff, 2003; Tangaere, 1997; Vygotsky, 1978). Rogoff (2003) says that individuals cannot be "separated from the kinds of activities in which they engage and the kinds of institutions of which they are a part" (p.50). Liu and Matthews (2005) interpret Vygostsky's messaging to mean that a child placed within a school will be shaped by that school and should lead and shape others in the school. Rameka (2015) explains that all children are endowed with spiritual potential or divine spirit, but warns that the classroom context exerts spiritual influences on all participants and has the power to either crush the child's spirit and their potential, or to foster it and cause it to flourish. Cummins (2003) draws our attention to the nature of the micro-interactions, repeated multiple times every day, and their impact on a child's learning and identity formation:

> these interactions construct an interpersonal space within which knowledge is generated and identities are negotiated. This process is never neutral with respect to societal power relations; teacher-student interactions can always be located on a continuum between reinforcement of coercive relations of power in the wider society or promotion of collaborative relations of power (p. 43).

Interactions in the interpersonal space

Interactions in the interpersonal space, the zone of proximal development, are supported by the More Knowledgeable Other (see Vygotsky, 1980). In any interaction, the role of the More Knowledgeable Other does not have to be fixed, and different parties bring different aspects of knowing into the learning situation. The swapping of roles (the More Knowledgeable and the Less Knowledgeable) has been called 'alternating' – where, within a learning situation, there are opportunities for both parties to take the lead in the learning (Abtahi, 2017). This has been referred to (Sidnell, 2012; Stivers, Mondada, & Steensig, 2011; and J. Heritage & Raymond, 2005) as 'epistemic asymmetry' – the different knowledge levels of participants in an interaction, referring to interactions where one person is positively epistemic asymmetrical (epistemic asymmetry +) and the other negative (epistemic asymmetry -). If ako is "naturally occurring in all humans" (Ministry of Education, 2014, p. 15), we would expect that all participants in the learning setting would be contributors to the building of knowledge, sometimes positively and, at other times, negatively epistemic asymmetrical. A whakataukī tells us *mā te tuakana kā tōtika te tēina; ma te tēina kā tōtika te tuakana* (the older guides the younger, and the younger guides the older). Through a te ao Māori lens, the roles of tuakana (More Knowedgeable Other) and teina (Less Knowledgeable Other) are fluid and there is an expectation that both teachers and students will sometimes be positioned as learner, and sometimes as teacher.

In learning situations between primary carers (such as parents) and young children, there are examples of the alternating roles where the child leads the adult in the learning (for example, Graven & Lerman, 2014; Rogoff, 2003; Wertsch & Rupert, 1993). The research suggests that

learning micro-interactions are most effective when the participants know the learner well enough to respond to nuanced signals within the interpersonal exchanges. In addition, an understanding of ako requires that the participants rely on all senses – that is, "their ability to hear, see, touch, taste, smell, and feel the world as their ākonga [learner] might" (Ministry of Education, 2014, p. 14). Learning relationships in the zone of proximal development require an exchange with a More Knowledgeable Other. However, with the right attitudes and a sense of humility, both parties can benefit as learners, alternating in the More Knowledgeable Other role within the exchange.

Implications for the More Knowledgeable Other role in the classroom

Cummins (2003,) warns us that teacher-student interactions are "not neutral in terms of social power" (p.43). They can always be located on a continuum between coercive and collaborative relations of power. When power sits firmly with the teacher, and the teacher is not positioned as a learner in the micro-interaction, then the richness of the shared learning moment may be lost. Learners may also be interacting with signs, tools, symbols (Wertsch, 1985) and artefacts (Cole, 1998) such as books and computers, that is, inanimate More Knowledgeable Others. There is a risk that the knowledge sourced in these inanimate artefacts may well be considered more important than what the learner bring, introducing another possible imbalance of power into the micro-interaction.

Power dynamics are also at play in student-student interactions. In many classrooms, learners are 'paired' for activities, with the expectation that one will teach the other. In this setting, it is assumed that the nominated More Knowledgeable Other will teach the other learner a discrete piece of information. This practice is not in line with the building of knowledge through "mutual negotiation and collaboration" and that "must be understood in, and cannot be separated from, its social and cultural-historical context" (John-Steiner & Mahn, 1996, p. 200). Hughes et al (2001), in research that evaluates the impact of buddy systems on students' social relationships, emphasise that being a study-buddy is not the same as being a friend, and

sometimes teacher-imposed buddy systems can cut across established friendships. They conclude that, to promote high quality interactions, students need opportunities to interact in activities that promote friendships and are not solely instructional.

The adaptive responses required in the zone of proximal development, according to Wood (1999), are not prevalent in many classrooms. He concludes that teachers are not as adept as parents in finding the level of mediation that suits a child's learning. Shabani and her colleagues (2010) attribute this to the desire by teachers to reach a predetermined outcome, countering this by saying that "the role of the teacher is not to provide structured cues to facilitate performance, but through exploratory talk and other social mediations, assist learners in taking control of their own learning" (p. 245). Tharp and Gallimore (1998) say that, to truly provide "sensitive and accurate assistance", the teacher must be "in close touch with the learner's relationship to the task" (p. 107) but conclude that current school settings do not allow for this type of teacher-student relationship to develop. In developing this idea, Kozulin and colleagues (2003) attributes this to a lack of systematic training to both general types of mediation and to specific techniques appropriate for given age and subject matter. Guk and Kellogg (2007) describe factors such as the arrangement of classroom furniture, the number of students in a class and the expectations of the role of the teacher as impacting on learning interactions.

Research conducted by Kimbrough et al. (2017), a laboratory-based test of the impact of peer-peer interactions on learning, found that positive classroom relationships improved learning. However, they found that streaming (tracking) is disadvantageous as it cuts across the 'normal' learning interactions: "while peer-to-peer teaching improves learning among low-ability subjects, the positive effects are substantially offset by tracking" (Kimbrough et al., 2017, p. 1).

For optimal learning conditions, there needs to be clear understanding between the learner and the More Knowledgeable Other. For students to take both tuakana and teina roles in learning interactions, classroom conditions must be conducive (John-Steiner & Mahn, 1996).

These authors further warn that sociocultural theory is not well understood, and there has been a tendency to "abstract parts of the theory from the whole, which results in distorted understandings and applications" (p. 200). The terms of Zone of Proximal Development or More Knowledgeable Other can be used without an understanding of the theoretical perspectives behind these terms. Examples include attributing classroom group work, students working in pairs, or early finishers of set work working with those who are slower to this theory. These practices may be useful in their own right but, unless there is conscious application of mediated learning with a More Knowledge Other, the expected efficacy of the practice will not be achieved. Tharp and Gallimore (1998) warn that practices that imitate sociocultural theory can be applied as tools for classroom management rather than for learning instruction, in which case the advantages inherent within the theory will be lost.

Glynn argues that attention to a sociocultural theory of learning requires more than setting up the procedural conditions. He agrees that "creating responsive social contexts for learning constitutes a powerful pedagogical strategy contributing to positive learning outcomes for many students" (2013a, p. 12). However, he argues that addressing the social contexts are not sufficient. Students' wider cultural contexts must also be explicitly addressed (Berryman et al., 2015, 2018; Glynn, 2013a; Rogoff, 2003).

Parents and Classroom Interactions

Bull, Brooking and Campbell (2008) say "the research literature is unequivocal in showing that parental involvement makes a significant difference to educational achievement" (p. 1). But "parental involvement in schools [alone] is not sufficient to impact positively on student achievement: what is needed is parental engagement in learning" (p. 15). Sheldon and Epstein (2005) found that goal-oriented, subject-specific initiatives that encouraged parents to participate with children, linked to the classroom programme but undertaken at home, impacted positively on student learning. These authors have developed a theory of

"overlapping spheres of influence" (Epstein & Sheldon, 2006) of home, school, and community on children's education and development – each playing a different but significant role.

In many cases, partnerships between home and school, or whānau and teachers, are fully driven by the school. Lawson (2003) describes these relationships as 'school-centric': the language of parent involvement is used when schools are the unit of analysis and children's academic achievement is the primary focus. Lawson describes school-centric activities as those designed to fulfil the perceived mission of the school, not the needs or aspirations of families. She found that many of the school-promoted activities are based on the belief system and lives of white middle-class families. She said that little consideration is given to minority parents' beliefs, goals, interests, and life circumstances in school-centric activities and this can be detrimental: "when schools do not recognize racial and cultural issues, especially when people are not treated equally, racial and cultural boundaries and divisions between families and schools are reinforced" (p. 80).

Lareau and Horvat's (1999) research showed that both race and social class acted as barriers for parental involvement in a school. The schools themselves, through the actions of teachers and leaders, were gatekeepers regarding behaviours (Bull et al., 2008) and responses from families that they felt were acceptable, "accepting or rebuffing the activation of capital by family members" (Lareau & Horvat, 1999, p. 51). For some whānau, both institutional barriers and an ongoing legacy of negative experiences with those institutions remain issues (Bull et al., 2008). Teachers also need to examine the impact of their own institutionalisation on their actions and reactions. A body of literature tells us that interactions between teachers and parents are not power-neutral. For example, Bull et al (2008,) warn that "the way power is distributed - and how (if at all) this is acknowledged - is an important influence on effective partnerships" (p. 58). Hattam and his colleagues (2009) decry a tendency to label families as "disadvantaged", describing them, instead as "disenfranchised" (p. 304), and highlight the need to confront the "the deficit views that some teachers have of disenfranchised communities" (p. 309). Brooking and Robert (2007) found that some teachers did not see relationships with parents as two-way,

describing their attitudes as “paternalistic” with a focus on “giving parents’ skills” (p. 42). Cummins (2001) spoke of the need for teachers to communicate in a “non-condescending way” with minority parents (p. 650).

Extensive New Zealand research (Robinson et al., 2009) examines 19 different forms of connections between schools, families/whānau, and communities and compares their effectiveness using effect sizes. Good parent-teacher relationships had an effect size of *d = 0.29*, while for poor parent-teacher relationships *d = -0.26*. These results show that it is much better for the child if the relationships between parents and teachers are positive. As discussed in the previous chapter, the most positive influence on student achievement was the joint whānau and school intervention based on culturally responsive relationships in literacy described within the report where *d = 1.80*.

Improving the effectiveness of whānau involvement in learning opportunities requires a change in attitudes from teachers. The evaluation of a New Zealand initiative *Home–School Partnership: Literacy* found that teachers were not seeing whānau-school relationships as being two-way (Bull et al., 2008). The authors concluded that this could be a “signal that the programmes alone are unlikely to result in more equal, collaborative partnerships if they are not accompanied by support for teachers to think differently about the purpose of home–school partnerships” (p. 58). Timperley and Robinson (2002) argue that partnerships are multi-dimensional and require both a relationship and a task dimension. If teachers do not share the task of learning with parents, the partnership will be compromised.

Biddulph, Biddulph and Biddulph (2003) report that strong school-home links are of particular importance for children whose social class culture, and/or ethnicity and cultural heritages are different from those apparent in the practices of the school. They report that, more than other ethnic groups, “Pākehā/European parents tended to talk with the teacher about their child’s work, discuss the class programme, or help in the classroom” (p. 146); with unemployed parents or those receiving state benefits being the groups most likely to have no contact at all

with their child's teacher. Epstein (2001) found deficit assumptions held by teachers about families, especially single-parent families, to be a barrier to effective partnerships.

As shown earlier, building of knowledge within the zone of proximal development requires an understanding of the social and cultural-historical contexts of all the parties involved in the learning and the learning context itself (Berryman et al., 2015; Glynn, 2013; Rogoff, 2003). The experts on the social, cultural and historical contexts for a child are their family members - those that have journeyed with the child from conception and have successfully mediated the child's first learning experiences (see Wood, 1999). Learning from te ao Māori shows the importance of whānau, both current and tīpuna. As such, whānau influence, hopes and aspirations are part of every classroom interaction whether these are acknowledged or not. It appears that the absence of acknowledgment of whānau role in classroom interactions, or even more detrimentally, a negative view of the value of parents' input or cultural contributions, is a missed opportunity for strengthening classroom interactions.

Section 2: Participants' cultural toolkits within classroom micro-interactions

Learning micro-interactions are pivotal in terms of students' learning; in growing their identity and confidence in themselves as learners; and, in the fostering of students' natural inclinations to learn. They are also the key determinants on how students feel about themselves and the learning process. It is in micro-interactions that students experience mauri ora or mauri noho (Durie, 2015, 2016). It therefore would be good to know what supports effective and effectual learning micro-interactions.

The authors of Rukuhia Rarangahia (Ministry of Education, 2014) tell us that teachers draw from a wide range of information and understandings when operating within the principles of ako. They are simultaneously:

- adept in the craft of teaching
- knowledgeable about the concept of learning

- knowledgeable about their ākonga (students)
- able to adapt customs that are right for a particular occasion
- able to ensure that learning is purposeful (p. 16).

These authors go on to say that, in effective micro-interactions, the participants need to engage much more than 'head knowledge' or learned information - an understanding of ako in these interactions needs to include an understanding of the role of tairongo or intuition.

Some of the literature on learning interactions focuses on the academic knowledge or information a teacher brings to the learning. This narrow focus captures neither the role of all participants in the learning nor the potential for a diverse and rich range of responses as encapsulated above as ako. I have therefore used the term 'cultural toolkit', as used by Bruner (1996) and Glynn (2013b), to describe the understandings, skills and positionings that underpins micro-interactions. The cultural toolkits include academic knowledge around the topic of classroom units of work, but it is not all.

Defining participants' cultural toolkit

The term 'participants' cultural toolkit' is used to describe the understandings or means of knowing that may sit behind the on-the-spot decision-making within learning interactions. Cultural toolkit is a term first coined by Swidler (1986) to describe elements of a culture that informs behaviour and decision-making. In educational settings, Bruner (1996) describes culture as the toolkit "for sense-making and communicating" (p. 3). He adds that "cultural contexts that favour mental development are principally and inevitably interpersonal" (Bruner, 1996, p. 68) and Glynn (2013b) says that individuals' cultural toolkits used to interpret situations are vastly different. Responses within learning interactions may be deliberate, the responder may draw on previously acquired or learnt knowledge or beliefs from within their cultural toolkit. In other cases, the response may be unique to the circumstances and, while fully appropriate for and effective within that moment, had not come from a previously learnt 'bank' of possible responses. This is in line with the comment that "high quality instruction

requires sophisticated, professional knowledge that goes beyond simple rules" (Ball et al., 2008, p. 399). Ball et al were referring to teachers, and supporting Shulman (1987) who argued against "incomplete and trivial definitions of teaching held by the policy community" (p. 20). Shulman believed that teaching is complex and professional, and requires more than a knowledge of facts and processes. In line with Thomson (2002) who describes all children as bringing their 'virtual schoolbag' to school, Shulman's statement may also be broadened to include the notion that learning is complex and sophisticated, with all participants interacting on multiple and nuanced planes.

The section below describes six factors that could be included in a participant's cultural toolkit and underpin responses within learning interactions. These are:

- understanding *subject content* - understanding the concept that is the focus of the learning interaction
- understanding *curriculum content* - understanding what has been learnt before concerning the focus of the learning interaction, is being learnt in other learning experiences, and will be learnt in the future
- understanding *assessment requirements* - understanding the specific assessment requirements in this area of learning
- understanding *learning strategies* - understanding ways of teaching and learning that will support best support the learner within this learning interaction
- understanding the *learner* - understanding the learner – their preferences, prior knowledge, aspirations and interests
- understanding the *learner's cultural context* - understanding how to draw from and be responsive to the learner's language, identity and culture.

Separating out these factors, drawing on the centripetal thinking described by Durie (2011), is a tool to aid the discussions: "an act of scholarly convenience and simplification in the research" (Shulman, 1986, p. 6). In reality, the factors are interdependent, working in various combinations within any given interaction.

Building understandings within a cultural toolkit

Writing about teachers, Shulman (1986) talked about the three ways that understandings could be acquired, all of which can broadened to include the understandings within the cultural toolkits of students and whānau, as well as teachers. The first he calls 'propositional knowledge' – that which is learnt. Propositional knowledge is acquired through disciplined, empirical or philosophical inquiry*;* practical experience*;* or moral or ethical reasoning, the "derivation of norms" (p.10-11). The second way of acquiring knowledge, Shulman calls 'case knowledge' the understandings that come from lived experiences - specific, well-documented and richly described events that, again, can come from one's own experiences or from that of others. Case knowledge is acquired through knowledge of "specific, well-documented and richly described events and includes prototypes, precedents and parables" (pp. 11–12). The third means of acquiring knowledge generates strategic knowledge and "is developed when the lessons of single principles contradict one another or the precedents of particular cases are incompatible" (p. 13).

Kennedy (2002) also outlined three ways whereby teachers could acquire knowledge that informs their teaching practice. However, Kennedy argues that all formal ways of acquiring knowledge, or attempts to provide teachers with pre-patterned responses for any situation, have their limitations. Her three means of knowledge acquisition are:

1. Craft knowledge: understandings and responses that are acquired through experience. This knowledge she describes as atheoretical and idiosyncratic – there are no ways of knowing how effective or accurate this knowledge may be.
2. Systematic knowledge – knowledge that has been deliberately learnt, acquired through training colleges and universities; research articles, and ongoing readings such as professional journals. This knowledge is theoretical, not responsive to context and 'codified' that is, acquired in the abstract, meaning that it may or may not be appropriate for the situation the teacher is facing.
3. Prescriptive knowledge – knowledge that teachers acquire through institutional policies, which Kennedy describes as "more codified than craft knowledge, less theoretical than systematic knowledge" (p.365). However, she warns that institutional policies often are

delivered with an "air of certainty" even though it may be unproven, and is "susceptible to fads" (p.366).

From a mātauranga Māori viewpoint, all learning interactions will be the interplay between the knowledge and understandings held by all parties in that interchange. Ako is naturally occurring in all people, learning is a process that begins in the womb and continues throughout life. Therefore, the knowledge a teacher draws on in a learning interaction has been acquired by them over their lifetime. The child also brings their understandings to the interaction: "by the time children arrive at school they come with already existing patterns of beliefs, knowledge, skills, experiences, attitudes, and motivations" (Ministry of Education, 2014, p. 15). When acknowledged, the understandings in the child's cultural toolkit will inform the learning interaction. The collaboratively co-constructed learning may well enrich the understandings of both partners in the interaction; if unacknowledged, the child may end up confused or conflicted by the interaction.

Unpacking the six factors within cultural toolkits

Understanding subject content

Teachers' subject matter knowledge influences their efforts to help students learn: "if a teacher is largely ignorant or uninformed he [sic] can do much harm" (Conant, 1963, p. 93). Ball and McDiarmid (1990) warn that "when teachers possess inaccurate information or conceive of knowledge in narrow ways, they may pass on these ideas to their students" (p. 2). These authors identify consequences such as failure to challenge students' misconceptions, the uncritical use of texts and the inappropriate alteration of concepts being taught. There has also been considerable discussion on what knowledge counts, how much knowledge is required to teach a subject, and the nature of that knowledge (see, for example, D. L. Ball et al., 2008a; D. Cohen, 2011; H. Hill et al., 2008; Poulson, 2001; Shulman, 1987).

Content knowledge requires more than knowing a series of facts about a subject. Bruner (1999,2009) was scathing about a view of teaching as the transmission of facts, an idea he

referred to as the computational model of teaching. This is closely aligned to Freire's metaphor of banking pedagogy, the depositing of knowledge into a student (Freire, 2001). Mills and his colleagues have generated three aspects to subject content knowledge (M. Mills et al., 2009): depth of knowledge; knowledge criticism; and knowledge manipulation. Schwab (1978) refers to the substantive and syntactic structures of knowledge, respectively 'knowing that' and 'knowing how'. Cohen (2008) includes synoptic structures of knowledge – the unpacking or constructing of skills into synopses – "rooted in the ways we learn and hold knowledge" (p.363) and warns that this also varies across disciplines.

How knowledge is transferred from pure disciplinary knowledge to educational settings is also of interest – Hirst (1974) being early to acknowledge that school subjects are socially-constructed ways of organising knowledge. Others (for example G. Brown et al., 2011; Poulson, 2001; Young, 1998) point out that the nature of school subjects change over time and across the contexts in which the subject is taught and according to the values and assumptions of those who teach it. Poulson (2001) also warns that "an 'unproblematised conception of knowledge' leads to a search for 'what works' for teaching; an unrealistic search for a simple solution to teaching" (p. 51).

Turner-Bisset (1999) found that the beliefs that teachers held made a significant impact on the information they held about a subject and their orientation towards that subject. She provided an example of the impact of personal orientations of four teachers on their teaching of the Great Depression, concluding that "for our teachers, their 'knowledge' of a subject was as much a product of their beliefs as it was an accumulation of facts and interpretation" (p. 44).

Despite the limitations outlined above, it remains "relatively undisputed that teachers' subject knowledge impacts on student learning" (D. L. Ball & McDiarmid, 1990, p. 3). It is therefore concerning that research shows that there is an "inequitable distribution of teaching knowledge across different socioeconomic and ethnic groups" (H. Hill et al., 2005, p. 400). Hill and her colleagues found that there was a "non-linear relationship" (p.400) between teachers'

mathematical knowledge and instructional quality – that is, poor mathematical knowledge magnified poor instructional quality. In researching the quality of the teaching of mathematics, Battey (2013) found that "teachers' knowledge is directly related to student socio-economic and minority status, meaning that lower income students of colour have teachers with less mathematical knowledge" (p. 127; see also Hill & Lubienski, 2007; Hill et al., 2005; Hill, Schilling, & Ball, 2004). Battey concludes that "students of colour are faced with teachers who are less prepared to teach mathematics with sufficient cognitive depth" (p. 128). Furthermore, there is differentiated advantage from teachers identified as having good subject knowledge, Shepherd (2015) found that in wealthy schools, better teacher subject knowledge made a difference to student achievement of 13 – 15 per cent of a standard deviation, compared to only five – six per cent in poorer schools (p. 31).

Despite students having frequent discussions about learning, there is less research available on how students draw on subject content knowledge in student-student learning interactions. Referring to tertiary age students, Boud (2001) says:

> learning from each other is not only a feature of informal learning, it occurs in all courses at all levels. Students have conversations about what they are learning inside and outside classrooms whether teachers are aware of it or not. The first approach, when stuck on a problem, is normally to ask another student, not the teacher" (p. 7).

Boud, Cohen and Samson (1999) highlight that peer learning is beneficial for both partners in the interaction. Topping (1996) would agree, concluding that peer tutoring requires students to draw on discipline knowledge, and to develop skills of evaluating and justifying. However, Lindblom et al (2006) found that tertiary students reported being uncomfortable in assessing aspects related to subject content.

Little research appears to be available on the impact of parents' subject content knowledge in learning micro-interactions. It appears that parents value teachers' specialist subject knowledge, as a survey conducted by New Zealand's Post Primary Teachers Association (2007) found that, when questioned specifically about teachers' subject knowledge, 94 percent said

that this was important (p. 6). However, only one percent of the parents surveyed said, when unprompted, that subject knowledge was a quality they valued in their teacher.

Although I have been unable to find specific research on how parents' understandings around subject knowledge is drawn on in classroom learning interactions, there is much research to show how parents' subject knowledge in general improves student achievement and, when this is not acknowledged, can have a negative impact (see Biddulph et al., 2003; Robinson et al., 2009). Parental education, in particular mother's education, has been linked to higher student achievement and longer participation in schooling (Biddulph et al., 2003; Ministry of Education, 2019a). Further, parental education levels are "an important and significant unique predictor of child achievement" (Dubow et al., 2009, p. 226). Large-scale developmental studies (Bradley & Corwyn, 2002; Davis-Kean, 2005; Duncan & Brooks-Gunn, 1997; Reardon, 2011; Sirin, 2005) have concluded that maternal education was linked significantly to children's educational outcomes even after controlling for other socioeconomic indicators such as household income. A longitudinal study carried out in New Zealand found that, of the four social characteristics examined, maternal qualifications was the only "social characteristic that was associated with all the young people's competency levels, and it usually had the strongest associations" (Wylie et al., 2009, p. 169). The authors conclude that "mothers with higher qualification levels are more likely ... to engage in activities that support and encourage learning in their children" (p. 174). Another conclusion may be that mothers with higher qualification levels are more likely to engage in learning activities that have a higher congruence with activities in the schools, rather than mothers with lower qualifications neither supporting nor encouraging learning with their children.

Understanding curriculum content

Ball, Thames and Phelps (2008), drawing from the work of Shulman (1986), describe teachers' curricular knowledge as being:

> represented by the full range of programs designed for the teaching of particular subjects and topics at a given level, the variety of instructional materials available in

> relation to those programs, and the set of characteristics that serve as both the indications and contraindications for the use of particular curriculum or program materials in particular circumstances (p. 391).

In this research, understanding curriculum content, drawn from this definition, is understood to be the full schema of knowledge and resources that support the teaching of specific topics. Rosie Turner (2013) has noted a reliance on text books by teachers who feel their own subject content matter knowledge is not strong, relying on texts without making adequate judgements on their suitability for purpose.

Shulman (1986) identified two other dimensions of curricular knowledge that are important for teaching, aspects that he labelled lateral and vertical curriculum knowledge. Lateral knowledge relates to the content students are learning in other subject areas. Vertical knowledge includes "familiarity with the topics and issues that have been and will be taught in the same subject area during the preceding and later years in school, and the materials that embody them" (p. 10). Cochran, DeRuiter and King (1993) refer to the knowledge of other linked content as "non-target content knowledge" (p. 267).

Understanding the curriculum helps learners understand and internalise the purposes and values of the specific learning opportunities they are experiencing. It helps the learner understand both the short-term purpose of the lesson (Karseth & Sivesind, 2010) and long-term goals, the intrinsic value of the learning or the eventual value for society (Peters, 2007).

In New Zealand schools, many curriculum decisions are made at policy or individual school level, with teachers expected to follow them. Kennedy (2002) warns that curricula are by nature highly political, and are therefore susceptible to the impacts of what she calls "reform-based knowledge", with reforms arriving from bureaucracy with "zealous certitude" (p. 356). Therefore, the things reformers believe in become articulated in curriculum materials and curriculum policy documents, the air of certainty that accompanies the directives masking the political nature of the curriculum emphasis.

In a te ao Māori worldview, curricula are not dictated by a child's age but on what a child already knows or is experiencing (Hemara, 2000; Penetito, 2019; Pere, 1994). When this perspective is added, curriculum knowledge moves from being a prescribed set of learning details into responsive and dynamic learning, often initiated by the interests, needs and experiences of the learner. Bourke, O'Neill and Loveridge (2018) provide extensive examples of children's learning outside of school and note a "growing bifurcation" between classroom-based learning and what they call "everyday pedagogies" (p. 37). They warn that school-based curricula are more likely to become dated and irrelevant than learning that occurs outside of school. O'Neill and Bourke (2014) say that ''as soon as we start using everyday life as the basis for our knowledge about teaching and learning, we begin to see just how artificial and impoverished education in formal settings can appear'' (p.142).

I could find little research on the role of students' curriculum knowledge in learning interactions. However, there is a body of research on the role of students' prior knowledge in their classroom learning. For example, Cummins (2010) says "activating prior knowledge is like preparing the soil before sowing the seeds of knowledge" (p. 24). Campbell and Campbell (2009) tell us that "background knowledge is the raw material that conditions learning. It acts as mental hooks for the lodging of new information and is the basic building block of content and skill knowledge" (p. 9).

If we take the broader definition of prior learning or background knowledge (terms used interchangeably by writers such as Campbell and Campbell (2009), then the knowledge held by learners could be valuable funds within the classroom. Children spend more time out of school than in school. It is therefore important to "recognise, understand and validate this everyday learning" (Bourke et al., 2018, p. 35) both for young people and teachers. For individual students, how teaching topics connect to what they know matters for academic success (Campbell & Campbell, 2009; Marzano et al., 2000; Marzano, 2004; J. B. Smith et al., 2001). Conversely, failing to build on a student's prior knowledge negatively impacts on their success

in that topic (see, for example, Dolezal, Welsh, Pressley, & Vincent, 2003). Mills and his colleagues (2009) refer to 'high connection' and 'low connection' learning. High connection learning gives students the opportunity to link their prior knowledge to the topics, skills, and competencies addressed in the classroom. Low connection learning is not considered a productive pedagogy, and refers to learning that is undertaken with little or no reference to a student's prior knowledge.

Although parents should be a prime source of information on children's prior learning experiences and background knowledge, I could find little information on how parental 'curricular knowledge' has been examined for its influence on subsequent learning and achievement. One example of parents' being more informed about their children's prior learning experiences is in research reported by Chesworth (2016). Chesworth and her team filmed pre-school children at play and then asked the children, their parents and their teachers about the 'funds of knowledge' they had drawn on in their play. In the filmed incidents, the children's home experiences, supported and known by their parents, had informed their learning in this curriculum area but, outside of participation in this research, the teachers were unaware of the children's prior learning.

Understanding assessment requirements

Understanding assessment requirements, in this research, refers to understanding what will be assessed, reported and used to make ongoing judgments for further learning, in particular how this information is drawn on in classroom micro-interactions.

The New Zealand Curriculum says that "the primary purpose of assessment is to improve students' learning and teachers' teaching as both student and teacher respond to the information that it provides" (Ministry of Education, 2007, p. 39). This statement implies that assessments, and classroom interactions around assessment requirements, should include both the students and the teacher. However, the ongoing description of assessment in this document shows the key 'actor' in classroom assessment is the teacher. After describing how

an evidence base of student progress can be collated, the guidance is "analysis and interpretation often take place in the mind of the teacher, who then uses the insights gained to shape their actions as they continue to work with their students (Ministry of Education, 2007, p. 39). The document continues with a description of the characteristics of 'effective assessment', and includes references to students being 'included' and 'involved', but not leading classroom assessment.

A parallel term for assessment in Māori medium education is aromatawai, a term that comes from two words aro (to take notice of) and matawai (to examine closely). Within the classroom context, aromatawai is "a way of focussing on the learner, what they can do, their learning journey and experience, the relationship between kaiako [teacher] and ākonga [students], and how that information can support learning, instantly, and over time" (Ministry of Education, 2014, p. 18). The first principle of aromatawai is 'mana mokopuna', the description of this principle tells the school community that learning should be "tailored for and with mokopuna, based on who they are" and part of an "education that values who they are [and] also values their natural talents and inclinations" (Ministry of Education, 2014, p. 23).

Some assessments, particularly for older students, are high stakes assessments where the results are used to make important decisions about students, teachers or schools. High stakes assessments can influence both the way teachers respond to students in classroom micro-interactions and their wider teaching practice. Negative influences include:

- a reduction in the range of teaching and learning strategies as 'assessment practice' consumes large amounts of classroom time (Popham, 2001; Ritt, 2016; Sacks, 2000)
- a reluctance to try new teaching methods (Boardman & Woodruff, 2004; Crocco & Costigan, 2007; Shapira-Lishchinsky, 2011)
- limiting the development of the range of skills and literacies needed in the modern world (Au, 2008), particularly with reference to the application of higher order thinking skills (Klenowski & Wyatt-Smith, 2012)

- alienating a large portion of students whose academic strengths lie outside of commonly tested subjects by teaching to a narrow curriculum (Anagnostopoulos, 2003; Berliner, 2011).

Anagnostopoulos (2003) describes the 'alienation' of those students whose "natural talents and inclinations" (Ministry of Education, 2014, p. 23) lie outside the focus of the high-stakes assessment. Perrone (1991, p. 132) found that national testing has been "deleterious, particularly for poor and minority children". Peters and Oliver (2009, p. 273) add that this 'deleterious' effect impacts especially on those "from minorities and those with disabilities and special education needs". Polesel, Dulfer and Turnbull (2012) refer to the capacity of full cohort testing in Australia to "lower the self-esteem, self-image and long-term confidence of under-performing students, thus widening the gap between them and higher-achieving peers" (p. 9). Abrams and colleagues (2003) report "increased levels of anxiety, stress, and fatigue are often seen among students participating in high- stakes testing programs" (p. 20). Students, therefore, will benefit from a greater understanding of assessment requirements within classroom interactions that are affirming and mana enhancing.

Cowie (2005) reported that students' level of trust that their teacher would treat their ideas with respect impacted on their willingness to engage in formative assessment conversations with their teachers, and that they wanted more opportunities for one-on-one interactions with their teachers to discuss their work. She also reported that students valued the learning conversations about assessment with their peers, although this also was dependent on the quality of the student-student relationship – students needed to feel they trusted their peer in the interaction. Students valued the assessment-based interactions with their peers – if they were "a member of a peer culture in which people help each other" (Cowie, 2005, p. 202). These students reported that a discussion with peers could be valuable to clarify ideas; that their peers were usually easily accessible so they could provide timely feedback; and that peer feedback used language and ideas they could easily understand. Other research (for example, Bourke et al., 2018; O'Neill & Bourke, 2014) have shown that children have the ability to

provide timely and supportive assessment feedback in both structured and unstructured informal learning contexts outside of school.

Understanding learning strategies

Understanding learning strategies refers to ways of facilitating learning and building understanding within ako, the act of teaching and and learning. Understanding about learning strategies is closely aligned with what Shulman (1986) called pedagogical content knowledge: "the most useful ways of representing and formulating the subject that make it comprehensible to others" (p. 9). His definition of pedagogical content knowledge also includes the need to understand the role of learner in the learning interaction: "pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons" (p. 9). Pedagogical content knowledge has also been described as active processes, derived from building on a combination of pedagogy; subject content; student characteristics, environmental contexts for learning (Hashweh, 2005; Park & Oliver, 2008).

Others (for example, Black-Hawkins & Florian, 2012; Day, 2005) have called this area the 'craft knowledge' area for teaching, drawing on the definition provided by Brown and McIntyre (1993):

> that part of their professional knowledge which teachers acquire primarily through their practical experience in the classroom rather than their formal training, which guides their day-to-day actions in classrooms, which is for the most part not articulated in words and which is brought to bear spontaneously, routinely and sometimes unconsciously in their teaching (p. 17).

Brown and McIntyre (1993) believe that the reasons for what they call the "dearth of research" regarding craft knowledge is the "lack of satisfactory language to articulate and discuss the very concept of craft knowledge" (p. 17). Therese Day (2005) agrees with this challenge of defining craft knowledge, suggesting "the difficulty in defining craft knowledge therefore, lies in both

teachers' inability to articulate it and in researchers' inability to document it accurately and faithfully" (p. 21). Day (2005) describes craft knowledge as "an amalgam of content and pedagogy which is strictly the preserve of teachers and which distinguishes experts from novices in the classroom" (p. 22).

Ball, Thames and Phelps (2008) were more positive about research regarding pedagogical content knowledge, although they report that the "notion of pedagogical content knowledge has permeated scholarship on teaching and teacher education but has done so unevenly across fields" (p. 397). Their literature review reveals that different subject areas require different types of teaching strategy knowledge, showing that having a term such as 'pedagogical content knowledge' has "heuristic value as a way of conceptualizing teacher knowledge" (Ball et al, 2008, p. 398). Drawing from an example in the teaching of mathematics, Ball et al (2008) conclude that teachers require:

> mathematical knowledge not typically needed for purposes other than teaching. In looking for patterns in student errors or in sizing up whether a nonstandard approach would work in general, . . . teachers have to do a kind of mathematical work that others do not. This work involves an uncanny kind of unpacking of mathematics that is not needed— or even desirable—in settings other than teaching (p. 400).

A key requirement for teachers is that they know when and where to apply the different strategies. Many researchers warn of the dangers of thinking that a strategy that worked in one learning area, with one group of students, is guaranteed to work with another (Battey, 2013; Cochran et al., 1993; D. Cohen, 2008; Shulman, 1986, 1987; Turner-Bisset, 1999). Cochran et al (1993) describe this as the teacher retaining a fluid control or a flexible understanding, being able to "see a specific set of concepts from a variety of viewpoints and at a variety of levels, depending on the needs and abilities of the student" (p. 264). They found that when teachers were unable to adjust to student diversity and are unprepared for student preconceptions in a subject area, they "inappropriately attributed students' lack of understanding to their levels of motivation and ability" (p. 264).

Battey (2013) has found that teachers of 'students of colour' or students in poor neighbourhoods do not draw from the expected range of teaching strategies in their instruction. Others have documented these same practices with students of colour (Ladson-Billings, 1997; Lubienski, 2002; Museus et al., 2011). Ladson-Billings (1997) discusses how these practices are detrimental to African American mathematics students by relating them to the "pedagogy of poverty" (p.129). The pedagogy of poverty, as defined by Haberman (2010) consists of routines such as "giving information, asking questions, giving directions, making assignments, monitoring seatwork, reviewing assignments, giving tests, reviewing tests, assigning homework, reviewing homework, settling disputes, punishing noncompliance, marking papers, and giving grades" (p.83).

From the summaries above we can conclude that there is generally a recognition that 'understanding learning strategies' differs from 'understanding subject content', and that it is an essential part of the craft of expert teachers. However, as Marks (1990,) warns "it is impossible to distinguish between content knowledge and pedagogical content knowledge through observing the act of teaching as all knowledge is presented pedagogically" (p. 42). Shulman (1987), despite being a key proponent of pedagogical content knowledge as the backbone of teaching argues that you can't separate content knowledge from teaching strategies and an over-focus on pedagogy has meant that the subject-specific ways of thinking have been washed out, leaving only class management as the core of teaching.

Day (2005) described the participants in her study as making

> frequent references to the intuitive, experiential and professional elements of their classroom life . . .Throughout their accounts they talked of 'knowing it in my gut', 'having a sixth sense' and of 'following my instinct', thereby displaying a level of confidence in their craft knowledge over the formal, theoretical pedagogy they also possessed" (p. 27).

I believe this notion of tacit understanding, of a 'sixth sense' and 'following one's instinct' aligns strongly with the notion of tairongo in mātauranga Māori (Ministry of Education, 2014).

The bulk of research on students' understandings of learning strategies in micro-interactions focuses on the advantages to the student in the teaching role. In a report entitled "To Teach is To Learn Twice", Whitman and Fife (1988) describe peer teaching as a process that involves one or more students teaching other students in a particular subject area. A literature review conducted by the University of Michigan (McKeachie et al., 1986) concluded that peer teaching was extremely effective for a wide range of goals, content, and students of different levels and personalities. Rahmasari (2017) lists the benefits of peer teaching as providing more opportunities for students to engage with the learning; providing more immediate feedback and error correction and allows students to engage in active learning rather than passive listening.

Boud (2001) did focus on peer learning – students learning from each other in both formal and informal settings. He distinguished this from peer teaching as the emphasis is on the learning process, including the emotional support that learners offer each other, as much as the learning task itself. He said that "in peer teaching the roles of teacher and learner are fixed, whereas in peer learning they are either undefined or may shift during the course of the learning experience" (Boud, 2001, p. 81).

As has been previously explored, the scaffolding role (Wood et al., 1976) of parents and whānau as More Knowledgeable Others in a child's zone of proximal development is a key feature of sociocultural theory (Vygotsky, 1980). In describing mother-child teaching interactions, Kermani and Brenner (2000) refer to two interrelated functions: "the mother's fine-tuning or sensitivity to her child's level of competence"; and, "the mother's gradual withdrawal of support, translating to a greater opportunity for the child to perform independently" (p. 31). Parent-child scaffolding frames are prevalent in all societies, although there are significant cultural differences in how these are enacted (Greenfield, 1984; Rogoff et

al., 1993; Rogoff, 2003, 2008). Showing deep understanding of learning strategies, "parents adjust their teaching practices as a function of different factors, such as child's age and level of competence, and the nature of the task and its requirements" (Kermani & Brenner, 2000, p. 32; see, also, Kagitcibasi, 2017; Rogoff et al., 1984; Saxe, 2015).

Understanding the learner

There is much research that points to a significant influence of the interpersonal relationships within the classroom on students' motivation and achievement (Birch & Ladd, 1996; Bishop & Berryman, 2006; Cummins, 2003; K. R. Wentzel, 1997). Turner-Bisset (2013; 1999), in exploring teacher knowledge about students, identified two categories. The first she called the empirical or social knowledge of learners, defining this as knowledge of what children of a particular age range are like, how they behave, their interests and preoccupations, and how contextual factors (such as weather or exciting events) can impact on their work. The second factor she called cognitive knowledge of learners - the knowledge of child development that informs a teacher's practice, and what she refers to as 'context-bound cognitive knowledge' or knowledge of the specific group of learners. Bishop and Berryman (2006) and Wentzel and Muenks (2016) extend Turner-Bisset's position, arguing that knowing about your students is not enough, pointing out that students need to know that the teacher cares, not just that they are knowledgeable about culturally-located expectations of learning progress or child development. Students in Bishop and Berryman's (2006) research:

> identified the relationships they had with their teachers as the most influential factor in their ability to achieve in the classroom. In acknowledging the importance of relationships, the students emphasised the importance of teachers caring for them, having high expectations of them, knowing what students needed to learn, knowing how to lead students to this knowledge, and being able to manage classrooms in ways that supported their learning (p. 247).

Teacher relationships with students has a notable effect on their learning (Cornelius-White, 2007; Cummins, 2003; Roorda et al., 2011). Roorda et al (2011,) found that teachers' "affective variables 'empathy' and 'warmth' are more strongly associated with student outcomes than

most other person-centered variables" (p. 494). Overall, they found substantial association, with correlations ranging from medium to large, between person-centred teacher variables and student outcomes, including affective, behavioural and cognitive outcomes.

While good relationships with teachers are fundamental to ongoing learning, it is difficult to empirically determine how well teachers know their students - what students know, perceive and aspire to. Cohen (2011) developed a four point continuum of teachers' "conceptions of knowledge and modes of acquaintance with students' knowledge" (p. 180). The points on this continuum ranged from teachers "being closely acquainted with the surface strata of students' knowledge" to having "extensive acquaintance with students' ideas, inventions, misunderstandings and the like" (D. Cohen, 2011, p. 180). The challenge in applying this continuum is that it is very difficult for a teacher to know what they do not know about a student's knowledge.

In the learning micro-interaction, the expert on how they learn best is the learner themselves. In a te ao Māori worldview, children are born with a natural instinct of how and what to learn (Ministry of Education, 2014). By the time children begin their formal schooling, they are mostly moving with ease amongst the social and cultural expectations of their bioecological systems.

An explicit, rather than innate, understanding of one's own learning preferences has been labelled metacognitive knowledge. Pintrich (2002) defines metacognitive knowledge as "knowledge about cognition in general, as well as knowledge about one's own cognition" (p. 219). Building on the now classic work of Flavell (1979), Pintrich outlines three aspects of metacognitive processing. These are strategic knowledge – "knowledge of general strategies for learning, thinking and problem solving"; knowledge about cognitive tasks – "knowledge that different tasks may be more or less difficult and may require different cognitive strategies"; and, knowledge of self – including knowledge of one's own strengths and weaknesses and beliefs about motivation (Pintrich, 2002, p. 221-2). Vermunt and Vermetten (2004) link the notion of metacognitive strategies to students' conceptions of learning and learning

orientations. They describe a conception of learning as "a coherent system of knowledge and beliefs about learning and related phenomena … and about the task division between students, teachers, and fellow students in learning processes" (p. 362).

The whānau that love the child and have supported their early learning have a deep understanding of their preferences, prior knowledge, aspirations and interests. "Whānau are the natural first teachers and by the time children arrive at school they come with already existing patterns of beliefs, knowledge, skills, experiences, attitudes, and motivations" (Ministry of Education, 2014, p. 18). It is difficult, though, to find research on how parental knowledge of their children's learning preferences, or even their interests, have been used within classroom settings. Most research in this area is around the benefits of training parents to fit with the classroom agenda rather than drawing on their expertise.

Understanding the learner's cultural context

Every participant in classroom interactions is located in a social, cultural and historical context (Bronfenbrenner, 1979a; Rogoff, 2003; Tangaere, 1997; Vygotsky, 1980). For some students, there is close alignment between the culture of their home and that of their classroom. However, there is well-documented evidence that students who do not identify with the dominant culture underpinning the education system are not well-served by that system. Our education systems are "becoming more culturally, ethnically and linguistically diverse" and "rather than benefitting from and learning from each other, we continue to expect our students to be represented within the same curriculum, pedagogy and testing regime or we form separate enclaves and the divide becomes even wider" (Berryman et al., 2015, p. 15).

In New Zealand, Māori and Pasifika students do not, on average, achieve as well as non-Māori students. Classroom practices and interactions have contributed to this disparity of results. An analysis across the BESs (Alton-Lee, 2003; Biddulph et al., 2003; Mitchell & Cubey, 2003; Robinson et al., 2007; Timperley et al., 2006) revealed that the education system performance has been persistently inequitable for Māori learners, citing the following contributing factors:

- low inclusion of Māori themes and topics in English-medium education,
- fewer teacher-student interactions,
- less positive feedback,
- more negative comments targeted to Māori learners,
- under-assessment of capability,
- widespread targeting of Māori learners with ineffective or even counterproductive teaching strategies (such as the 'learning styles' approach),
- failure to uphold mana Māori in education (implying, but not noting, the need to understand mana Māori before being able to uphold this),
- inadvertent teacher racism,
- peer racism,
- mispronounced names and other acts of disrespect towards Māori students and whānau, and their language or culture.

The Ministry of Education (2015a) also report the conclusion drawn by internationally renowned Harvard professor, Courtney Cazden, who, after working with teachers in New Zealand, highlighted how deeply entrenched such disadvantageous, differential treatment is within the beliefs and practice of many New Zealand teachers. In most cases, this is not conscious prejudice, but part of a pattern of well-intended but disadvantageous treatment of Māori students (Berryman & Eley, 2017b, 2018; Eley & Berryman, 2019).

There are many factors that can contribute to the persistence of educational disparities, including the prior learning and experiences the child brings to school, the socioeconomic background of the child and their family, the structures and history of the school, and the socially constructed impoverishment of Indigenous peoples (for example, Berryman et al., 2015; Bishop, 2011a; Bishop & Berryman, 2006; Castagno & Brayboy, 2008; Demmert, Grissmer, & Towner, 2006; Sarra, 2014; Sleeter, 2015). However, many authors agree with the OECD (2002) that it is ''pedagogy and learning practices'' that are the ''key educational policy levers'' in order to make a difference for these students (p. 3).

Understanding the learner's cultural context, or culturally responsive practices within learning interactions, have been defined by Gay (2010) as "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant and effective for them" (p. 29). In further research, Gay (2013) puts even stronger emphasis on the need for the teacher to be fully responsive to the cultural toolkit of the student, identifying the following actions or attitudes required: eradicating deficit view of students and communities; expecting, understanding, and resisting the opposition to culturally responsive teaching; developing their own understanding of how and why culture and difference are essential ideologies and foundations; and establishing pedagogical connections between culturally responsive teaching and specific subjects and skills taught in schools.

Ensuring that learning micro-interactions are deeply rooted within strong relationships that value and respond to each other's culture is a key concept in mātauranga Māori. In an article called *The Centrality of Relationships for Pedagogy: The Whanaungatanga Thesis*, Bishop, Ladwig and Berryman (2014) provided empirical evidence for positive, culturally-located classroom relationships. Metge (1990) explains that to use the term 'whanau', literally or metaphorically, is to identify a series of rights and responsibilities, commitments and obligations, and supports that are fundamental to the collective.

Berryman et al (2018) explore effective cultural relationships, referring to "mana ōrite: a metaphor for interdependent relationships, brings responsibilities to both groups to maintain the mana of the other, and understand the mana of both as ōrite (equal or the same)" (p. 3). Mills et al (2009) also outline the need to challenge the cultural understanding and awareness of teachers, decrying a shortcut approach to cultural relationships with a need "to move beyond the limitations of 'valuing' diversity'" (p. 75) where the focus is on the differences between students. Instead, the power dynamics within the classroom setting need to be examined, teachers gaining a "critical understanding of difference that is cognisant of the

inadequacies of liberal tolerance discourses, that recognises micro and macro power relations, and problematises knowledge about 'community'" (Mills et al., 2009, p. 75). In line with this, Cummins (2003,) would challenge teachers to check their practice against a "continuum between reinforcement of coercive relations of power in the wider society or promotion of collaborative relations of power" (p. 43).

Conclusion

Crucial to children's school experiences are their relationships with their teachers. Teachers direct both the learning experiences and the nature and quality of all interactions in the classroom. The role of the teacher in a student's learning is prioritised in policy, research and practice. But students' relationships with other students may be just as long-term and as influential on learning as the relationships with teachers. However, there is relatively little research on student-student learning interactions, and less on policy initiatives. In fact, much policy such as behavioural interventions, remedial learning programmes, stand-downs and suspensions ignore the role of friendships and peer learning in the decision-making around how these will be applied. And, of course, a child's relationship with their whānau is even more intimate and long-term than the influence of a teacher in their lives. The hopes and dreams of the family, the aspirations and the history are carried on the shoulders and in the cultural imprint on the child, regardless of how frequently a parent physically attends a school event.

Inside the classroom dynamics are the ongoing micro-interactions between a student and their teachers, peers and others, including whānau members who, sometimes, may be in the classroom. These micro-interactions or 'teaching in the moment' times make a significant proportion of the teaching day. As noted earlier, teachers can make up to a thousand on-the-spot teaching decisions in a day and the number for a student is unknown. Despite the sheer volume of these interactions, we still have much to learn about what makes them successful.

Chapter 4: Method

Introduction

As reported in chapter 2, New Zealand education statistics show that, for many children, the schooling process is not a positive one. And, as discussed in chapter 3, the quality of classroom interactions has a significant impact on a child's experience of schooling. Because they are so important, I wanted to explore the contributing factors for effective learning micro-interactions. This required an examination of research and policy around the macro-context of New Zealand classroom practice and a close examination of micro-interactions. The isolation of micro-interactions, the examination of small components of the whole, is a centripetal focus. However, to make sense of how the micro-interactions occurred within the classroom practice, a wider, centrifugal view was also required. I needed research methods that supported micro-interactions to be examined within the wider context of the learning programme, the classroom, the school and the education system.

Outline of this chapter

The purpose of this chapter is to outline the research design, including the methodological foundations and procedural processes. The chapter includes information on the research methodology, that is, the principles that guided this; and, research methods – the tools, strategies and techniques used across the research (see Kothari, 2004).

I begin this chapter in section 1, by presenting the research questions that underpinned this investigation. In section 2, I outline my paradigmatic positioning and its impact on how the participants and I, as researcher-participant, view and construct knowledge within the research context. Section 3 presents an explanation of culturally responsive research methodologies and how these methodologies underpin this research. In section 4 the research design is outlined - what was done and the research methods that sat behind the actions. The key research methods are document analysis and multiple case studies.

Section 1: Research Questions

The research questions investigated in this study are:

1. How does the macro-context of the Treaty of Waitangi underpin and inform the micro-context of classroom interactions in Aotearoa New Zealand schooling?
2. What theoretical frameworks underpin the relationships and pedagogical practices in New Zealand classrooms?
3. How are the cultural toolkits (knowledge, understandings and positionings) of teachers, students and parents drawn on within classroom micro-interactions?
4. How does the *ako: critical contexts for change model* support effective classroom micro-interactions?

Section 2: Paradigmatic Positioning

This research is positioned within an interpretive, critical qualitative research paradigm. Through an interpretive lens, the subjective experiences of each participant are accepted as their reality, and the meaning of the experiences will be constructed by the researcher and the participant (Denzin & Lincoln, 2011). The research seeks to uncover and interpret the lived experiences of the participants – the thinking and decision-making processes of some teachers, students and community members. Through the critical lens, the research "paradigm is firmly rooted in a human rights agenda" (Denzin, 2017, p.8); seeking to understand "the role of education in the contested process of social reproduction and transformation" (Carr and Kemmis, 2009, p.76).

From an interpretive position, I acknowledge a subjectivist epistemology (Lincoln & Guba, 2011) because I, as a researcher, am part of the process of building knowledge. I believe that my own values, beliefs and actions are inherent in all phases of the research and inextricably linked to the understanding of the knowledge generated. My personal ontological positioning, in regards

to this research, is that I believe that every learner is unique, spiritually connected and descended from greatness – a carrier of the divine spark (tamariki). I believe that learning (ako) is naturally occurring in all people and that all educational provision should support the learner to reach their innate potential.

I identify with Schwandt's emphasis that "to understand or interpret the part, you must grasp the whole" (Schwandt, 2000, p.2). Schwandt refers to two interpretivist philosophies that I have followed. The first of these he calls phenomenological sociology – the gaining of an understanding of everyday life, context and constitutive acts. This position has two implications for my research. Firstly, the research occurred within the 'everyday life' of the classroom, the class going about their planned and usual business without the introduction of artificial or intrusive evidence-gathering. Phenomenological sociology also means that I wanted this research to go beyond what an external observer can see in terms of interactions in the classroom and to explore the context engendered by sociocultural and historical experiences, and the prior knowledge and philosophical beliefs all participants are bringing to the interactions. Two types of thinking, centrifugal and centripetal (Durie, 2011) inform the phenomenological sociology underpinning this research.

The second philosophy referred to by Schwandt (2000) is empathetic identification – deliberately trying to find ways of "going inside the head to produce meaning" (p. 2). To enable the sharing of what was 'inside the heads' of those participating in the micro-interactions without disrupting or interfering with the process, classroom interactions have been video-recorded. We, the participants and I, then unpacked some of these interactions in an effort to determine what they were responding to, what they were thinking and to consider why they acted as they did.

My critical focus included a "desire to create an ethically responsible agenda" (Denzin, 2017, p.12). The characteristics of this agenda is that:

1. It places the voices of the oppressed at the center of inquiry;

2. It uses inquiry to reveal sites for change and activism;
3. It uses inquiry and activism to help people;
4. It affects social policy by getting critiques heard and acted on by policy makers;
5. It affects changes in the inquirer's life, thereby serving as a model of change for others. (Bloom & Sawin, 2009, pp. 338, 340-342, 344).

Section 3: Culturally Responsive Research Methodologies

Within a qualitative research paradigm are "opportunities for collaboration, insider perspectives, reciprocity, and voice" (Tillman, 2002, p. 3). However, despite this positioning, it is still possible for the researcher to sit outside the experiences of the participants, to investigate into or to comment on their experiences and not respectfully draw on the knowledge, experience and contribution of the participants. The case study component of this research is based on the premise that the researcher and particpants standing together will observe or experience a series of classroom interactions. We will come to a collective understanding of what was occurring in the specific incidents, unpack what each participant was thinking, interpret together the understandings being drawn on in the interactions and construct the implications of the decisions made. In a deliberate effort to ensure the thoughts and interpretations of all participants are valued, this research employs a culturally responsive methodology as presented by Berryman, SooHoo and Nevin (2013).

Defining Culturally Responsive Methodologies

In culturally responsive research methodologies, the relationship and positioning of the researcher and their participants to each other, are pivotal. Each contributes to the understanding of the research questions, the ongoing procedures for data gathering and in interpreting and understanding the outcomes. The researcher does not stand apart from the participants but creates a "research stance where establishing respectful relationships with participants is central to both human dignity and the research" (Berryman et al., 2013, p. 1). In

a discussion on the role of culturally responsive methodologies within education settings, Berryman et al. explore the responsive nature of this research methodology and resist a single definition. Instead, they propose that culturally responsive methodologies is a term for research that:

1. embraces cultural and epistemological pluralism;
2. deconstructs Western colonial traditions of research;
3. recognises the primacy of relationships within a power-sharing dialogical encounter (p. 104-105).

They say:

> Culturally responsive methodology encourages the researcher to engage in three distinct and often concurrent phases of the research 1) learn to know the participant(s) subjectivities 2) make transparent the researcher's positionality and 3) engage in relational and dialogical encounters. Framing these phases are questions of ethics: what right does one have to engage in the study? Who will own the research? And, who determines the public good of the research? (p. 106).

This methodology is particularly appropriate to an investigation of the lived experiences of teachers and students within a classroom, as it grows out of the notion of culturally responsive and relational pedagogy. Culturally responsive and relational pedagogy "recognises that all people who are involved in the learning and teaching process are participants who have meaningful experiences, valid concerns, and legitimate questions" (Bishop, Berryman, Cavanagh, & Teddy, 2009, p. 741).

Culturally responsive research methodology is rooted in two research traditions: critical theory and kaupapa Māori theory – although the designers of culturally responsive methodologies note that these work together. They do this through "maintaining the mana (integrity) of each as we acknowledge both theoretical frameworks that we have drawn upon" (Berryman et al., 2013, p. 8). This makes culturally responsive research methodology particularly appropriate for my research as these are the theoretical approaches that have been examined within the

classroom context as outlined in Chapter 3. Of particular note for my research is the principle from critical qualitative research described by Denzin, Lincoln and Smith (2008) as embodying the "emancipatory, empowering values of critical pedagogy" (p.5). That research says that it brings "researchers and their research participants into a shared, critical space, a space where the work of resistance, critique, and empowerment can occur" (Denzin et al., 2008, p. 5). My research also draws on the aspects of kaupapa Māori theory within culturally responsive methodology as I acknowledge a connection to my own heritage and seek to "define solutions that will be more effective for Māori, now and in the future" (Berryman et al., 2013, p. 11).

The Principles of Culturally Responsive Methodology

Berryman, SooHoo and Nevin (2013) do not set out a model or template to be followed for researchers wishing to undertake culturally responsive research. Instead, they set out the ways in which researchers can engage in culturally responsive research in terms of five principles (pp. 23–24). For each principle, the authors pose a series of reflective questions, which I used to check that I, in the researcher role, had not inadvertently slipped back into a role of the outside observer of the participants. These principles and questions are presented in Table 1 (adapted from pp. 23–25).

Table 1: Principles and reflective questions when seeking to work in culturally responsive ways

Principle	Reflective Questions
1) Learn from multiple sources	• Do you come prepared with some social or cultural knowledge of the people with whom you are seeking to engage?
2) Bring your authentic self to the research	• What subjectivities, positionalities, and ideologies do you bring to the research? How will they broker your access? • Are your own rituals of encounter respectful and humble as a visitor in someone else's place?
3) Bring a relational and dialogic consciousness	• In what ways do you convey open-mindedness? • What are your intentions/research questions? • What roles might people play?
4) Enact ongoing critical reflection	• How have the relationships affected the research endeavour?

	• How has the research endeavour affected the relationships? How is the work evolving as a result of this collaboration? • How have lives benefitted as a result of this collaboration?
5) Assess shared relationships and agreements	• What have you learned about their values, beliefs, and epistemologies? • How will constructed understandings contribute to your continued work/relationship? • How has the work benefitted and how will it continue to benefit the group you are working with? • How do you know this?

In addition to these principles, a further cautionary note was raised by Koo and Lester (2014) who warn against assuming that research is 'participatory' just because the researcher desires it to be. They state that, despite researchers approaching community members in "responsive and thoughtful ways" (p.1), whether research can be deemed participatory should be determined by the participants themselves.

Koo and Lester (2014) identify three lessons learned or strategies a researcher should undertake, which build on the culturally responsive methodologies principles outlined above. The first strategy is to "continuously create pathways of engagement" (p. 5) – a strategy closely linked to the principle of 'bring a relational and dialogic consciousness' as in the table above. This requires the researcher to ensure a deliberate awareness or consciousness of the quality and depth of relationships with participants. The second strategy is to work against researcher power – resisting any tendency for the researcher to slip into the role of expert because of their knowledge of the research process and content, and a lessening of the valuing of community expertise. This is closely linked to Berryman, SooHoo and Nevin's (2013) principle of the need for ongoinging assessment of the relationships and agreements. The final lesson is to be willing to name and un-name research as participatory – that is, to resist calling the research particpatory, or, I believe, culturally responsive, until the particpants acknowledge it as such.

The interrelationship of culturally responsive methodologies and sociocultural theory

This research is linked to a belief that student learning is a sociocultural process – that individual learning and subsequent development occurs in a cultural, institutional and historical context. The role of culture (and society) cannot be ignored when looking at student development and learning. This ties very closely to the culturally responsive methodologies – that the need to acknowledge, respect and value what all participants bring to the research is fundamental to the research process.

Arzubiaga et al (2008,) stated that situated cultural practice is closely linked to sociocultural theory and that "several of the central premises of sociocultural theory underpin situated cultural practice" (pp. 312–313). I would argue that these same premises inform culturally responsive research methodologies, and believe that the following are particularly important to this research:

1. Human development and behaviour are cultural and that the nature of social institutions e.g. schools, workplaces, families also have a cultural character Bronfenbrenner, 1979; Rogoff, 1990).
2. All human activity is mediated by cultural artefacts (Chavajay & Rogoff, 1999; John-Steiner et al., 1994; L. S. Vygotsky, 1980).
3. Culture is an "immense distributed self-regulating system consisting of partial solutions to previously encountered problems" (Cole, 1998, p. 224).
4. Value ascribed to culture is distributed unevenly across various members of a community which creates hierarchies in which access to and possessions of certain practices are endowed with greater or lower values (Arzubiaga, 2007).
5. Attention to institution cultures can help us understand how inequity is created (Freire, 1994, 1996).

Ethical considerations in this research

The choice of the research methodology

Culturally responsive methodology shares the same goal of involving all stakeholders in the research as in participatory research and public sociology but differs in intention. Culturally responsive methodology is not always about change and transformation. In this methodology, "one does not enter the relationship with the explicit intention of changing the other but rather to honour and support the other" (Berryman et al., 2013, p. 107). This was important to me as I did not want to enter a classroom as an arbiter of good practice, but to learn from and with the teachers, students, parents and community members.

Attending to power dynamics within culturally responsive methodologies

Throughout this research the intention was that all participants - teachers, students, whānau and myself as researcher – would contribute to the development and interpretation of the knowledge sources, building on collaborative and respectful power-sharing amongst all parties. This required a deliberate attention to the power dynamics in all the research settings. As Riley, Schouten and Cahill (2003) say "in all relationships dominance is inescapably at stake. In every instance of talk, power is being negotiated, and the researcher-researched relationship is no different" (p. 1). Hewitt (2007) draws attention to the challenge of qualitative research interviews, referring in particular to the ethical dilemmas that arise from the relationship that develops between the researcher and the researched. She says that "official guidelines and ethical codes of practice are insufficient to allow the researcher to navigate through the continually evolving course and context of research in a way that is morally responsive to the participant, while ensuring the integrity of the research" (p. 1157). There is no checklist solution provided for addressing these dilemmas, "eliciting perspectives is not just a technical matter, it also involves complex ethical considerations" (Norwich & Kelly, 2004, p.45). Instead, it requires constant awareness and reflexivity from the researcher. The onus was on me as researcher to ensure that I became genuinely and authentically involved in the research, as a participant, not as an observer. As Bishop (1996) says, there is a need to ensure "researcher involvement as lived experience [where] researchers are somatically involved in the research

process; that is physically, ethically, morally and spiritually, and not just as a 'researcher' concerned with methodology" (p. 216).

Research with children and young people

There were two aspects to this research that required me to be particularly mindful of the potential power dynamics that could be at play in the research context. The first of these was that the opinions, understandings and conclusions drawn by students (aged between 10 and 16 years old) were integral to the research and knowledge-building. I needed to enter every engagement with the students understanding that children are competent research participants and their views deserve to be taken seriously (Hardman, 2001); and, that the children are "considered active rather than passive research participants; they are the subjects of research rather than objects" (Hunleth, 2011, p. 82). I also tried to ensure that the students knew they were positioned in this way, and were aware that this was research that was carried out with children instead of on them (Christensen & James, 2008).

Research with Māori

I was conscious that as a Pākehā, I was implementing a research agenda where some participants identify as Māori. I was asking participants to give of their time, their thoughts and their theorising within this research, despite a research history in New Zealand where research on Māori by non-Māori has exploited Indigenous peoples' culture, their knowledge and their resources, leading Linda Smith (2013) to conclude that research is "the dirtiest word in the Indigenous world's vocabulary" (p. 1).

Linda Smith (1996) has outlined a set of kaupapa Māori guidelines for conducting research that I have tried to apply respectfully in all interactions with participants:

- Aroha ki te tangata *(a respect for people)*
- Kanohi kitea *(present yourself to people face to face)*
- Titiro, whakarongo raua ko kōrero *(look, listen and speak)*
- Manaaki ki te tangata *(be generous)*

- Kia tupato kaua e takahia te mana o te tangata *(do not trample over the mana of people)*
- Kaua e mahaki *(don't flaunt your knowledge) (*p. 221*).*

Understanding one's own culture within culturally responsive research methodologies

This research is underpinned by the belief that research is situated cultural practice (Goodnow, 2002; S. A. Lee, 2011; Rogoff, 1990, 2003; Rosaldo, 1993). Arzubiaga et al. (2008) state that

> "the notion of research as situated cultural practice proposes that what drives research, its purposes and uses, how meaning is made during the implementation of research practices, and the knowledge and representations that are produced are culturally and socially mediated and negotiated processes" (p. 310).

In order to make sense of this, a shared understanding of the term 'culture' is necessary, given that the perspective of participants can be lost or misinterpreted when people "talk past each other" and rely on the "interpretation of each others' words and actions in terms of their own understandings" (Kinloch & Metge, 2014, p. 8).

Kinloch and Metge (2014) define culture as "a system of shared understandings – understandings of what words and actions mean, of what things are really important, and how these values should be expressed" (p. 8). This definition is in line with Bruner who expanded this to include both a 'macro' and 'micro' side in defining views of culture. Bruner (1996) states:

> On the macro side, it [culturalism] looks at the culture as a system of values, rights, exchanges, obligations, opportunities, and power. On the micro side, it examines how the demands of a cultural system affect those who must operate within it. In that latter spirit, it concentrates on how individual human beings construct 'realities' and meanings that adapt them to the system, at what personal cost, with what expected outcomes (p.55).

These broad definitions of culture pose challenges within themselves in this research setting. If our own understandings of culture are so internalised that we "cease to be aware of them,

coming to view them as the "only way or at least, second nature" (Metge & Kinloch, 1978, p. 8), then it is difficult for us to recognise when we are superimposing our own constructed realities on the actions and responses of those we are involved with as we build understandings from the observed learning interactions.

A further challenge occurs when the term 'culture' is used as a representation of ethnicity or the "surface markers of race/ethnicity and social class (Arzubiaga et al., 2008, p. 311). There are dangers within research (see, for example, Denzin et al., 2008; Tillman, 2002) with conflating ethnicity and culture. One danger is that this can lead to an assumption of homogeneity across ethnicities which, in turn, can lead to a view that culture is "static, neatly-bounded across groups, and indexed as a group of individual trait" (Arzubiaga et al., 2008, p. 312). A second danger is making no reference to culture at all within the research – the notion of 'culture-blindness'. An investigation undertaken by Artiles, Trent and Kuan (1997) found that less than 32 percent of articles (in the field of special education) published over a 22-year period paid attention to students' culture, at even the most superficial level.

Within the principles and self-questioning of culturally responsive methodology, I needed to ask myself the question posed by Berryman, SooHoo and Nevin (2013,) – was I "entering into the relationship prepared with some social or cultural knowledge of the people with whom I was seeking to engage?" (p. 23). I needed to be open to and embrace cultural pluralism, acknowledging and celebrating the cultural values and understandings of all parties contributing to the research – myself, the teachers, the students and whānau and community members.

Data integrity within culturally responsive methodologies

Culturally responsive research methodologies were chosen for the classroom-based component of this research because I believed they had high congruence with my own beliefs and philosophies. The call for culturally responsive methodologies to embrace "cultural and epistemological pluralism" (Berryman et al., 2013, p. 104) resonated strongly with me and

challenged me to consider how I was embracing both cultural pluralism (as discussed above) and epistemological pluralism. Within my view of epistemological pluralism is the notion that learning is socially constructed within a cultural, social and historical context, that is, a social constructivist view of learning. This understanding guided both my openness to a range of data sources and a willingness to add to the data sources when the 'unexpected' arose. It also demanded a willingness (or even necessity) to ensure that decisions on priority, materiality and relevance of evidence and of findings were co-constructed with those who were experiencing these – the participants in this research.

Social constructivism has been criticised as lacking objectivity (J. Mills et al., 2006). The data sources within my research are mainly interpretative in nature. While there was considerable triangulation across evidence sources in the research (that is, aligning findings across multiple sources such as the documentation, observations, interviews and perceptions of different groups), each evidence source in itself is, by its nature, subjectively viewed and processed, and interpreted through the lens of the observer or participant. To give some assurance as to the integrity of the research, I needed to ensure there was a wide range of evidence sources and remained aware of the need to reflect, consider, question and understand all at the same time (see J. Mills et al., 2006).

A second criticism of social constructivism is that it is an intrapersonal thought process (Breuer et al., 2002). While it is true that much of the processing around the research occurred in the thoughts in my head and the heads of the participants, we had multiple opportunities to share our thinking. The ongoing focus on building and interpreting the findings together required us share our thinking in an interpersonal space. The intrapersonal thought processes required me to remain conscious that I was a Pākehā researcher and some participants were Māori. In this position, I needed to remain conscious of the "insider/outsider" perspectives as described by Linda Smith (2013, pp. 137–139), being aware that I was viewing the experiences of Māori participants who graciously shared their insider perspectives, understandings and experiences

with me, an outsider. I was also able to process my thinking with my supervisors, one of whom was Māori, providing me with a level of cultural supervision and support in this role.

Ethical Approval

Before this research commenced, ethical approval for this study was granted through the University of Waikato's Faculty of Education's Research Ethics Committee. All ethical considerations as outlined in University of Waikato guidelines, the *Ethical Conduct in Human Research and Related Activities Regulations 2008*, and the code of ethics of the New Zealand Association for Educational Research (NZARE) were strictly adhered to.

Section 4: The Research Design

The use of mixed methods

This research can be considered mixed methods research as there are a number of evidence sources that draw from both qualitative and quantitative ontologies – videos, documents, observations, interviews and Likert-type scales. Each of these sources has required slightly different techniques. Most of this research is located within the qualitative paradigm with the document analysis, literature search, interviews, observations, critical incidents and discussions all set within a qualitative framework. Likewise, the evidence gathered within each of the case studies is both qualitative and quantitative, but, as is typical for case studies (Kumar, 2019), is predominantly qualitative in nature, though it includes some quantitative data. The systematic review of schooling documentation is set within a quantitative framework. In addition, the use of Likert-type scales with participants generates a small quantitative element into this research. Therefore, on the research continuum posited by Johnson and Onwuegbuzie (2004, p. 3), this study would be at the qualitative end with some quantitative aspects. Mixed methods research is formally defined by Johnson and Onwuegbuzie as the class of research where the researcher

mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study (p. 5).

Document analysis

As outlined in chapter 2, I critically examined both the influence of the Treaty of Waitangi and the theoretical frameworks that underpinned classroom practice in New Zealand English-medium state schools.

To examine the influence of the Treaty of Waitangi, I searched school documentation such as the Education Act, the National Education Guidelines, curriculum documents and other relevant legislative and guidance information. In honouring the Treaty, educators are required to reflect the heritages of the Treaty partners. Across the various information sources, I sought for explicit explanations of the worldviews and ontological positionings of the Treaty partners and guidance on how these are or could be embedded in educational provision. The key research method in this search was document analysis based on a systematic search of relevant documents. A systematic search is a data collection tool, "a means of collecting a body of information pertinent to a topic of interest" (Onwuegbuzie & Frels, 2016, p. 49). The resulting information was gathered and analysed for emerging themes and patterns as the "relation between ideologies and discourse is complex and often quite indirect" (Van Dijk, 2006, p. 124). My analysis of the schooling documentation often relied on what was not stated as well as what was said. The interpretation was subjective.

A similar search was conducted for information on the theoretical frameworks underpinning New Zealand English-medium schooling. I began this by identifying the four theoretical frameworks that are outlined in Te Whāriki. Using the wording in Te Whāriki, I conducted a systematic search through Ministry of Education information sources for schooling, searching for references to these theoretical frameworks. The focus of this document analysis was to determine the guidance given to educators and policy makers on the theoretical frameworks

and the document analysis allowed empirical evidence to be gathered on this (Bowen, 2009, p. 34). The references arising from this search, and the evidence of an absence of references, was examined.

Literature search

Prior to undertaking the classroom observations for this research, I investigated a range of literature in order to gain an initial understanding of what supports effective and effectual learning micro-interactions in classrooms. The method used for this investigation can be considered a semi-systematic review of the literature – that is, it is a means for examining topics that have been "conceptualized differently and studied by various groups of researchers" (Snyder, 2019, p. 335). Snyder concludes the semi-systematic review is useful for the researcher "for identifying components of a theoretical concept" (p. 335). The purpose of this investigation was to isolate different factors that could be included in a participant's cultural toolkit and underpin responses within learning interactions. Six factors were identified and were used to inform the interviews within each case study. As described in Chapter 3, the isolating of these six factors in order to understand them better was a deliberate strategy in order to take a close, centripetal look at what could underpin effective learning micro-interactions. However, the factors are interdependent and work together as a whole, and they need to be understood in a wider, centrifugal understanding of the contexts and relationships at play.

Factors within participants' cultural toolkits

The identified factors were based on a broad interpretation of ways of knowing through a lens that included, from a te ao Māori perspective, an understanding of the role of tairongo (see Ministry of Education, 2014), with participants in micro-interactions "somatically involved" (Bishop, 1996, p. 216). The six factors underpinned some of the interview questions. I provided some short definitions for the six factors, but in each case, the participants and I discussed these together, agreeing the definition, and the participants provided examples to give clarity

to the definitions. The list of six information factors was not seen as a definitive list – in all conversations, there was a clear intention to, together, construct and identify any other information sources drawn on by participants to enhance their students' learning.

Explanations of the six factors, described in detail in Chapter 3, were provided to participants as flashcards for critique and review, and as a prompt during the discussions. For the first four factors, the same definitions were provided to the teacher, students and parents:

- understanding subject content - understanding the concept being taught
- understanding curriculum content - understanding what has been learnt before, is being learnt in other classes, and will be learnt in the future
- understanding assessment requirements - understanding the assessment requirements in this area of learning
- understanding learning strategies - understanding ways of teaching and learning that will support best students in this unit of work.

The final two explanations were slightly modified for the different participants' roles:

- understanding the learner:
  - understanding the learner, their preferences, prior knowledge, hopes and interests (Teacher version)
  - understanding me, my preferences, prior knowledge, hopes and interests (Student version)
  - understanding my child, their preferences, prior knowledge, hopes and interests (Parent version)
- understanding the learner's cultural context:
  - knowing how to draw from a student's languages, identities and culture" (Teacher version)
  - knowing how to draw from my languages, identities and culture" (Student version)
  - knowing how to draw from my child's languages, identities and culture (Parent version).

Case Studies

The research explores the learning interactions within three units of work, each unit being undertaken in a different school and at a different year level. The investigation was undertaken as multiple case studies, each iteratively building on the learning from the previous case. As new learnings emerged, it became clear that the original research questions needed to be further refined. The ongoing refinement was an iterative process, thinking outward within the grounded theory research method as new ideas and themes emerged from the gathered research data.

The classroom sites for each case were chosen because of the reputation of the high quality of learning in that setting, and for the opportunity for each setting to highlight a different aspect of the *ako: critical contexts for change* model. This judgment of high quality was verified from multiple sources, each outlined as the individual cases are described (Chapters 5 – 7). The learning interactions within a whole unit of work defined the 'case'. The unit of work was defined as the teaching time described by the teacher as being one topic in their annual plan, leading to an assessment opportunity. The units of work were:

- Case Study 1: Year 8 students participating in a unit of work on expository writing. This unit was led by an external expert invited to the school to model best practice for a group of teachers. The reports prepared by the students were assessed by their regular class teacher. This case allowed a focus on the adaptive expertise driving deliberate professional acts context in the *ako: critical contexts for change* model.
- Case Study 2, focusing on the cultural relationships for responsive pedagogy context within the *ako: critical contexts for change* model: Year 11 students working towards an NCEA Level 1 internally-assessed achievement standard in music - Achievement Standard AS91091: *Demonstrate ensemble skills through performing a piece of music as a member of a group*.
- Case Study 3: Year 6 students undertaking a unit of work on fractions within their pāngarau (mathematics) learning. This case provided a means to explore the educationally powerful connections in the *ako: critical contexts for change* model.

While each case was selected to focus on one aspect of the *ako: critical contexts for change* model, all aspects of this model were looked for and considered for their interdependent influence.

Case study methodology

Case study methodology is defined as an empirical inquiry (Baxter & Jack, 2008), one that investigates "a contemporary phenomenon (the 'case') within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2014, p. 2). Case studies were selected as the best means of allowing a fuller exploration of the micro-interactions as they naturally occurred within classroom life. That is, by treating the teaching of a unit of work as a 'case', there is an opportunity to explore the contextual factors of the classroom life while focussing in on the 'phenomenon' of the particular micro-interactions. Other factors identified by Yin that made case study a suitable methodology were:

- The event is a contemporary phenomenon - defined in this instance as happening in the present time as opposed to an historic event. The investigation requires the exploration of the teaching practice as it unfolded within the classroom and to retain a "holistic and real-world perspective" (p. 4).
- The research occurred as part of everyday activity, that is, events over which the "researcher has little or no control" (p. 14). The teachers taught the unit of work they were going to teach whether the research was occurring or not, and the students undertook the learning as part of their regular course of study.
- The investigation is within a real life context – the teachers' and students' regular school and regular classes were the focus of the study, resulting in "many variables of interest" (p. 17).

Case studies have been identified as a suitable research method within a qualitative or interpretive paradigm (L. Cohen et al., 2007) as it is centred on the way people negotiate and make sense of social contexts. Case studies enable the growth of understanding through

holistic and in-depth exploration (Kumar, 2019), and support a process of sense-making by being "prepared to think upward conceptually" (Yin, 2018, p. 197).

Multiple-case studies

The study is a multiple-case design – that is, the study includes three cases, set within different schools. The schools were purposively selected to enable an examination of micro-interactions in schools identified as having demonstrating effective practice in one of the contexts within the *ako: critical contexts for change* model. The effective practice was ascertained form a range of external reports, including ERO review reports, Professional Learning and Development providers, newspaper reports and Ministry of Education references. The purpose of the three cases, in this research, is to broaden the information that can be gathered on micro-interactions in each of the contexts within the *ako: critical contexts for change* model. Because the actual phenomenon investigated, that is, the micro-interactions experienced by a small group of students within a wider class setting, is very precise; aggregated information, reported as individual cases, will enhance the conclusions. In the words of Yin (2009,) the multiple cases would provide more "support for the initial set of propositions" (p. 54). A further advantage may be that "the evidence from multiple cases is often considered more compelling, and the overall study is considered more robust" (Herriott & Firestone, 1983, p. 19).

Within multiple-case studies, the design may call for individual cases to be holistic or embedded. In this research, individual cases will be holistic, that is, the information gained from each case will be analysed and reported as separate cases, in a holistic manner. Each of the settings have been reported as unique cases rather than as examples within themes. However, learning from each case iteratively informed the design of the next case. Common threads or learnings across cases were sought as part of the analysis.

Case study procedures

Three research stages were followed:

Design and define: Prior to any observations being undertaken, I undertook considerable reading and theorising in order to work towards a "rich theoretical framework" (Yin, 2009, p. 54) to underpin the case studies. The framework was informed by the *ako: critical contexts for change* model and the six factors that could be present within participants' cultural toolkits. The framework guided the overview of the cases, the selection of the learning interactions, and informed the interviews.

Prepare, collect and analyse: In line with the holistic multiple case study methodology, each case was treated as a stand-alone unit. That is, the individual case studies were conducted and reports written. However, as new learnings emerged from each case, this was fed back into the theoretical framework and the propositions tested, within that school and with new cases. The new questions and unanswered 'wonderings' informed the selection of subsequent cases and new lines of inquiries. In order determine what participants were thinking without interrupting the flow of the teaching, I employed two procedures described below: semi-structured interviews and critical incident techniques.

Analyse and conclude: As each case study progressed, the findings were analysed in the light of the theoretical arguments and research questions. In case study research, data analysis consists of "examining, categorising, tabulating, testing or otherwise recombining the evidence to draw empirically based conclusions" (Yin, 2009, p. 126). The investigation, observations and interviews generated a lot of data. The data for each case was analysed using grounded theory methodology (see Charmaz, 1995, 2000, Strauss & Corbin, 1994, 1998), with an explanatory scheme constructed that " systematically integrate[d] various concepts through statements of relationship" (Strauss & Corbin, 1998, p. 25). This process is described in more detail below.

Analyses of the three case studies

In order to ensure that the identified patterns and themes applied across the multiple 'cases', the techniques of case study synthesis as proposed by Yin (2014) were employed. These techniques were:

1. Pattern matching: This required applying a pattern-matching logic to the themes and findings that were arising – both against the expected findings and across the cases.
2. Explanation building: analysing the data by building an explanation – in this research, the explanatory narrative was co-constructed with the participants.
3. Cross-case synthesis: Treating each individual case as a separate study site and then aggregating and synthesising findings across the cases (pp. 142–167).

Limitations within case study research

Generalisability

One criticism of case study as a research method has been that the specific nature of the case, and therefore the findings, may not be able to be generalised to other settings. This criticism is countered with the argument that case studies elicit rich, vivid description and chronological narrative, giving an in-depth picture of the intricacies within a specified context (Cohen et al., 2007; Stake, 2005). Case studies are particularly suited to in-depth investigations within classroom contexts, Cohen, Manion and Morrison (2007) implying that the richness of description is a benefit of the research rather than a challenge to it. They state that the case study approach is "distinguished by the subjects rather than the methodologies" (p. 181).

The quality of the findings, and therefore the ability to generalise from the study or transfer the learnings to other contexts, is the quality of the 'case'. Kumar (2019) presents two criteria in selecting cases that will allow for high quality and therefore generalisable findings. The first is the need to select a 'sample' for the case study that will provide as much information as possible in order to understand the totality of the defined situation. Kumar's second criteria is to establish 'trustworthy rapport' with participants before undertaking the data collection. Three deliberate actions were undertaken in this research to increase the generalisability of the findings. First, case study sites were selected where the high quality of learning had been endorsed from multiple sources. Second, the data collection was extended over a unit of work rather than short or discrete observations, thus allowing multiple learning opportunities. Third,

close attention was paid to the principles of culturally responsive research methodologies so that all discussions and understanding-building were conducted in a manner that promoted trustworthy rapport.

Transparency

In qualitative research, the ability to test the veracity of the study occurs through attendance to notions of transparency. Given (2008) says that "transparency is the benchmark for writing up research and the presentation and dissemination of findings; that is, the need to be explicit, clear, and open about the methods and procedures used" (p. 1). In this research, I worked towards a high level of transparency between myself and the participants, all processes and tools, with information on how they were derived, plus the developing findings being shared or co-constructed with the participants. I have also endeavoured to be fully transparent in the writing up of the research.

Trustworthiness

There are a number of strategies suggested by researchers the notion of the trustworthiness of qualitative research and the findings. The following have been applied to this research:

- Accounting for personal biases which may have influenced findings (Morse et al., 2002);
- Acknowledging biases in sampling and ongoing critical reflection of methods to ensure sufficient depth and relevance of data collection and analysis (L. Cohen et al., 2007; Kumar, 2019);
- Ensuring different perspectives are included within a case; and/or using more than one case to seek out similarities and differences (Morse et al., 2002)
- Including rich and thick verbatim descriptions of participants' accounts to support findings (Denzin & Lincoln, 2011; Merriam, 1998);
- Respondent validation, including inviting participants to review all written reports and summaries (Denzin & Lincoln, 2011)

- Data triangulation, using different methods, perspectives and multiple evidence sources to help produce a more comprehensive set of findings (L. Cohen et al., 2007; Kumar, 2019; Morse et al., 2002).

Participant Selection and research procedure

The selection of participants varied slightly across the three cases. For Case Study 1, I had the opportunity to analyse the interactions between John (a pseudonym), an external literacy expert invited to the school, and the students in a class. The video-recording was undertaken by a professional videography team and made available to me for analysis (further detail is provided in Chapter 5). The videography team obtained permission for the classroom filming from all students and the three teachers who were present as observers. Separate to these general permissions, I explained my research to some students and my desire to explore, with them, the learning interactions from the lesson. John and two students agreed to take part in my research. In the process of interviewing the students, I had extended conversations with their mothers. They both agreed that the insights they shared in these conversations could be used as part of the research. There was ongoing dialogue with all participants as the findings from this case were understood.

For Case Studies 2 and 3, I approached the principals of each school, discussed the research and obtained written permission to film a class at work over a unit of work. Following agreement from the principals, I met with the teachers involved, discussed the research and asked for their involvement. Once the teachers had provided their written confirmation of their willingness to participate, I asked them to identify about three students who they felt could enjoy being part of the research and for whom participation would not be too disruptive in terms of other commitments over the time I was in the school.

After the students were identified, I visited the classroom and met the whole class. After introducing myself and explaining about the research, I stayed with the class for the full

timetabled lesson in the secondary school and for the day in the primary school, interacting with students and teachers as appropriate. Towards the end of the lesson, I met with the students who had been identified as potential participants. We discussed the filming, the analysis of critical incidents and how we would be building our understandings about learning interactions together. I also explained the need for written permission from them and from a parent, giving the students the information sheets and letters regarding their participation in discussions and the filming. Following this process, five girls agreed to be part of Case Study 2 (more than anticipated as I explain within Chapter 6) and three boys for Case Study 3. Seven of these students identified as Māori. The gender split between cases was not deliberate, but was the sampling that arose through the teacher selection and students opting in.

Participants

The participants in the case studies, anonymised through the use of pseudonyms, are outlined in the table below.

Table 2: Summary of participants in each case

Case Study 1: Totara Intermediate School (Year 7 – 8)	
John	Pākehā, male, visiting expert teacher of writing
Stephen	Pākehā, male student, in Year 8
Alexa	Pākehā, female student, in Year 8
Case Study 2: Harakeke College (Year 7-15)	
Marie	Pākehā, female teacher, Head of Department, The Arts
Katie	Māori, female student in year 11
Irihapeti	Māori, female student in year 11
Rangimarie	Māori, female student in year 11
Tui	Māori, female student in year 11
Naomi	Māori, female student in year 11
Case Study 3: Nikau Primary School (Year 1 – 6)	
Susan	Pākehā, female teacher, Syndicate Leader for bilingual unit
Thomas	Pākehā, male student, in Year 6
Manu	Māori, male student, in Year 6
Ezra	Māori, male student, in Year 6
Janet	Māori, female, parent of student
Linda	Pākehā, female, parent of student
Ana	Māori, female, Principal of school
Heather	Pākehā, female, Chair of School Board of Trustees and Chair of Community Board

Of the 16 participants, ten were students – six girls and four boys; seven identified as Māori and three as Pākehā. Two participants were the regular classroom teachers for these students, and one was an external expert, invited to the school to model expert teaching. All three teachers identify as Pākehā. In Case Study 3, in response to the learning from the previous two cases, the participant group was widened to include the mothers of two of the students (one identifying as Māori, the other as Pākehā), the school principal (Pākehā) and the Chair of both the school Board of Trustees and the local Community Centre board (Pākehā). The names of the schools, teachers and students have been changed for anonymity.

Classroom Observations

Case Study 1 was drawn from over eight hours of teaching, by the external expert, invited to a school to teach a model unit of work. For both Case Studies 2 and 3, the classroom observations and video-recording involved four classroom visits. The first visit to each of these two classrooms, as described above, was for 'orientation', where I became familiar with the class processes, met the students and the teacher, and answered any questions before introducing the video camera. I then filmed in the classroom, according to the teachers' planning, three times – first near the beginning of the unit of work, then around the middle and towards the end of the unit. For Case Study 2, this was over a period of about five weeks. For Case Study 3, because the unit of work was shorter, this was over a period of two weeks.

While in the classroom for both these cases, I tried to keep the filming as unobtrusive as possible. This meant that I joined in classroom activities when appropriate, answered questions and joined discussions when initiated by the teacher or students, but did not ask for any specific actions or responses in the classroom for this research.

For all cases, the entire recordings of the classroom observations were used in the ongoing analysis of the case studies. While the short clips were analysed in more detail, the wider

context of the observed lesson within the fuller unit plan informed all discussions and the interviews.

Classroom observations as a research method have received some criticism, as the observation process (as with all research methods) is subjective. Hayes, Mills, Christie and Lingard (2006) in discussing research involving classroom observations, advise that "it is difficult to agree on what to look for and even more difficult to agree on what is seen" (p. 1). Expanding on this, Mills and colleagues (2009) say that, in addition to a lack of agreement on what to observe, is the "fraught consequences of including some things to be observed and some not" (p. 74). When video-recording a classroom, it is not possible to capture all that is occurring, or to hear every interaction in a room. The tendency is to record the aspects that seem most material to the researcher. Following my observations, there was opportunity for participants to say that other things were occurring in the classroom that were of relevance but were not raised by me or recorded, but no further interactions were raised.

Critical Incident Technique

In order to capture the somewhat fleeting phenomenom of micro-interactions without interrupting the classroom practice, I employed *Critical Incident Technique*. Critical Incident Technique (first proposed by Flanagan, 1954) is a set of procedures used for collecting direct observations of human behaviour that have critical significance and meet defined criteria. Flanagan (1954) described the aim of critical incidents as " to increase the usefulness of the data while sacrificing as little as possible of their comprehensiveness, specificity, and validity" (p. 19). Moving beyond the positivist approach, Chell (2011) "assumes [within Critical Incident Technique] phenomenology ... to capture the thought processes, the frames of reference, and the feelings about an incident that have meaning for the respondent" (p. 219). The objective of the method is to gain an understanding of the incident "from the perspective of the individual, taking into account cognitive, affective, and behavioral elements" (p. 56).

Advantages that have been identified for the Critical Incident Technique include: data being collected from the participant's perspective and in their own words; not forcing the participants into any given framework; and an opportunity to identify and explore rare events that might be missed by other methods. Disadvantages include a reluctance for participants to provide detailed written responses and the impact of time delays on recall. In this research both of these disadvantages have been mitigated through the use of video prompts, and of recorded interviews. A more pertinent disadvantage is that Critical Incidents focus on rare phenomena. This has been mitigated through using Critical Incident Technique as one of several methods with other processes and tools providing a wider context for the phenomena.

In this study the 'incidents' involved the identification, from the larger video-recorded classroom observations, of some learning micro-interactions. From the full recording of the lesson, I selected every interaction between the teacher and the participants, and a range of interactions between participants where these had a particular focus on the learning programme. Following the teaching session, the identified incidents of learning interactions were viewed within the interview. The teacher and I watched the incidents over the series of interviews in each case, using these to 'tell the story (integral to the Critical Incident Technique method) of what the teacher was thinking and why they responded as they did at that moment. The same incidents were watched by the students and I, the students also telling their story of the experience, and discussing their experience within the interactions. The teachers and students selected the incidents they considered particularly pertinent to the discussion and these were further discussed. In every interview, there was opportunity for participants to raise other incidents if they wished, but this did not occur.

Managing the timeframe for critical incident technique

Being able to video-record the situation and use the recording as a prompt, meant that both teachers and students were able to recall the situation with some clarity, and to identify factors in the interaction that they had not been fully aware of in the moment. I endeavoured to keep the time between the 'incident' – the classroom interactions and reviewing the video-recording

- as short as possible. This was not possible for Case Study 1 as the filming was undertaken by a professional team and required editing before I could access it. For Case Studies 2 and 3, recordings were viewed with the teacher on the same day. All the interviews with students were held within a one to two day timeframe.

There was some disadvantage in the time delay as it meant that there was the potential for some loss of full recall of what the participants were thinking. However, a possible advantage of the short delay between the 'incident' and the review of the recording was that it allowed the participants the opportunity to reflect before sharing their thinking. As the participants were considered part of the knowledge-building, they saw the opportunity for reflection before reporting as beneficial. The longer time delay between filming and viewing in Case Study 1 was mitigated by watching longer clips to provide more context for each incident, the teacher and two students able to recall detail around each of the identified incidents, adding information about the context that was not included in the video clip. They were also able to give nuanced information about their thinking within the incidents from the video prompts.

Before undertaking these interviews, I was aware that watching video-recordings of classroom practice in itself did not always support teachers well in identifying their own thought processes. Kennedy (2002), for example, had used video-recordings of lessons and had asked teachers "to identify their moment-to-moment decisions" and to select times when they were especially aware of their own thoughts (p. 359). However, she found that most teachers focused on "evaluative judgements about the success or failure of their practices rather than by an awareness of their own in-the-moment deliberations" (p.360). To facilitate participants to tell the story of their thinking, I:

- provided reinforcement in every interview that all participants were contributing as experts within the learning interaction – I was not rating their performance as teacher or learner, but coming to them as the experts in that context.

- edited very short clips of each critical incident, so the focus could be on the 'moment' rather than the context. For Case Study 1, we first viewed longer videoclips with some context, then replayed the 'incident' so we could focus on the moment.
- gave multiple opportunities for looking at the clips, so we developed familiarity with the process of identifying the learning interaction within the context. In Case Study 2, for example, we viewed 17 incidents, drawn from the extended teaching sessions.

Classroom documentation and other evidence sources

In all three cases, other evidence that was included in the discussions with participants and informed this research was the classroom documentation, including the teacher's lesson plans and annual plans. It also included student work, for example, the written reports for Case Study 1; the groups' planning documents for their group music performance in Case Study 2; and the mathematics problem-solving on large sheets of paper for Case Study 3. For Case Studies 2 and 3, there were occasions when there were teacher comments or responses on the students' work and these were shared in the discussion times as well.

Participants generously shared other information that added to the richness of the context for the case studies. For example, John shared his publications on the teaching of writing that was used as the basis for the teaching plan in Case Study 1. The principal and community board chair in Case Study 3 shared the documentation around the design and implementation of the community centre located in the school grounds.

Interview processes

Semi-structured interviews

In order to explore and interpret the classroom interactions, the teachers and students were interviewed in semi-structured interviews (as described by D. Cohen & Crabtree, 2006), an

interview technique also known as standardised open-ended interviews (Gall et al., 2003; D. Turner, 2010). In accordance with this process, a formal interview time was scheduled and all participants recognised that this was an interview. I undertook the interview with a plan in mind regarding the focus and goal of the interview and some prepared discussion points (see Interview Outlines in Appendix 1). Through this method, the participants responded to the same discussion starters that allowed open-ended responses, respondents having the freedom to express their views in their own terms (D. Cohen & Crabtree, 2006). This guided the discussion but did not direct or curtail the flow of conversation. While there were discussion points identified for the interview, there was not a structured interview guide, and the conversation tended to "go with the flow" (Patton, 2002,p. 212). The questions were open-ended and there was little control over the participants' responses. Open conversation, moving away from the discussion starters, was encouraged. The interview guides were used as a check towards the end of the interviews to ensure that all salient points had been covered.

Despite the interviews being semi-structured in content, a relatively formal interview setting and process was followed. This was done to ensure that there could be relative privacy and it reduced the likelihood of interruptions and distractions during the interviews. The principles for preparing for an interview as outlined by Cohen & Crabtree (2006) were followed. These included:

- choosing a setting with little distraction
- explaining the purpose, format and expected timing of the interview
- addressing the terms of confidentiality
- providing opportunities for questions from participants before and during the interview
- recording all responses (in this case, by audio-recording)
- providing details on how to contact me if there were any further thoughts or concerns.

Teacher interviews

Prior to the classroom observations for Case Studies 2 and 3, a first interview was held with the classroom teacher to gather contextual information about the unit of work and the predicted

student experiences within the unit. In these interviews I introduced the six factors that could form part of a participant's cultural toolkit and we discussed how these were defined.

Three further interviews were held, following the video-recorded classroom observations. In these interviews we discussed their general perceptions about the unit of work based on their interactions with all students. We then played the videoclips of the isolated critical incidents involving the research participants, with discussions following semi-structured interview question starters (see Appendix 1).

The conversations were supported with definitions of factors in participants' cultural toolkits (see Appendix 2) and Likert-type scales described below (see Appendix 3).

A final interview with the teacher was conducted a week after the completion of the unit for Case Studies 2 and 3. This interview asked the teacher to reflect on how a deliberate focus on the components of micro-interactions had impacted on their teaching of the unit as a whole and on the outcomes for the participating students.

Visiting expert interview

An extended interview was held with the visiting expert in Case Study 1. Details of the interview are presented in chapter 6, and the interview schedule is included in Appendix 1. Of eight critical incidents selected for discussion with John, three involved the two students who were later interviewed, the rest were with other students who had given permission for the video-recordings to be used, but whose permission had not been sought for subsequent interviews within my research.

Student interviews

Students also took part in a series of interviews (the interview schedules are included in Appendix 1). For Case Study 1, one interview was held following the teaching sequence and

dialogue continued as part of the feedback on the prepared case. For Case Studies 2 and 3, the students were interviewed three times, following the classroom observations. It was stressed that their opinions and understandings were being sought as experts within learning interactions, and that they would be help with the construction of findings.

For Case Studies 2 and 3, the students chose to be interviewed as a group. This led to rich discussions with students building on the answers and thoughts of others' responses. For Case Study 1, the interview was separated from the teaching unit and the two students were individually interviewed in their homes. While this removed the opportunity for a group interview, it led to conversations with their mothers that informed the design of Case Study 3.

Prior to the classroom observations, I met with the students from Case Studies 2 and 3. In this conversation we talked about the research, the commitments being asked of them and preferred ways of working (resulting in the group interviews). The students had opportunity to check the equipment, testing what the video camera captured and how their voices sounded in the audio recordings. For Case Study 1, the students and I spent time prior to the interview discussing the research, sharing food and testing the equipment. In every interview, some critical incidents were viewed.

Towards the end of each interview, students were provided with descriptions of the six factors and asked to rate, on a 5-point Likert-type scale, how these factors had influenced the learning micro-interactions. They were asked to think about any other sorts of information they would like their teachers to consider in interacting with them.

Parent interviews

Parent interviews were included in the research design for Case Study 3, in order to support the focus on the educationally powerful connections component of the *ako: critical contexts for change* model. In this case study parental consent was sought for four students to participate, and granted for three. The parents of the three students were invited to interviews, of whom

two subsequently attended. An interview schedule (see Appendix 1) was prepared for these two interviews.

The interviews asked about the parent's level of involvement and inclusion in decisions about the school, the classroom programme and the subject area that was the focus of the unit of work. We also discussed the knowledge, information or understandings each parent felt they could have brought to their child's formal education settings but hadn't had opportunities to do so. They were also asked how much their input was sought for each of the six factors, and how much they thought the teacher drew on each of these factors for their child's learning.

Community interviews

As Case Study 3 progressed, it became clear that there was considerable community input into the school and the holistic well-being of children underpinning their learning. This had a direct impact on the learning climate within the school, and on the learning micro-interactions of the students. I had not anticipated this prior to being on-site for the classroom observations, so later returned to the school to discuss the community's role in learning at that school. I had two interviews with the Principal and one with the Chair of the school Board of Trustees. The Chair had been a key driver for the establishment of the community centre and the various community initiatives in the school (as a school Board member), was resigning from her role on the school Board in order to give more time to her role as chair of the Community Centre Board. We therefore had an extended conversation as she spoke from both perspectives about community input into students' learning.

Analyses of interviews and discussions

Each of the interviews were analysed using grounded theory methodology. In this method, data is analysed by constant comparison, initially of data with data, progressing to comparisons between their interpretations translated into codes and categories and more data (see Strauss & Corbin, 1994, 1998). Grounded theory was chosen as the analysis method because it grounds theorising in the participants' experiences (Charmaz, 2001) and is a methodology that seeks to

construct theory about issues of importance in peoples' lives (Glaser, 2002; J. Mills et al., 2006; Strauss & Corbin, 1994, 1998). I believed that the inductive nature of this process (Morse, 2001) was the best means of allowing the participants' voices and thoughts to inform and underpin the theorising. In addition, grounded theory allows for the voices of the participants to be strongly heard: "there is an underlying assumption that the interaction between the researcher and participants produces the data, and therefore the meanings that the researcher observes and defines" (Charmaz, 1995, p. 36). Furthermore, Charmaz (2000) strongly positions the researcher as co-constructor, not owner, of the arising themes, saying that the researcher needs to immerse themselves in the data in a way that "embeds the narrative of the participants in the final research outcome" (p. 526).

Likert Scales

The use of Likert-type scales

In order to support conversations with the teachers and students about the six factors, I sought a means of providing a starting point for reporting these concepts. When questions about confidence or perception of the extent of use of the factors were asked, I presented the participants with a card showing a 5-point Likert-type scale (see Appendix 3).

Likert scales were developed by Rensis Likert (1932) as a means of measuring attitude. A Likert scale allows the individual to express how much they agree or disagree with a particular statement. They are composed of a series of four or more items that are combined into a single composite score during the data analysis process (Boone & Boone, 2012). In this study, the ratings across the six factors are not combined into a composite scale so the scales are considered a Likert-type scale (Clason & Dormody, 1994).

I chose to use the Likert-type scale as I wanted the participants to be able to provide a relative response rather than a direct answer. The continuum of the 5-point scale did not force a yes/no response but allowed each participant to indicate the degree to which they agreed or

disagreed with an item. The 5-point continuum proved to be an easily recognised tool which the participants were comfortable with and required no training in its use.

Six sets of Likert-type scales (see Appendix 3) were developed in order to test the following:

- teachers' perceptions of the extent to which they had used each of the factors with the individual students in the course of each observed interaction
- students' confidence in the extent to which their teacher could draw on the factors to support their learning
- students' perceptions of the extent to which their teacher had used each of the factors to support their learning in the course of the observed interactions
- the extent to which students would have liked each factor to be drawn on
- parents' perceptions of the extent to which each of the factors were drawn on to support their child's learning
- the extent to which parents would have liked each factor drawn on.

Analysis of Likert-type scales

The items on the Likert-type scales used in this research fall into the ordinal measurement scale (Boone & Boone, 2012, p. 4), that is, a scale that reports the ranking and ordering of data points but does not establish the degree of variation between each point. Because of this, descriptive statistics are used. The most common reporting item used in this report is the frequency of selection of an item from the scale. No additional statistical analysis such as a chi-square measure of association has been used.

Conclusion

The research methods were selected in order to allow a critical examination of the macro-context of New Zealand schooling, and a means to incorporate a close look at classroom practice within a clear framework of cultural and epistemological pluralisms. Multiple case

studies, using a wide variety of methods, tools and processes, were the vehicles for exploring this. The journey to the findings was a shared journey – the teachers, students, and parents all thoughtfully, generously and perceptively building knowledge about the learnings and challenging our pre-held assumptions about how learning occurs within a classroom. The next three chapters outline the "thick, rich and vivid descriptions" (Stake, 2005, p.444) of three amazing classrooms and the sense we, the participants and I, made of what we saw, heard and felt within the observed interactions.

Chapter 5 - Case Study 1: Adaptive expertise driving deliberate professional acts

Introduction

The context of this case provided extraordinary circumstances that allowed insights into the practices of a teacher with recognised expertise in the teaching of writing. This setting provided a window on the actions of a skilled and skilful subject expert, and to see this expertise in action within the classroom. Following the filming, I interviewed the expert teacher and two students who were part of the teaching practice. I also had conversations with the mothers of both these students. This case study was conducted in October – November 2017. This chapter presents the description of the context, the teaching series and the learnings that arose in the interviews and conversations with all participants. Some conclusions specific to this case are presented at the end of this chapter, key learnings synthesised across the research are presented in chapter 8.

Context for this case study

For this case study, I was specifically trying to isolate the micro-interactions in a classroom that could provide insight into the 'adaptive expertise driving deliberate professional acts' context within the *ako: critical contexts for change* model. In this case, due to special circumstances, I was able to observe John, an expert teacher invited to the school. John is a nationally and internationally recognised expert in the teaching of writing. In October, 2017 John was invited into the school to work with a class of students while observed by other teachers from the school. He was also being filmed so the model teaching could be shared more widely. This activity was extended to include my research study. My study used these lessons to more clearly isolate and then analyse the micro-interactions in this almost laboratory-like setting – the actions of the teacher with subject expertise in a setting not affected by the teacher's relational knowledge of the students or factors such as the school programme, plans or expectations. In doing so, I believe we generated a picture of how effective teachers might draw on their expertise to support learning and to lead a class of students to achieve well in

their subject. However, there was a clear implication in the retrospective analysis that the inability to fully draw on the cultural toolkits of all participants, especially the social, relational and cultural elements of those toolkits, impacted on the interactions and detracted from the overall learning experience.

Section 1: Data sources for this case study

Data for this case study comprise the video-recordings of the classroom observations; interviews with John, Alexa and Stephen (two students); spontaneous conversations with the students' mothers; and, John's philosophy on the teaching of writing as set out in various published articles. These data sources are described below.

Classroom observation video-recordings

This case study utilises over 240 minutes of video footage recorded within a class of Year 7 and 8 students at Totara Intermediate School. The filming focuses on John's practice in the teaching of writing. The filming was undertaken by a professional film crew, edited down to a series of videoclips, the full footage being made available to me for analysis.

There were multiple purposes for this filming. Firstly, John had been contracted as a Professional Learning and Development (PLD) provider to improve the quality of the teaching of writing in the school. The observed teaching came at the conclusion of this contract and was the opportunity for John to demonstrate the application of the provided professional learning and development to a group of teachers comprising the Lead Teacher of Writing for the school plus two classroom teachers. This teaching was an authentic classroom learning experience – all students in the class took part in the learning and prepared a written report on the identified topic, which was assessed by their teacher in consultation with John and was part of the ongoing programme for this class.

A second purpose for the filming was the production of the videoclips for a separate international contract. Prior to the filming occurring, John received the requisite permissions to use edited clips from the filming for this contract. The students had been informed that this was one of the purposes for this filming.

The third purpose was for this case study. The opportunity to view and analyse an expert teacher applying their subject, curriculum, assessment and pedagogical knowledge to teaching practice in such a focused and determined way allowed a rare insight into the isolation of the application of these factors in this research. Access to these video-recordings was a particular gift to my research, it enabled me to take a clear focus on expert teaching outside the immediacy of the classroom interactions themselves. I acknowledge the generosity of the participants, especially John, for giving me access to these teaching and learning materials for my research.

Interviews and conversations

Following the filming, I conducted interviews first with John and then, individually, with two of the students in the class, Alexa and Stephen. These were semi-structured interviews, guided by 'discussion starters' rather than formal questions. During the interviews, critical incidents from the teaching were played back to John, Alexa and Stephen. Additional and separate conversations were held with Alexa and Stephen's mothers – these conversations occurred spontaneously as I met with their children. Both mothers agreed that their insights could be included in the findings arising from the case study. The interviews and conversations presented in this thesis were undertaken solely for this research, they were not part of either John's work with the school or the international audience.

Both before we agreed to this case study and as part of our interview time, I discussed the culturally responsive research methodologies that underpinned the research with John, Alexa and Stephen as part of their agreement to take part in this research. The expectation was that

all participants would bring their "meaningful experiences, valid concerns, and legitimate questions" (Bishop et al., 2009, p. 741) to this research. In particular, we agreed that, in this methodology, together we (as teacher and researcher, and students and researcher) would build our understandings of what teachers and their students do, and what aspects of their cultural toolkits they draw on within the learning interactions and how this information could be useful for other teachers and students.

John's philosophy of the teaching of writing that underpinned this unit of work

The unit that comprises this case was structured around the principles of teaching writing that are found in John's published works, and underpin the national writing exemplars, provided to all teachers to guide their practice (Ministry of Education, 2017c).

John was adamant that teachers play a major role in students' perceptions of themselves as writers. He said the effective teaching of writing was underpinned by a teacher's knowledge about how students learn and how they develop as both learners and writers. He referred to teachers needing to know "what makes kids tick" and the need for teachers to understand "why their kids are not enthusiastic about writing". He also said that teachers needed to know what to do when students weren't making the expected progress with their writing – having a knowledge on "what blocks [that progress] and how to unblock it". John referred several times to the need for teachers to take deliberate acts of teaching in order to build student abilities and confidence, using questioning strategies in order to elicit student understanding and ownership of the writing process: "my life's work has been based in the premise that it is the teacher's actions, moment-by-moment, that leads to student success".

Section 2: Participants in this case study

The students

Alexa and Stephen were members of a Year 8 class. They both identify as Pākehā/New Zealand European. In the past, both these students had had some interactions with me at a social level – not connected to their time in this school or their formal learning. Through this contact, I was aware that both these students were high achieving students, and confident about sharing their views about teaching and learning.

Student 1: Alexa

Alexa had attended two primary schools before enrolling into this intermediate school and, on completion of this year of schooling, would move into the local high school. She spoke very warmly of her time at this school. She described the intermediate as being a big "community school" with lots of opportunities for personal choice and more "freedom" than her previous school.

Alexa enjoyed the range of options that hadn't been available at her primary school, particularly identifying opportunities in art, music and cooking. When asked to describe when she was most happy and comfortable when learning, Alexa talked about classrooms where it wasn't too rowdy and you weren't being "annoyed by the person next to you". She described how she had benefitted from teachers who seemed to care about her, who were "nice to her", who took the time to explain things to her until she understood them and who were able to identify or "highlight the places I don't understand". A key component of teaching for Alexa is that the teacher is welcoming to the students and "bubbly", further saying "I like my teachers to look like they enjoy teaching. They should like teaching and not just be doing a job."

In response to my questions about her experiences in writing, Alexa felt that these were becoming more positive. Although "forced to do writing" in the past, she was finding that writing had become more fun due to being able to participate in a wider range of writing

experiences and genre. She felt that, the better she got at writing, the more she enjoyed it. She believed she was achieving well in writing, although was also unable to report any quantitative achievement results. When asked to describe her achievement in writing, she described herself as "averagely top" – in the top class but in the middle of that class, a "merit plus student". Alexa did not see writing having a big place in her future, neither as a possible career nor as a hobby.

Student 2: Stephen

Stephen had also attended two primary schools before transitioning into this intermediate school. He enjoyed the range of opportunities available through the school, such as sports, technology, art and choir. Stephen had been identified by his teachers as a high achiever, as evidenced by his placement in extension classes – both a mathematics and a writing extension class (classes comprising the top performing students across the school). He saw his particular strengths as mathematics and mathematics problem solving. He enjoyed school, particularly learning opportunities in school where he can, he said, "bounce ideas with other students".

When asked about his experiences with writing, Stephen reported he had always enjoyed writing and, unsolicited, said "particularly narratives". At the time of the interviews, he was really enjoying writing but "had always been not terrible". While very positive about writing, he viewed writing as a means for achieving in other subject areas, saying he was not expecting that writing per se will be a feature of his future academic or professional life. When asked "how do you know you are achieving well in writing?", Stephen referred to being in the extension class and the encouragement he received to enter writing competitions. He was not able to recall his writing achievement in his last National Standard reporting, his previous report card for his parents or any measures used by the school.

The visiting expert

John was contracted by the school to enhance, through a PLD contract, the quality of teaching of writing. The initial contract was for a two-year period. The observed teaching occurred after this contract was completed and John returned to the school to lead a final session, working with a whole class and modelling teaching practice to two classroom teachers and the Lead Teacher: Writing for the school.

Section 3: The school

This intermediate school is located in a large New Zealand metropolitan centre. At 1 July 2017, there were about 500 students attending the school, of whom the majority identified as Pākehā/European New Zealanders (48 percent); 22 percent as Māori; 16 percent as Pasifika and 12 percent as Asian. Sixteen students identified as "other".

Overall, most students achieve well during their time at this school. Reported data for 2016 showed most students achieved well in relation to the National Standards in reading and mathematics. For reading, 88 percent of 'all' students; 87 percent of Māori students and 78 percent of Pasifika students achieved at or above the expected level. For mathematics, 80% of 'all' students, 71 percent of Māori students and 70 percent of Pasifika students achieved at or above the expected level.

The school's focus on improving writing

Student achievement in writing at this school has been less positive than in reading and mathematics. National standards achievement data for 2016 (see Table 1) shows that, while 77 percent of 'all' students are achieving at or above the expected level in writing, there are concerns about the achievement levels of Māori students (70 percent at or above the expected level) and boys (68 percent at or above the expected level in writing).

Table 3: 2016 Student Achievement in National Standards – Writing

Student Cohort Type	Well Below	Below	At	Above	Total	Percent At/Above
All Students	14	103	284	103	504	76.8%
Girls	x[1]	x	134	73	238	87.0%
Boys	12	74	150	30	266	67.7%
Māori	x	x	64	14	112	69.6%
Pasifika	x	x	49	7	74	75.7%
European/Pākehā	7	46	126	62	241	78.0%
End of Year 7	11	55	140	38	244	73.0%
End of Year 8	x	x	144	65	260	80.4%

The school's 2016 annual report states:

> from close examination of the 2016 national standards data in writing we noted the following: 39% Māori Boys (n=11) 31% Māori Girls (n=8) 28% Pasifika Boys (n=5) 26% Pasifika Girls (n=5) 25% New Zealand European Boys (n= 14) [were assessed as being below or well below the national standard for writing]. Therefore, Year 8 boys are our target cohort for 2017.

External review, through ERO, supports this focus (reference suppressed for anonymity).

In order to improve student achievement in writing, the school undertook a number of initiatives. All teachers were working on writing as a major teaching focus for 2017, specifically the transference of skills from instructional lessons to independent writing. Teacher inquiries were centred around meeting the needs of 'target students' in writing. The Lead Teacher: Writing was appointed during 2017. A significant initiative, over 2015 and 2016, was the engagement by staff in PLD with John. These initiatives were well-intentioned – the goal was to undertake significant remedial actions to address the deficiencies in children who were not meeting the standards set by the State. As an outside expert, John was positioned by the

[1] Following Ministry of Education conventions, 'x' = less than 5 students in the denominator for this category

school to ‘fix’ both the learners and the teachers to better address the requirements set by the factory model of schooling.

Section 4: The unit of work

The observed unit of writing occurred over approximately six hours of teaching. As explained above, one purpose of the unit was to model the teaching of writing for the regular classroom teachers. This unit aligned with the school’s strategic aim of raising student achievement in writing, and built on the PLD that the school had undertaken with John. The classroom teacher’s learning focus for the term was on writing. The students interacted with John as the teacher throughout the unit of work. All students prepared a written report during the unit which was reviewed by their teacher and, for some, by their teacher in consultation with John. They received feedback and feedforward on this work as part of the regular teaching/learning expectations.

The focus of the teaching was on expository writing, the students preparing a scientifically accurate report on the water cycle, presenting the information for younger students. The topic was selected by John as one that all the students would be able to relate to in some way. John said that he was confident that the water cycle provides a good basis for writing for students of this age, describing this awareness of what makes a good topic as coming from his “long-term knowledge of working with the age group”.

John further explained that he had chosen the topic based on his “ingrained understanding of the Curriculum Level expectations for this age group”. The overall goal for the students, discussed and agreed between John and the three classroom teachers, before commencement of the unit of work, was that all students would have opportunity to either receive further instruction to support progress towards Curriculum Level 4 in writing or, if already achieving at that level, to consolidate their learning at Level 4. Specifically, students would receive

instruction in, and have opportunities to practice, the following expectations for Curriculum Level 4 writing:

- content that is concise and relevant to the curriculum task and that includes detail and/or comment supporting or elaborating on the main points;
- paragraphs within which the ideas are clearly related and links within and between paragraphs;
- grammatically correct sentences;
- words and phrases that are appropriate to the topic, register, and purpose, including expressive, academic, and subject-specific vocabulary.

(Ministry of Education, 2009)

Both the interviewed students reported that they were able to identify with this topic, however neither was enthusiastic about this focus. Stephen found the content "kind of boring", while Alexa felt she turned off early in the learning because she had "done this topic at least four times before". However, as the unit continued, she felt she learnt new information and understood it more clearly – she described this learning as "helpful but not enjoyable". As a result of the process that was followed, that is, how the water cycle was explained and the notes recorded on the board, she found it easy to write about later.

The filming occurred over five sessions.

Session 1

The teaching began with all students sitting on the floor, the observing teachers at the back of the class and John at the front. John began the lesson in an informal, chatty manner, beginning a conversation about the expectations for the learning in the sessions that would follow. He smiled a lot, making eye contact with the students across the group. He started by saying: *"*Guys, we are going to do some writing. But, before we begin actually writing, we are going to do quite a bit of thinking and talking. Writing, as they say, comes from a sea of talk*"*.

He then said he had been thinking about the writing they would be doing, saying “I have asked myself, what can I write about with these kids?”. He described the challenges for him of being dependent on tank water. He asked “what have we had a lot of lately?”, to which Stephen replied “rain”. John responded to Stephen with a big smile and “you’re quite right”. John asked the class “why does rain please me?”, with seven students calling out one or two word answers. Every answer was acknowledged with nods and smiles, although no student names were used, John later confirming that he did not know any names so was unable to personalise his responses.

John described these opening comments as a deliberate strategy to invite a relationship with the students. He was showing the class that he thought about them before coming into the classroom. He then made a personal disclosure, another step in opening himself to the students and demonstrating he was willing to engage at a personal level with them.

John went on lead a discussion on “something that fascinates me” - how puddles disappear in the sunshine. The discussion to set the theme and idea was quite extended. This was a deliberate act by John to lead students to an awareness of their own prior knowledge and experience. He encouraged the students to talk to each other about evaporation. There was an animated discussion between students. John allowed the conversation to run before closing the session by praising everyone for their good use of language and their understanding of the process.

Session 2

The second session opened with John leading a recap on the concept of evaporation as a series of questions and answers. John said “Let’s see if we can capture this” and began recording on the whiteboard. Recording the process was an extensive process, John leading a discussion of 12 minutes to end up with the water cycle process described in order and the key words recorded and explained.

Throughout this time, John led the discussion, through direct questions, on content for the report. He made constant references on how a written report could be structured and on some of the challenges regarding the technical features of writing that the students may meet. For correct spelling, for example, at one point, John wrote the term 'evaporation' on the board, sounding it out and talking (as if to himself), "yes, I know it is t-i-o-n to make the 'shin' sound". He constantly reiterated to the students his expectations that everyone would achieve the goal of writing a report on the water cycle. In a subsequent interview Alexa said that she had both learnt, and been able to use, the academic and subject-specific vocabulary related to the water cycle. She described this as a long-term benefit. She also believed that her learning around how to structure a report and how to paragraph her work was new and useful learning for her.

Session 3

In the third teaching session, the students sat at their desks and wrote a report, using the structure and guidance that had been recorded on the whiteboard. John introduced this by saying "I'm ready to have a go at writing now. Who else is ready?". He went on to say that he was going to have a go at writing his report up at the front of the class, but that "he didn't want to be a Johnny No-Friends". He asked the classroom teacher to choose some students who could be his partners for writing. The teacher called out six names (four boys and two girls) who would form this writing group with him. The other students in the class, including the two participating students, went to their own desks to work independently.

In this manner of questioning, John again appears to be taking deliberate steps to establish a relationship with the students. He does this by inviting them to join him as 'ready to write', deliberately building a sense of comradeship. He also, by using the term 'Johnny No-Friends' both makes himself vulnerable before the class and calls on them to care for him.

With the small group, John then reviewed the guidelines for writing a report – there was little focus in this review on the content, and a detailed focus on what is required in the writing

process. With these students, John generated a list of "the things we need to think about when writing a report on the water cycle that makes sense for a reader".

These students and John then looked at the diagram previously constructed on the board and talked about sequencing in their writing. John asked the students where they could start their writing. The diagram contained five steps. One student suggested they start at number five and move backwards. John replied "Good idea. I like your thinking. Would you mind if we started at number one? I do like your thinking though". This example was the only example seen where a student suggested strategies, taking an active role in leading the learning. Despite this suggestion being (respectfully) declined by John, the student continued to write this way in his own report (the only person in the class to start at a place other than the step labelled number one on the board).

Session 4

In session four, most of the class continued to work on their own at their desks, writing their own reports. The small group, having had a short period of time for independent writing, reconvened in front of the whiteboard. One by one, the students read out what they had written and, together, John and the group responded to each student's writing against the success criteria generated in session 3. As they went through the writing, John led the responses, providing specific and constructive feedback and highlighting important next steps. An example is:

> [Student name], you have done really well there. You actually have got some good words there. You have had a go at using different types of sentences. You've used some good words. Let's see if we can help you get some of those sentences even better. Is that OK?

After each student's work had been reviewed, John asked the small group how well they thought they were individually achieving against the criteria that they had generated. They did this by showing a thumbs up if they had found a specific criterion easy, thumbs sideways if it

was Ok and a thumbs down if it was hard. John recorded the number of thumbs up for each criterion on the board, the 'scores' being:

- technical vocabulary – 6/6
- paragraphs – 5/6
- order - 4/6
- detail – 5/6
- editing/making sense – 4/6.

The group agreed they were best at using technical words and, in answer to the question "What do we need to work on the most?", that they needed to work on "sequencing" and "re-editing".

Session 5

The teaching sessions finished with John calling the whole class together to review and reflect on what they had done. One student read her report aloud and the class provided feedback on the writing. John was particularly affirming of the writing, praising the introductory sentence that had not been commented on specifically by other students: "I don't know about you but as a kid I used to like jumping in puddles". John said "I can imagine a scientist saying something like that". He then recommended that the student add a sentence into their introductory paragraph that told the audience that they were going to find out about the water cycle process.

Meeting the objectives of the unit

When I asked Alexa and Stephen for their views on the effectiveness of the unit on writing they both said that the goal of everyone being able to write a good report was met. They also said that everyone had written a report on the water cycle and that, for some, this was at a higher standard than would normally be expected, attributing the higher achievement to John's careful scaffolding. For themselves, though, they both reported that that they didn't feel their own abilities in writing had been recognised or catered for. Alexa said that she didn't think

John recognised that many in the class “were experienced writers”, while Stephen said that John “didn’t treat extension writers any differently”. When I shared this feedback with John, he said he was aware that, as the unit of work started and he didn’t know the students, he did begin with whole class instruction and introduction. He did not know the achievement level of individual students, but had been advised the achievement levels of the students in this learning group spanned Curriculum Levels 2 - 5. He said the differentiation and personalised responses came as he got to know the students and their abilities as the learning time progressed.

After the reports were completed, John and the three teachers together reviewed all the students’ writing, providing written feedback and feedforward to all students. The teachers reported they were very pleased with the quality of writing generated by the students. They believed that the process had helped the students write to a higher standard than usual. They were particularly pleased with the students’ use of vocabulary and the steps taken to make the writing interesting for a reader.

Section 5: Analysing the learning micro-interactions:

Following the filmed unit of work, I interviewed the participants. Part of each interview focused on the understandings from their cultural toolkits brought to the interaction by each participant. To support these discussions, I selected a range of critical incidents recorded in the videotapes and these were discussed with John, Alexa and Stephen. As had been agreed, I asked each person to both rate the use of the six factors that could underpin the learning interaction (described in Chapter 4) and to comment on the different factors drawn on in the teaching and learning.

Rating the factors within participants' cultural toolkits

Teacher

On the 5-point scale, John gave a rating for how much he had drawn on each of the factors and how much he would have liked to have drawn on these. We then discussed each rating he had given.

Table 4: Teacher rating of how much they have drawn on each factor; how much they would have liked to have drawn on each factor with students for this unit of work

	Rating	
Factors: Understanding	**How much did you draw on each factor?**	**How much you would have liked to have drawn on each?**
Subject content	5	5
Curriculum content	2	4
Assessment requirements	3	3
Learning strategies	5	5
The learner	2	5
The learner's cultural context	2	5

John was clear that he had been invited to the school as an expert on the subject content required for the teaching of writing and that his credentials and his credibility in this field were well-known. The students were aware that John was there to "teach our teachers". John referred to the importance of "deliberate acts of teaching" when teaching writing. He believed that teachers could and should take deliberate steps in their teaching, based on their understandings of how to teach writing. John gave a rating of '5' for both how much he did draw on his subject content knowledge, and for how much he wanted to draw on this.

In terms of understanding curriculum content, John was not aware of what these students had specifically been learning – in writing or in the science topic being covered for this report. He therefore rated this factor a '2'. However, further discussion on this revealed that he has, in his cultural toolkit, a deep knowledge of the New Zealand Curriculum document and believed this curriculum knowledge underpinned his decision-making and informed what he was doing. This knowledge was tacit knowledge (Schon, 1983) – he did not deliberately prepare for this class by studying the curriculum. His said his knowledge of the curriculum in general was a '5' but how

it applied specifically to these students was a '2'. When asked how much he would have liked to have drawn on curriculum knowledge in this unit, he rated this a '4'.

John gave a rating of '3' for the factor called understanding assessment requirements both for how much he drew on this factor and how much he would have liked to have drawn on it. In other places in the interview, John used National Standards terminology (the assessment requirements at the time of this interview), for example, referring to the proportion of students at or above the National Standard for writing in the class. When asked how it informed this teaching, John felt that he drew more on his knowledge of learning at this expected curriculum level for Years 7 and 8, and what students need to know next at any level, rather than the assessment requirements of the National Standards.

John was very positive about how much he had drawn on his understanding of learning strategies in this unit and how much he would have liked to have drawn on this, rating both these questions as a '5'. He said his "whole professional career has been based on knowing what works in teaching writing".

John gave himself a low rating (a '2') for his use of the factor called understanding the learner. He did not know the students as the unit started, although he felt he did get to know them better as the unit went on. He had a number of strategies for mitigating against not knowing the students as he believes that teaching is "all about relationships" and that "the act of teaching is the act of forming relationships". This is reflected in his rating of '5' for how much he would have liked to have drawn on relational knowledge for this teaching. John said that how relationship building occurs is "a personal thing" and varies across relationships. His strategies included talking to students before and during his teaching, smiling lots and being open about himself. When he visits as an external expert, he always asks the teacher to introduce him to help put the students at ease. And, because the relationship is a learning relationship, John lets the students know what they are doing and why, where they are going with the lesson, and thanks them for their contributions to the learning as the lesson

progresses. He believes the challenge remains in how to continue to support learning in order for kids to develop, but to do this in a positive way so that the relationships are maintained stating "at the end of the day, I want all kids to feel good about themselves and their potential as writers". A highlight of this experience for John was that one boy, identified by the teacher as needing additional support, spontaneously hugged John at the end of the day (after filming had finished). John reported that this was affirming, and was evidence that the teaching had been positive for the student and a relationship between them had developed as the lessons progressed.

When asked how much he had drawn on the learners' cultural contexts, John wished he had known more but felt it was impractical. He rated the amount he had drawn on the learners' cultural contexts as a '2', and the amount he would have liked to have drawn on this factor as a '5'. John referred to strategies he had used such as ongoing conversations, including a conversation that had occurred out of class (and off-camera) about John's own time living in the same Pacific Island as one of the students. John discussed his awareness of the need to care for students' potential vulnerabilities, including student identities around gender, or vulnerabilities around shyness.

Students

Both students completed the Likert-type scales. The students were asked to rate how much they felt the teacher had drawn on each of the factors, and how much they would have liked the teacher to have drawn on these. In two places, Stephen gave two ratings (quantified below) on the continuum, rather than on the data point.

Table 5: Students' rating of the extent the teacher drew on each factor and how much would have liked to have the teacher to have drawn on each factor in this unit of work

	Rating			
	How much my teacher drew on each factor		How much I wish my teacher had drawn on each	
Factors: Understanding	Stephen	Alexa	Stephen	Alexa
Subject content	3	5	4	5
Curriculum content	1.5	3	4.5	4
Assessment requirements	3	3	4	4

Learning strategies	4	5	4	5
The learner	1	4	4.5	5
The learner's cultural context	1	3	4	4

In terms of rating how much John had drawn on different factors, there was considerable variation between the students' reports. In the factors related to curriculum content, knowing the learner and knowing the learners' cultural context, Stephen gave the lowest ratings (a '1.5', '1' and '1' respectively), while Alexa rated these a '5', '4' and '3' respectively. Both these students, however, gave very similar explanations for why they had rated these as they did. The difference appears to be that Stephen answered the question "how much did the teacher draw on these?" directly, and his response gave the answer "very little". Alexa, though, felt the expectation that a visiting teacher draws on these factors was unreasonable, and therefore she responded as she thought he would have done, if he knew them better.

Stephen rated the level that John had drawn on the factor called understanding subject content knowledge in this teaching series as a '3' – 'somewhat', and said he would have liked John to have drawn on this more. When prompted, Stephen said this was because he has wanted to learn more about the writing process, but he interpreted the teaching content to be about the water cycle. When asked about the modelling on how to write and the overt supports given about the writing, Stephen still reflected on the science content rather than the writing instruction. In contrast, Alexa was very positive about John's subject content knowledge about writing. Without hesitation, she rated the amount John drew on his knowledge about writing as '5' saying as she did "he knew a lot about writing and it really helped us a lot". She also rated the amount she wished John had drawn on subject content knowledge as a '5' – and when asked why she had rated this as she did, she replied "I think it is better when the teacher knows what they are teaching".

Stephen rated John's use of the factor called understanding curriculum content low, between 1 and 2 on the scale. Stephen felt that John didn't know that he was a member of the extension class and did not require the level of support provided, therefore didn't know what he had

learnt before. He said that most of the explanation on the water cycle came from John, without reference to what the class had previously learnt about this scientific content. He then said he wished John had known what they had previously learnt (rating this a 4.5), saying "if he had known what we had learnt, he could have made it more useful for us". While being more positive in her rating (giving a '3'), Alexa gave a similar explanation as Stephen, stating that John knew about what the class should be learning in writing for their age but didn't know about the things they had done previously in writing or in the water cycle content. Like Stephen, Alexa appeared to accept that time constraints made it unrealistic to expect an outside teacher to know about the class's curriculum experiences, saying "well, he could hardly have time to read all of our books or to look at other things we had been writing".

In terms of understanding assessment requirements, Stephen rated this a '3' – 'somewhat', and said John "probably" had drawn on this, and that he "probably" would have liked John to have used this more. This response is not unexpected as Stephen, while aware that his regular classroom teacher thought he was good enough in writing to be in the extension class, did not use achievement levels, reporting against curriculum levels or national standards as descriptors of his own learning nor could he recall these from written reports. Alexa also rated the amount John had drawn on assessment requirements knowledge a '3'. She said she picked this rating as it was in the middle, saying this was good because the instruction had "been dumbed down so everyone could understand this" but "repetition which can be a good thing got to be too much for those of us who knew more than he thought we did". When asked to rate how much she would have liked John to draw on this factor, Alexa again rated this a '3', saying "I think a '3' because it was good, just slightly lacking a bit". Alexa later said that the repetition could have been because John was doing this in order to "teach our teacher" but did not wish to change her rating.

Stephen was very positive about John's understanding of learning strategies, very quickly circling the '4' on the scale and saying he thought this had been "just right". Alexa was also very positive about John's understandings of learning strategies. She said that the class was "all

engaged" and "everyone did some good writing so this was very good". Alexa gave a '5' on the Likert-type scales for both how much this factor was drawn on and how much she wished it had been drawn on.

In terms of understanding the learner, the extent that John had drawn on this to inform his teaching was rated as a "1" by Stephen. When asked how much he wished this factor had been drawn on, Stephen gave his highest rating - a '4.5'. Stephen felt that it was unreasonable to expect that John would have been able to learn about all the students in the class for the teaching as he had come in as an outside expert, saying it would have "taken ages to get to know all of us". When discussing her reasons for rating John's use of understanding the learner as a '4', Alexa said "he didn't really know us and hadn't talked to us before. He didn't know our names or what level we were at. So that made it a bit hard - but not too much".

When asked about the factor called understanding the learner's cultural context, the students were shown the flash card definition and prompted with the phrase "knowing about the things that matter most to me". Stephen again scored the amount this was drawn on very low (a '1') and with a '4' for how much he wished the teacher had drawn on this. Stephen said, as he completed the Likert-type scale – "this is the same for me as understanding the learner – I wish he had known more about me but it was impossible because he isn't our class teacher". Alexa, though, didn't consider that understanding the learner's cultural context was very important. She said "teachers don't have to know all about me, they can just get on and teach me the things I need to know".

Acquiring and applying the six factors

As outlined by Shulman (1987; 1986) and described in Chapter 3, teachers acquire knowledge (case, propositional and strategic knowledge) in different ways. In this case study, John demonstrated these three acquired knowledge typologies, but the way these were used differed across the knowledge dimensions.

The use of both case and propositional knowledge was most obvious in the factors called understanding subject content, curriculum content, assessment requirements and learning strategies. John's expertise is underpinned by extensive research, considerable experience, years of reflective practice and a breadth of knowledge about the practices of effective (and less effective) teachers of writing. For these four factors, during the observed teaching John also demonstrated the application of strategically acquired knowledge, although this was less to the fore than the propositional and case knowledge. An example of this is the on-the-spot modifications John made to his responses and teaching strategies for the small group of students he worked with, particularly one student for whom English was not their first language. To meet the needs of this student, John seamlessly used his strategically acquired knowledge and applied this within the knowledge domains – using different knowledge about what writers at this level of understanding do, the curriculum and assessment requirements for this learner and different pedagogical strategies in order to respond more effectively in the moment with this student.

Section 6: Discussion of Case Study 1

This section outlines some key learnings that have arisen in the analysis of this case study. Much of the discussion below arose in the collaborative sense-making with the participants. Learnings synthesised across the three cases are presented in Chapter 8.

Drawing from the ako: critical contexts for change model

The case study was deliberately selected to focus on the adaptive expertise driving deliberate professional acts context within the *ako: critical contexts for change* model (described in Chapter 2). It demonstrates the deliberate acts, applied adaptively, of a leading national and international expert in the teaching of writing. John, as this expert, was explicitly modelling expert teaching practice, through the unit of work, for other teachers to learn from. However,

the same conditions that allowed for the analysis for this case study were the conditions that led to John, Alexa and Stephen feeling somewhat dissatisfied with the teaching series. The case has highlighted the interdependence of all the components of the *ako: critical contexts for change* model. As research shows, "change occurs when school leaders and teachers deliberately attend to all contexts at the same time" (Eley & Berryman, 2019, p. 130).

Building a learning relationship

Classroom interactions are important mediators of how students will come to see themselves as learners (Wearmouth et al., 2011). In order to optimise learning, it is therefore important that a positive learning relationship forms between the teacher and the student. There is no doubt that there was good rapport between John and the students. John was consistently warm, friendly and empathetic with the students. There was evidence that, for some students, a deeper relationship was forming. For other students, though, this did not occur. Both of the interviewed students reported that a lack of relationship curtailed their learning. They were able to provide examples of new learning, but were left with the thought that, if the instruction had been more individualised to respond to their own interests, preferences and prior learnings, they would have had a more rewarding learning experience.

John reported that, in different circumstances, he would have worked individually with more students in the course of the unit. He had a number of strategies such as smiling, chatting with students before and after schools and in break times and being open about his own life that he drew on to build rapport with students and to open relationships. He also was skilled in his understandings of subject content, curriculum, assessment and teaching and learning strategies so his full 'energy' in the classroom could be dedicated to responding to the individual learner needs and priorities.

It appears that building the relationships necessary for teaching and learning requires time, but relationships can form quite quickly when both parties are determined about building the

relationship. Learning relationships develop through the shared commitment to the learning, a disposition to an open relationship and deliberate steps to build a relationship. While both proximity and longevity of acquaintance help, they are not the sole determinants of a quality relationship.

The nature of classroom relationships matters as it is both the manner and content within the relationships that underpins the micro-interactions that determine student success (Cummins, 2003; Pere, 1994). This idea was echoed by John who said "teaching could not be effective if it relied solely on teacher expertise or efficiency in passing on strategies for teaching writing … teaching will only be effective when there is genuine warmth and care for students". Warmth and care are essential from a mātauranga Māori perspective, and ako contains a responsibility to the know the learner and to build on "what a child already knew or was experiencing" (Pere, 1994, p. 4). Learning relationships built on ako go beyond the surface view of rapport and into a deep understanding of the reciprocal responsibilities of a relationship (Bishop et al., 2014; Hoskins, 2012).

The role of the teacher

An understanding of ako take us into a deeper consideration of how we view the role of teacher. A reliance on subject content, curriculum, assessment and pedagogical knowledge can lead to a technicist view of teaching – a belief that, if teachers perfect their craft, their teaching will improve and therefore learners will learn. But to view teaching within the concept of mana atua (see Ministry of Education, 2017b) requires the teacher to acknowledge the uniqueness and spiritual greatness in every child. Fanning this 'divine spark' requires more than technical skill as a teacher, it requires an ontological belief in the inherent potential and greatness in every child and an acknowledgement of the teacher's role in either building or eroding the mana of the learner. As Rukuhia Rarangahia tells us "triggering a student's desire to learn requires teachers to be ever mindful of how their practice and persona as teachers impact on the learner" (Ministry of Education, 2014, p. 15). In a factory model of schooling, teachers carry

considerable power in how the learner will be viewed within a classroom and how they, themselves, will be viewed as a learner.

Responding in the learning moment

A further impact of not knowing the students was the impact this had on the manner in which John was able to respond "on the fly" (M. Heritage, 2013; Shavelson, 2003) or in "the blink of an eye" (Cordingley, 2008). In not knowing the students well, John carefully structured the lessons to lead to the outcome that he had planned, as efficiently as possible. I believe that the desire to meet the goals of the planned teaching sequence worked against the opportunities for developing mauri-enhancing learning interactions between John and the students and amongst the students.

Both students said they felt that they personally, and the class in general, had benefited from the teaching, but they felt that there was something missing for them. In the setting that was observed, personalisation of the learning could have come from the on-the-fly moments and responses but the lesson was choreographed so that there were few unexpected interactions that would interrupt the flow of the classroom (C. Desforges, 1995). When the unexpected did occur, for example, when one student suggested that the water cycle start at point number five, rather than point number 1, this was graciously acknowledged by John but not acted on. The opportunity was there to modify instruction (Stockero & Zoest, 2013) but not taken. From a te ao Māori perspective, the learner exercised rangatiratanga (sovereignty) (Ministry of Education, 2014) over their own learning but this was not encouraged or supported by the teacher.

The teacher as enthusiast

When Alexa was asked "how do you think we can help all our teachers get better at helping students within the teaching moment?", she had a number of ideas. She said "it is good when

the teacher connects with you, wants to have a connection with you". Alexa was adamant the teacher had to be enthusiastic about teaching and the subject matter. Her responses included the following statements:

- it is always good when the teacher makes an effort and looks like they want to be in class with you
- it is great when they meet you that they look happy to see you, they put in an effort to be interested in you, ask you questions about yourself
- if a teacher likes their subject, if they are passionate, that helps.

When answering the same question, John had very similar replies. He also spoke about teachers needing to ensure they "had a connection with the kids they taught". Using the phrase "teachers are born, not made", John talked about the warmth and enthusiasm that sat behind good teachers. He talked of those that were able to do everything they should in in terms of planning and delivery but who failed to "make it come alive for kids".

In order to for the learning experience to come alive for learner, teachers need to go deeper than the surface interactions of the classroom. Some of this is captured in the notion of tairongo (Ministry of Education, 2014). All participants (teachers and students) need to put their whole selves into the learning relationships and the learning moment.

Mana ōrite relationships

Classroom relationships between teachers and students and amongst students need to be mana ōrite relationships (Berryman et al., 2018, p. 3), where relationships are built in a context of mutual trust and respect. An understanding of mana ōrite should guide the way classroom relationships are conducted, that is, teachers should not ask for more from students than they would be comfortable giving of themselves. Alexa said "teachers don't have to know all about me, they can just get on and teach me the things I need to know". In explaining this statement, Alexa said that she did not want teachers probing for personal details that she did not want to

share. The factor in participants' cultural toolkits called *understanding the learner* must be built on the notion of mana ōrite – the learner is treated in the same way as the teacher would like to be treated. Just as teachers have the right to control how much of their personal life is shared and how much of their privacy they will retain, mana ōrite means that students also have this right.

Building students' identities as writers

These two students did not seem to have built, over the period of their schooling, a positive identity of themselves as writers. Stephen was clearly a good writer, being one of 30 students in an extension writing class. Despite this recognition, Stephen did not see writing as being significant for him into the future. Within the New Zealand system, schools are obligated under the National Administration Guidelines (Ministry of Education, 2017d) to prioritise the teaching of literacy (including writing), especially in years 1 - 8. It is therefore likely that these students have been in teaching and learning settings for writing frequently over their schooling. It appears that it takes more than high exposure to the learning to help students develop identities as writers.

Responsiveness in context-specific situations

When John was asked to rate his use of the factor called understanding curriculum content, he rated this a '2' as he did not have specific understanding of what the students had been learning. He did, though, have a very high level of general curriculum knowledge within his cultural toolkit, as evidenced by the requests from the Ministry of Education for his support for the development of curriculum tools and resources for literacy. The two students also reported that John had a high level of curriculum knowledge but did not know about their personal experiences; acknowledging that John's excellent knowledge about the curriculum provided a strong platform for this teaching unit. However, the lack of specific knowledge about the

curriculum experiences of individuals in the class resulted, the students believed, in some lost learning opportunities.

Another example of a deep generalised understanding but without a context-specific knowledge, occurred around the factor called understanding the learner's cultural context. During an interview, John said he had not called on students to lead the learning because he did not want to act inappropriately by, for example, putting students in situations where they were uncomfortable. He knew that being singled out may have been difficult for some students due to their cultural or identity preferences. This decision by John shows his general understanding and application of culturally responsive knowledge. However, because a lack of understanding in this specific context, the opportunities for leading learning may have been withheld from all students.

Building from the two examples above, there could be a message for teacher education as many teachers learn about general cultural practices – for example, that Pasifika students don't like to be singled out for responses in class. This will not be true for all Pasifika students, and for those for whom it is true, a mana ōrite relationship of mutual respect and trust may mean that, although this was initially true, it may not be always true. Teachers, both those in training and those in practice, need more than a general set of principles in their cultural toolkits, tempering their general understandings across the six factors with an understanding of the context-specific setting and the complexity of relationships within that setting.

Frequent changes of teacher

In this case, the one-off unit of learning led by an external teacher will be built on by the classroom teacher and the conditions have been provided that will support ongoing learning by students. Both the benefits in having an expert teacher visit the class, and the limitations of the teacher not knowing the students will be addressed in ongoing learning opportunities.

However, in many New Zealand classrooms, there is a high turnover of teaching personnel, with, for example frequent changes of teachers, multiple relief teachers or shared teaching practices. Unless this is managed, with careful induction into the dynamics of the classroom, there may be little opportunity for deep and meaningful learning relationships to form between the short-term teacher and the students. Teachers who pick up short-term or temporary responsibilities for the class, are likely to fall back on their generalised professional toolkits, losing the richness of the context-specific application of these dimensions. As this case shows, teacher expertise was essential for the effective teaching of this subject area. However, all participants reported that de-personalised expertise was insufficient. Without understanding the learners and their cultural contexts, teachers can provide few opportunities for the students to bring their own expertise to the learning space. The rapport between the teacher and student may be pleasant but not be in the zone of proximal development (Vygostsky, 1980). Prolonged periods of high teacher turnover or insufficient opportunity for teachers to form relationships with the students, may be damaging in terms of ongoing student academic success. A factory model encourages frequent changes of teacher, efficiently matching teacher expertise to the age-grade and standards set by the state. However, as this case study indicates, deliberate professional acts by expert teachers are insufficient if the mauri of the child is not being attended to, and then, unfortunately, the sense of fanning the divine spark within the child may not even be considered.

Conclusion

This case study was selected as an opportunity to investigate the context within the *ako: critical contexts for change* model called adaptive expertise driving deliberate professional acts, and any interplay with other contexts within the model. The setting for case study 2, allows, in the main, an examination of the context called cultural relationships for responsive pedagogy.

Chapter 6 - Case Study 2: Cultural relationships for responsive pedagogy

Introduction

This chapter presents a case study that focuses on the cultural relationships for responsive pedagogy context within the *ako: critical contexts for change* model. It contains a detailed description of the context, the participants and their experiences, observations and ongoing conversations that arose in the case study. The observations and interviews occurred over a five week period between May and July, 2017. There were follow-up visits and ongoing conversations with the teacher and students until the conclusion of this research. Again, some learnings specific to this case are presented at the end of this chapter, key learnings synthesised across the research are presented in chapter 8. The case study gave insights into the interactions that occurred in this complex, busy, bustling classroom, across the relationships between the teacher and students and among the students, and the responsive teaching and learning that grew from those relationships.

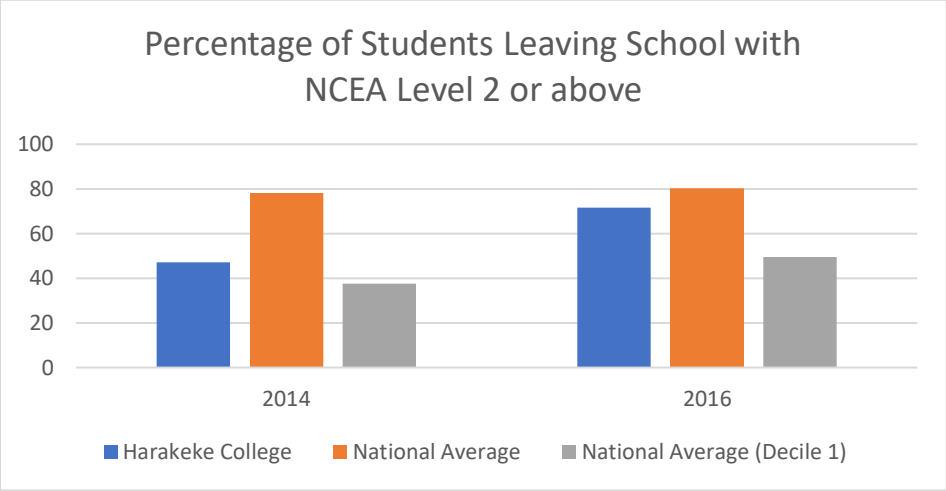
Context for this case study

This case study is set in Harakeke College, a Year 7 -15 secondary school located in an urban setting. The school is a Decile 1 school, reflecting the low socio-economic status of its community. At 1 July 2017, there were 250 students attending the school of whom 214 identified as Māori (86 percent); 30 as Pasifika (12 percent) and 5 as Pākehā/European New Zealanders (2 percent). One student identified as 'other'. This is a different profile to New Zealand's national demographics, as the national proportions at 1 July 2017 were: Māori – 24 percent; Pasifika – 9.7 percent; and Pākehā/European New Zealanders – 50 percent.

Education provision at Harakeke College is framed around the mantra: *student success is the only option*. The school is seeing very positive results as they successfully implement this core belief. In 2016, 71.7 percent of students left school with a National Certificate of Educational Achievement (NCEA) Level 2 or above, compared to 47.1 percent in 2014. Nationally, in 2016,

80.3 percent of students left school with NCEA Level 2 or above, compared to 78.1 percent in 2014. These data are presented below. Nationally, for Decile 1 schools, this proportion is much lower with 49.6 percent of students leaving school with NCEA Level 2 or above in 2016, and 37.5 percent in 2014. Harakeke College achievement rate for school leavers is well above the average for Decile 1 schools, and is making a marked year on year improvement in achievement rates.

Figure 2: NCEA Level 2 results. Harakeke College compared to national average and national average for Decile 1 schools



External evaluations by ERO were very positive about the school, the most recent review concluding that the Harakeke College "curriculum is contributing to increased student retention and educational success. Students experience a highly inclusive environment that is responsive to their academic, social and cultural aspirations" (reference suppressed to provide anonymity). PLD providers, external to the school, recommended the school for this research as they judged it to exemplify cultural relationships for responsive pedagogy.

Based on these positive reports, in early May 2017, I obtained the Principal's permission to undertake a case study within this school. I asked her to identify a teacher who demonstrated good practice within the school. It was important that I recruited a teacher who would be interested and open to "opportunities for collaboration, insider perspectives, reciprocity, and

voice" (Tillman, 2002, p.3). The Principal identified Marie, the Head of Department: The Arts as a potential participant and Marie subsequently agreed to her ongoing involvement in the research, subject to student agreement.

Section 1: Participants in this case study

The teacher

Marie has been teaching for approximately forty years. She has taught at both primary and secondary level and held several management positions, including Head of Department and Deputy Principal. Throughout the interviews, Marie freely expressed her love of teaching and how her experience across year levels and across subject areas has influenced her teaching. She said:

> Through the years some things for me have remained constant. The first is the importance of effective teaching - teachers that care, teachers that go the extra mile for their students, teachers that build positive relationships not only with students but with families and communities. The second is the importance of teachers that are open to change, to being a lifelong learner. It is imperative that teachers take on the challenge to examine and support new dimensions of learning so they can improve their practice, collaborate with colleagues and change the way their learners perceive the world.

As Head of Department: The Arts, Marie has been responsible for the curriculum content and assessment practices in two secondary schools. She has been contracted by the New Zealand Qualifications Authority (NZQA) to develop materials to support the assessment requirements for the National Certificate of Educational Achievement (NCEA). Due to the success of her programmes, Marie was asked to write resources for the Association of Music Teachers. A particular feature of her career has been the ongoing participation and notable successes of students in her classes in external performances – for example, Rockquest, Pacifica Beats, concerts and other competitions.

At her previous school, Marie became the lead facilitator of Te Kotahitanga. Marie said that some of the concepts around culture were initially challenging for her as a Pākehā teacher, but "the programme allowed me think and reflect deeply". Marie believes that being part of Te Kotahitanga has been the single biggest influence on her teaching throughout her career, saying it "transformed my teaching and the values and concepts that I learned are still at the heart of my teaching today". On another occasion, when reflecting on the nature of her interactions with students, she said "Te Kotahitanga changed my life".

Student selection

Following the teacher's agreement to be part of this research, the videographer and I introduced ourselves to the class. I explained to the whole class the purpose of my research and my plan to invite three students to be part of this research. I also explained that this class had been chosen because of their positive reputation and, using culturally responsive methodologies, I was wanting us to build our understandings of good teaching practice together.

At the end of the class time, I met with four students, all Māori girls, whom Marie had identified as potential participants for this research. I again explained how the research would be undertaken and emphasised that intention of the filming and the interviews was "to honour and support" each other's thinking and understandings (Berryman et al., 2013, p. 107). At this point, the girls said they would prefer not to take part and I was unable to determine why. I left the permission slips with the girls, giving them time to consider this further, and later advised the teacher. When the teacher asked the girls about their reluctance, the girls shared with their teacher a number of factors. One was that a fifth student who identified as Māori within the class, Naomi, was absent. Naomi is a close friend of these girls and had been hospitalised, following an attack, over the weekend. The girls told Marie that they would be reluctant to take part if they felt that Naomi was not part of the research. A second reason was that the

girls did not want to choose three out of their group to participate, they wanted to include all or none. A third reason was that the girls did not want to take part in individual interviews, they wanted to be interviewed together.

On receiving this feedback, I met with the girls the next day. We talked about their preferences and how we could, together, work out a research plan that would ensure they were comfortable. We discussed how group interviews and feedback could be undertaken, and how Naomi could be included in the research on her return to school. The girls agreed to take part in the research and, later provided, their permission slips.

Several factors fed in to the girls' cautions in giving consent for this research. This should not have been unexpected as both the research process and ongoing use of findings can be a very negative experience for participants, particularly Indigenous participants (L. Smith, 2013). In this research, the opportunity for the girls to surface their concerns and for us (teacher, students and researcher) to build the case study together gave reassurance about how these concerns would be addressed. These early conversations built the ongoing relationships and contributed to rich discussions. This would not have happened if Marie, a person trusted by the girls, had not deliberately brought me into a relationship place where all involved would be safe. Marie was conscious that she needed to go beyond being a broker, and to draw from a Kaupapa Māori perspective where the research relationship would be founded in the "primary Māori ethic of responsibility and obligation to others" (Hoskins, 2012, p. 90). In later interviews, the girls spoke directly of their loyalty to their teacher and their decision to refuse anything that could end up being critical or negative of her practice.

The girls' initial caution about participating in the research was a salutary lesson for me. I was aware that culturally responsive research methodologies require the recognition of "the primacy of relationships within a power-sharing dialogical encounter" (Berryman et al., 2013, p. 105). The need to explore and respect the girls' cautions, and to agree together the parameters around the data-gathering, immediately highlighted the need to pay attention to these aspects

identified by Berryman and her colleagues. Firstly, the primacy of relationships was very clear. A relationship where both parties trusted each other had not been established between myself and the girls. However, the teacher's relationship was very strong, and through her brokerage, I was able to be trusted in the relationship as well. Secondly, the notion of power-sharing was also fore-fronted in this exchange – and the reality of 'power unbalances'. Mason and Boutilier (1996) state that 'power unbalances' are "inextricably linked to our respective positions" (p. 149). It was evident that there was an inequality of power in our relationship – my being an adult, Pākehā, visitor to the school and a researcher contributing to a 'power unbalance'. An assurance that I was willing to share power was not enough, this needed to be demonstrated before it was believed. Thirdly, our interaction also needed to be a relational and dialogical encounter – we needed to meet more than once and to build on the conversations in order to establish the relational trust and a willingness to research together. I believe that the incident and ensuing discussion helped build the relational trust that would be essential for building the understandings and interpretations in this case study. The girls invited me into their relational space when they realised they were able to make decisions and have these respected, in these initial interactions they were willing to at least give me a chance to prove that I would respect their opinions and contributions.

The result of these discussions meant that the five girls became participants in the research. We also agreed that the interviews would be group interviews as the girls had suggested. At the conclusion of the interviews, I told the girls that I thought their suggestions had improved the original research design. Katie agreed saying that being interviewed as a group "allowed us to build ideas together".

The student participants

There were some similarities across the student participants. All the girls identified as Māori and were openly proud of this heritage. In this class, these five girls were the only students

identifying as Māori. Of the other ten students in the class, nine identified as Pasifika and one as Pākehā. The five participating students live locally to the school.

Music was a key leisure activity for the five girls. They talked of time spent out of school participating in activities around music – mostly listening to and playing music with friends, family and at church. None of the girls were currently receiving formal tuition in music outside their school, although all identified mentors who encouraged and supported their music.

While at school, the girls spent considerable free time in the music room where they listened to music, played and sang together. This provided opportunities to chat with the teacher. In every interview the girls acknowledged the teacher's ongoing support for them for music, and for wider learning. They spoke of, and I witnessed, the teacher providing considerable pastoral care for the students, including encouragement for learning in other classes, discussions regarding absenteeism, conversations around personal challenges and the provision of food. All these pastoral care activities reinforced the relationships of care within the classroom.

In addition to classroom music, the girls had participated in large school music productions and interschool events. Productions and concerts are a particular feature of this school, the school community all speaking highly of the quality of these productions. The four girls who had been part of the school for a number of years (three were in their third year at this school and one in her fifth year) had taken part in a number of these performances. At the time of the observations all the girls, including the student who had joined the school in 2017, were part of groups preparing for the 2017 Rockquest. All five girls were members of various music groups in the school, including singing groups, choirs and Māori performing art groups.

Section 2: Learning and Teaching relationships

Student 1: Katie

Katie described herself as loving school. She loves music and looks forward to opportunities to play an instrument or to sing. She said "music is an important part of my life; music makes me happy". Her ambition is to be a music teacher; saying that her relationship with her music teacher was a significant factor in this ambition and her ongoing commitment to doing well at school.

The teacher expected that Katie would do well in this unit of work. She has been a keen member of the class, both this year and in previous years' teaching. In the initial interview, Marie said she thought that Katie could achieve an Excellence for this standard. She would be paying particular attention to Katie's level of comfort with the group dynamics. She felt that Katie was a "natural leader within the class" and could be challenged by being in a group where she hadn't chosen the group members or if the group was making decisions she didn't agree with.

When asked about how she had adapted the unit of work with Katie in mind, the teacher reported that their relationship had been strained in the past and that she was doing all she could to help Katie feel comfortable again inside the classroom. At the beginning of the unit, she felt that Katie was still 'edgy' and this could impact on her learning and well-being within the class. One strategy to address this was to ensure that Katie ended up in the group (the class would be in two groups) with her best friend. Over the period of the interviews, Katie referred to having been through a bad time and having "taken it out" on the teacher – she reported that she was appreciative of the teacher's support throughout the time. At the end of the unit, Marie reported to me she was "pretty happy" with their relationship, thrilled at Katie's leadership skills, and confident that Katie was working towards an overall Excellence in music, based on her vocal skills. When I asked if any prior learning or unanticipated achievements had

become apparent during the unit, the teacher said she was surprised at Katie's competence with the guitar.

Student 2: Irihapeti

Irihapeti was less positive than Katie about her school life, however, she said that she looked forward to music classes. She loves music, it is very important to her and to her family. She described herself as having grown up with music, her family being enthusiastic about music. When asked why she had chosen to study music at school, Irihapeti said "music is my passion, my life".

The teacher predicted that Irihapeti would do well in this unit of work, saying that she was "poised to achieve an Excellence for her group performance". Marie described Irihapeti as creative and talented. In the initial interview, she said she would be watching that Irihapeti "did not get upset or moody if the group performance was not working well" as there was potential for Irihapeti to "have a fit" if things were not going well. Marie had not made any special adaptations to her planning with Irihapeti in mind. She believed that Irihapeti responded well to her guidance and this would ensure that the learning could be a positive experience for her.

As the unit progressed, Irihapeti grew more positive about her achievement within this unit, and the quality of their group performance. She said she was doing better than she had expected to, and was especially pleased with her contribution to the vocals. In response to my question "are you happy with your progress?", Irihapeti replied "definitely happy – I'm learning what I need to know". The teacher was more reserved about Irihapeti's responses at the end of the unit saying she has "high energy at the moment but could crash, still vulnerable. However, there are huge plusses because Irihapeti is creative and passionate".

Student 3: Rangimarie

In the initial interview, Rangimarie was less forthcoming than the other girls and provided less detail on her perceptions of her ability in music. She described music as "one of her strengths" and said she was working towards music as part of her NCEA because she liked it as a subject. The teacher told me that Rangimarie was growing in confidence and in her music skills in the class. She was spending a lot of time in the music room between classes and was making good progress.

The teacher predicted that Rangimarie would achieve the standard in this unit of work but was less proficient in performing in a group ensemble than in solo performances. A big challenge would be to perform to an audience – responding, smiling and adding to the feel and style of the performance. During the teaching of the unit, the teacher gave a lot of feedback to Rangimarie about smiling and relaxing on stage. Rangimarie did not refer to teacher instruction or feedback to her. She was more conscious of the team dynamics, several times referring to good progress in the unit in terms of team work, such as "Yeah, it's going good. We are all working as team now" … "We're communicating. Cooperating" … "It's really weird. The boys are working. They are singing".

The particular challenge for Rangimarie, according to the teacher in the initial discussions, would be remaining positive if she felt she wasn't performing as well as others and not giving up. In terms of adapting planning for Rangimarie, the teacher had made no changes to the lessons' intentions but would be ensuring that Rangimarie understood and felt positive about the opportunities to build her skills through this learning. As the unit progressed, Marie said she was surprised that Rangimarie had wanted to sing rather than play the guitar for the group performance as this had pushed her out of her comfort zone. She was pleased with Rangimarie's progress in smiling and performing for an audience, although this was something that would require ongoing work.

Student 4: Tui

Tui also was highly positive about learning music and described herself as loving being part of the dedicated music class. Both the teacher and Tui spoke of her poor attendance record at school, Tui saying that knowing she would be in the music class often brought her to school when she wouldn't otherwise have come. At one point in the interviews, Tui volunteered "I hated school before I came here. This school gives me confidence. I came here, now I'm great". She described herself as loving all types of music and wanted to be a professional singer when she finished school.

The teacher expected that Tui would do well in this unit of work, with the potential to achieve an Excellence, if the song choice allowed for her to demonstrate her singing abilities to the best advantage. Tui was very positive – "I'm just loving it. This is my favourite subject." She was very pleased with her progress – "I thought I wouldn't be on stage because I'm too shy. [Enjoying performing] surprised me".

Before the unit began, the teacher thought a particular challenge for Tui through the unit of work would be attendance. The teacher would be keeping an eye on that, particularly as it could impact on the rest of the group's performance as well. When asked how she would be addressing the attendance issues, she said "giving lots of love and positive affirmations" – a strategy Tui was aware of and grateful for. In order to encourage full participation and better attendance, the teacher was ensuring Tui would be in a group with a close friend. Through this unit, Tui attended every music lesson. At the end of the unit, Marie said she felt Tui had made good progress in the unit but was "still fragile – she needs to be more confident that she could make mistakes and that it is OK to be wrong".

Student 5: Naomi

Naomi was absent from school for my introductory visit and first observation. She was present from the first follow-up interview and was an active and enthusiastic participant in the classroom programme and this research.

Naomi was new to Harakeke College in 2017. She was highly positive about the school "this is the best school I have ever attended" and the music teacher "I just love her. She's the bomb. She'd do anything for any of us". During the interview following the first observation, I asked the five girls why they had chosen music as one of their Year 11 subjects and as part of their NCEA qualification. Naomi was first to reply, She said, "music is my thing, it is my life". She went on to explain that she was planning a career in music – hoping to begin her career in acting and then to become a singer. When I asked how she was preparing for her career, Naomi explained she had had acting lessons while in Australia and was now spending her leisure time practising and performing music with her friends.

The teacher said that she appreciated Naomi's contribution to the class and the impact of her "infectious personality". She consciously tried to foster her talent, enthusiasm and leadership. Marie was also mindful of the need to ensure that Naomi's willingness to respond did not impact on the quieter students' participation in discussions and performances. She predicted that Naomi would achieve well in this unit of work, expecting her to achieve an excellence for her group performance.

There were two specific challenges the teacher was mindful of in overseeing Naomi's work within this unit. One was the impact of Naomi's injuries on both her mental and physical well-being. The teacher was also "keeping an eye on" how well Naomi would respond to being in a group where she had not been nominated as a leader. During my first observation, the class divided into two groups for the performance and nominated a leader for their group. Naomi was absent on that day and the group were unclear when Naomi would be returning to school.

After she returned, the group continued with the nominated leader, the group, including Naomi herself, acknowledging that Naomi's recovery could impact on her ability to provide consistent leadership for the group. The teacher discussed the leadership role with Naomi, advising that there would be other opportunities through the year for group leadership and Naomi was confident that this would be the case. Throughout the unit of work the role of the group leader was very low key, the groups functioned collaboratively, not moving forward without arriving at a consensus. At times Naomi appeared to slip into a leadership mode, for example, during an interview Naomi said she was surprised the group was working so well. She said "I told [student] and [student] that if they don't sing, they won't get an 'achieved'. I had to push them. Now they are actually working together".

Section 3: The assessment requirements

The achievement standard

Students were working towards an NCEA Level 1 internally-assessed achievement standard in music - Achievement Standard AS91091: *Demonstrate ensemble skills through performing a piece of music as a member of a group*. NZQA advises that a group should comprise 3 to 7 members where each performer must play a separate or uniquely identifiable part. The individual performer's contribution to the piece must be assessed holistically. This means considering the musicality and merits of the whole performance.

This standard was the first unit of work where the class had worked towards an NCEA assessment in music. In accordance with school policy, a priority for all students is achieving NCEA literacy requirements and all students are expected to achieve these before working towards other standards. Work in the music programme contributed to students' portfolios of evidence being gathered for the literacy standards. When asked if this policy could have compromised students' opportunities to complete a course in music, the teacher was confident

the strong foundation could only help. As all students did achieve the required number of credits for music, the teacher was proven to be correct.

The teacher had a number of reasons for initiating a unit of work around AS91091. Her experience had shown that performing music as a member of a group provided good opportunities for students to engage with music and to enjoy performing. She believed it would be a good unit of work for building the classroom relationships and culture – there is opportunity for building on existing relationships and for students to discover new strengths and skills in themselves and their classmates. Marie also saw working towards this standard as a means for students to develop ownership in their learning. She said students "can drive this standard". An additional benefit of this unit of work was that everyone could be involved and it was an achievable standard for everyone.

Introducing the standard

The teacher deliberately introduced the students to this standard, their first relatively formal assessment in music, before introducing other standards. She had found that success in performing in a group helped students' solo performances. It also helped students embed core skills that would be needed for achievement in music in future years. As an internally assessed standard, there are opportunities for reassessment for students and, for this standard, there will be ongoing opportunities for students to achieve the standard. At the end of the year, students' best grade for AS91091 will be awarded as their final grade. The teacher repeated this message to the students several times, the understanding that their final performance could be considered low stakes in terms of the assessment was viewed as a great relief by the girls.

Prior to introducing the standard and the assessment criteria at the introductory lesson, the teacher had done considerable work in preparing the class for working towards this standard. Throughout the year, there had been considerable discussion about group performances and how they were structured, how previous classes had tackled the challenges, and many

opportunities to view group performances by their peers, previous classes and professional performers. These had included references to working towards this particular standard and exhortations to think about how their own options for this performance. In addition, the teacher had continuously focused on core skills. Almost every time the class gathered, there were opportunities to play instruments, read music, become familiar with musical terminology and to sing. Determining these activities provides a further example of power-sharing within the classroom as sometimes they were directed by the teacher, by a teacher aide and, frequently, by the students themselves.

Section 4: The unit of work

Whanaungatanga

A description of this unit of work is not possible without first describing *whanaungatanga* - a particular feature of this classroom and the start of every lesson. Whanaungatanga is a metaphor referring to the "process of establishing extended family-like relationships" (Bishop et al., 2014, p. 189). The classroom was constituted as if they were a whānau, or extended family. According to Bishop, Ladwig and Berryman (2014), the use of the term whānau, "literally or metaphorically, is to identify a series of rights and responsibilities, commitments and obligations, and supports that are fundamental to the collectivity" (p. 189). This was enacted in this class.

Each lesson began with a 'whanaungatanga circle' – the whānau, comprising everyone in the classroom space, including students, teacher, teacher aides, other adults and myself, joined in the circle and shared. There was opportunity for all to share informally as much as they would like to. To encourage people to talk out more in the circle and, therefore, in the rest of their learning time, the teacher sometimes introduced topics, or discussion points. Observed examples for included "my best holiday would be …"; "the best thing about my school is …". The focus would slowly shift to a music focus, although this was unobtrusive and seemed to

grow from the students' responses or requests. This included some singing and games (e.g. Biddy Biddy Bop), and a daily reiteration of the phrase "in this class, we talk, we laugh, we sing". Not every student was effusive in this sharing time, and some responses were very short. Marie and the girls attributed this to shyness, being new to the class or a developing fluency in English but everyone contributed and was encouraged by everyone else.

Time given to building a sense of whanaungatanga was prioritised, across the five classes I observed whanaungatanga lasted between 20 and 42 minutes of the 90 minute lesson time. The teacher saw this time as key to her teaching, saying that the teaching of life skills, the development of the key competencies of the New Zealand Curriculum and the building of metacognitive practices and understandings about learning was as important as specific teaching of music. Whanaungatanga was described by the teacher and the students as a means of prioritising students' mauri and a major contributor to the family atmosphere and strong ties within the class.

The timetabling of the unit of work

The unit of work in this research was a planned 4 to 5 week unit where students were working towards AS91091. Information about the standard, the assessment requirements and the expected timeframes were presented to the class during the first observation associated with this research, and repeated at other times. The unit concluded with the students making their group presentations at an assembly held on July 3rd. While the teacher had this unit (and the fairly tight timeframe) in her head, I did not observe and students did not report, a sense of pressure or drive to meet deadlines.

Each lesson was timetabled for 90 minutes, although timings of the lessons were somewhat fluid. For two of the observations, students were timetabled to attend this class between morning tea and lunch. In both these cases, almost all 15 students were in the music room during the morning tea time and the lesson was underway before the bell rang, and most of the

class staying over lunchtime. In another observation, the class was scheduled for 8:55 a.m., and whanaungatanga beginning with eight students present. By 9:20 a.m., 13 students were in the whanaungatanga circle (one student absent for the class and one student leaving the class because she felt unwell). The fourth observation was the last class in the afternoon – at least nine of the students already in the music room, some practicing their group performance, during the lunchtime, and the last student leaving at 3:15 – 15 minutes after the class finished. I twice witnessed the teacher asking a student who had arrived late if they were okay, without recrimination and away from the class. The girls did not specifically report on the tolerance for lateness – they did acknowledge that the teacher cared for them and "looked out for them" – describing the care offered to them when late, feeling unwell, or under stress as manaakitanga (the process of showing respect, generosity and care for others).

Introducing the unit of work

During the first observation, Marie told the class they would be working towards a group performance and this would be guided by the parameters of AS91091. Further information was given about the standard through a handout sheet that included the NZQA explanatory notes and the conditions for assessment. Students collected this handout at the end of the class.

The students were told they could form two groups– no other guidance was explicitly given and, by the end of the lesson (without any obvious negotiation) two groups had formed of roughly even numbers and a spread of skills (singers and instrumentalists) across both groups. The groups met the unstated criteria the teacher had about who should work with whom, this appeared to be tacitly understood by the students.

Students were also told that their groups needed a leader and a song for their performance and were provided with a piece of paper to record their decisions. Decisions about the group leader were made very quickly and with little discussion – one person nominated by a person in each group and the others agreeing. Song choices proved more problematic.

For one group (with four of the research participants), three songs were identified and the group wanted to do a 'mash-up' of these songs. Marie visited the group and, on being told of this decision, gave her advice that mash-ups added too much complexity to the performance and the group should pick one. Marie left the group to discuss this. When the papers were handed in, the mash-up of three songs was recorded as the group choice. During the next lesson, Marie repeated that performances of mash-ups were not recommended. By the third lesson, the mash-up was well-established and became the final performance.

The second group had trouble selecting a song. Along with some suggestions by students of songs that were not known by all group members, two teacher aides also made suggestions. Marie suggested the group think about it overnight. By the next lesson, the students arrived in the class and wrote the song choice down – the group had agreed this out of class.

Continuing with the unit of work

The three observed lessons followed a similar pattern. In the second observation, following whanaungatanga, the teacher introduced an activity on the core vocabulary for the group performance. Printed onto cards were the words cohesion, balance, intonation, feel, style, and accuracy, vocabulary used by NZQA in describing the standard. Marie introduced a 'game' where a student came up with a definition of the terms and other students were encouraged to guess the term being described. This game was abandoned when it became clear that some students already knew the terms and those who did not were not relating to the descriptions in a decontextualised setting.

On one occasion, the teacher said "shall we sing?" The class enthusiastically formed rows on a small dais, grouping (without prompting) as sections of the choir. The teacher passed the leading of the singing over to a teacher aide and stood in the choir with the students. Everyone sang "In the stillness of the night", building on previous teaching around the harmonies in the

song. Following this, students moved into their groups and continued with their developments of the group performance.

Learning interactions within the unit of work

Students then worked in their groups to develop, practice and perfect their performances, for 30 to 45 minutes per lesson. The music suite at the school consisted of the classroom, two offices and three recording suites. The groups were able to practice in any of these spaces without disturbing each other. The teacher moved between groups over their practice time. The majority of interactions between the teacher and students was in the form of encouragement and affirmation of progress – both verbally and with signs such as 'thumbs up'. Occasionally, the teacher would ask a group to play or sing again, then ask a question such as "are you happy with the way that sounds?" or "are you making the most of everyone's talents?" These questions were not directly answered by the group. A rather constant pattern was that the teacher asked a direct question and this was not openly replied to. For example, in one interaction, Rangimarie suggested a harmony line. The teacher asked "Will this work?" There was no response from Rangimarie or the rest of the group. After a short pause, the teacher said "Shall I walk away now?", and amid smiles and laughter, she left. There was no further discussion by the group and no-one addressed the question directly, but the idea for the harmony was not raised again. When interviewed, the girls said they were aware of the power-sharing by the teacher and saw the questions as prompts for their thinking, rather than an expectation that they answer.

The most common feedback given to the groups by the teacher was calling out the word or miming "smile". In interviews, the teacher explained smiling, relaxing and enjoying the music is an important indicator in the assessment criteria: "presentation of the group's performance is sustained and assured". The girls did not link this instruction to the requirement of the qualification – they saw it as the teacher helping them to enjoy what they were doing.

A notable feature of the group work was the interchanges between the students. They took full responsibility for ensuring that all of the group would be successful in achieving this standard, encouraging each other to do their best. The instructions or comments on how the performance could be enhanced came from all group members – I observed every participant in the group adding to suggestions on how performance could be improved, and having individual conversations with others in the group with specific teaching moments. For example, Rangimarie sat with another student and helped him with the rhythm line for the hand drum he was playing. Katie had been nominated as group leader. This was not a very obvious role – Katie doing less talking in the group times than others as the planning and the practising continued. However, when a decision was needed or a direct reply to the teacher required, the group would go silent and look to Katie to answer. Katie appeared very comfortable to step into this role, despite being one of the more reticent class members at other times.

Ongoing feedback and assessment occurred throughout the lessons. Group 'debriefs' occurred regularly throughout the lessons, the teacher encouraging the groups to reflect on aspects of their performance, for example, how each individual was showing their abilities, or how well their group was working together. The teacher stayed for some of the debriefs, encouraging the students to give specific feedback to each other. Once students (from the second observation onwards) began working on a performance piece, the groups were encouraged to perform for each other. One group would perform with the other group watching. Each student gave specific feedback to the performing group – the teacher encouraging them to say at least one thing that they liked about the performance and at least one thing that could be improved. During the third observation, the teacher had provided video cameras. The groups recorded their performance and then had opportunity to analyse this together.

Concluding the unit of work

At the end of the unit, both the teacher and the students reportied that they were "very happy" with their progress. The teacher was particularly pleased at the leadership skills shown within

the groups, by the inclusiveness and team work shown by the groups and by the overall enthusiasm of the class for the unit. When asked about adaptations made to the unit in response to student feedback, the teacher said she was always listening to students and, although she couldn't change the assessments, she could be responsive to students' requests and preferences. The students were enthusiastic about the unit of work – Naomi saying it was the best topic she had done at this school so far, Tui repeating that this was her favourite subject and the unit was "good as". Some of the girls were surprised at their progress – Tui saying "this surprised me ... I love it" and Irihapeti saying "I'm doing way better than I thought, especially at vocals".

Section 5: Student Achievement

As the teacher had predicted, all five students achieved this Achievement Standard.

Student 1: Katie

Katie achieved a Merit award in this standard – slightly lower than the teacher had predicted she could achieve. Overall for music, Katie gained 16 credits, being award two "Achieved" and one "Merit" award (in the observed standard). Throughout 2017, Katie gained 81 credits – successfully completing her NCEA Level 1.

Student 2: Irihapeti

Irihapeti was assessed at an "Achieved" level in this in this standard –lower than the "Excellence" predicted by the teacher. In music, Irihapeti gained 28 credits, including six at NCEA Level 2 credits. Over 2017, Irihapeti gained 95 credits – successfully completing her NCEA Level 1. Of these credits, nine were at NCEA Level 2 and seven at Level 3.

Student 3: Rangimarie

As Marie had predicted, Rangimarie achieved this standard at an "Achieved" level. Overall for music, Rangimarie gained 10 credits. She attained a further 14 credits in the Māori Performing

Arts domain – 10 of these at NCEA Level 3. Throughout 2017, Rangimarie gained 85 credits. By March, 2018, although Rangimarie had successfully completed her NCEA Level 1, this had not been awarded and her achievements had not been entered onto her Record of Achievement managed by the NZQA as her NCEA fees ($76.70) had not been paid.

Student 4: Tui

Tui achieved a Merit award in this standard – lower than the teacher's goal of an Excellence award. Overall for music, Tui gained 14 credits, all at the "Achieved" level. Throughout 2017, Tui gained 144 credits – successfully completing her NCEA Level 1. Of these credits, 29 were at NCEA level 3 and 45 at NCEA Level 2.

Student 5: Naomi

Naomi achieved this standard at an "Achieved" level, less than the Excellence level the teacher had predicted. Overall for music, Naomi gained 10 credits (the other 6 credits being achieved with a Merit award). She also attained a further 10 credits in the Māori Performing Arts domain at NCEA Level 3. Throughout 2017, Naomi gained 80 credits. By March, 2018, although Naomi had successfully completed her NCEA Level 1, this had not been awarded due to unpaid fees. She had left Harakeke College and moved to another city.

Section 6: Analysing the learning micro-interactions

Interviews with the teacher and the students focused on the understandings each participant brought to the interaction from their cultural toolkits. I asked participants to both rate the use of the six factors and to comment on the different factors they felt had been drawn on in the micro-interactions. This included interactions I had identified as critical incidents and any others that participants considered important.

Rating the factors within participants' cultural toolkits

Teacher

At the end of the unit, the teacher was asked to rate how, over all the unit, she had drawn on each of the factors to support the participating students and how much she would have liked to have drawn on these. As in each case, I provided a 5-point Likert-type scale. Marie provided two ratings (quantified below) on the continuum, rather than on the data point.

Table 5: Teacher rating of extent to which each factor has been drawn on to support student learning in the unit of work

	Rating	
Factors: Understanding	**How much did you draw on each factor?**	**How much you would have liked to have drawn on each?**
Subject content	3	5
Curriculum content	2	5
Assessment requirements	3	5
Learning strategies	4	5
The learner	4.5	5
The learner's cultural context	4.5	5

When discussing how she had assigned these ratings, Marie explained that she felt very confident in her understandings about subject content, assessment requirements and learning strategies. She had had many years successfully teaching in this subject area and variations of the performance music standard. Her students continually achieved well, the majority achieving the standard with merit or excellence awards. She therefore felt she had not consciously drawn too deeply from these factors, relying on tacit understandings (Schon, 1983) inherent in her cultural toolkit.

At the beginning of the unit, Marie had said that the participating students' success in this unit would be dependent on how well they worked together as a group, on the individual team leaders' skills and on the girls' confidence in their own performance. She was aware that she would have to draw on understandings and applications of her understanding of each of the learners, and on their cultural contexts. At the end of the unit, Marie rated her use of these

factors a '4.5', saying she was conscious she had deliberately drawn on these factors in order to get the best outcomes for the girls.

Marie was least positive about the extent to which she had drawn on her understandings of curriculum content saying she had helped the students prepare for the Level 2 performance music standard unit (AS91272) that they would be meeting in the next year. However, she had not drawn on previous curriculum music learning or cross-curricular learning as much as other knowledge sources in this unit.

When asked what factors Marie would have liked to have drawn on in the interactions, Marie gave a rating of '5' for every factor. She said that every factor was important and that "kids deserve to have the best possible experience in every interaction".

Students

At the beginning of the unit, I asked the students to rate, for each factor, their level of confidence that the teacher would be able to support them (personally) with their next learning steps in this unit of work.

Table 6: Students' rating of their confidence in teacher's use of each factor to support them in this unit of work

Factor: Understanding	**Rating**				
	Katie	Irihapeti	Rangimarie	Tui	Naomi
Subject content	5	4	5	5	4
Curriculum content	4	4	5	4	4
Assessment requirements	5	5	5	4	5
Learning strategies	5	4	5	5	5
The learner	4	5	4	5	4
The learner's cultural context	4	5	3	5	5

The students' evaluations were overwhelmingly positive, the girls confident their teacher had the understandings across the factors to support their learning. All students rated this a '4' – reasonably confident or a '5' – very confident. The exception was Rangimarie who rated culturally responsive knowledge as a '3'. In this first interview, students did not elaborate on

why they had assigned the ratings that they did, shrugging or providing responses such as "because that's what I think". However, in this first interview, I had encouraged the students to work privately to fill in the scales. This was clearly uncomfortable for them. In subsequent interviews, information was shared more freely and the students worked together as a group. This led to richer conversations and more elaborations as the interviews continued.

At the end of the unit, the students rated how much the teacher had drawn on each of the factors to support them (personally) with their learning in this unit of work.

Table 7: Student rating of extent to which each factor has been drawn on to support student learning in the unit of work

Factors: Understanding	**Rating**				
	Katie	Irihapeti	Rangimarie	Tui	Naomi
Subject content	5	5	5	5	5
Curriculum content	4	5	4	4	4
Assessment requirements	5	5	5	5	5
Learning strategies	5	4	5	5	5
The learner	5	5	5	5	5
The learner's cultural context	4	4	5	4	4

Students were very positive about the teachers' use of these factors. They were then asked to rate how much they wished the teacher had drawn on those knowledge sources to support them. Responses are presented in the table below.

Table 8: Students' rating of extent they wished the teacher had drawn on each factor to support their learning throughout the unit of work

	Rating				
Factors: Understanding	Katie	Irihapeti	Rangimarie	Tui	Naomi
Subject content	5	5	5	5	5
Curriculum content	5	5	5	5	5
Assessment requirements	5	5	5	5	5
Learning strategies -	5	4	5	5	5
The learner	5	5	5	5	5
The learner's cultural context	5	5	5	5	5

The students thought that each of these factors was very valuable and wanted the teacher to draw from all six of these in their interactions.

Acquiring and applying the six factors

Marie has developed her case and propositional knowledge (Shulman, 1987, 1986) through both the length of her teaching experience and through deliberately seeking the knowledge required to support learners. Through these avenues, she has internalised considerable understandings about subject content, curriculum content, assessment requirements and learning strategies. In these factors, Marie has become "routinised" (Harnett, 2012, p. 367), a state when actors can act automatically because responses have become routine.

Marie has taught music, group performance music and this particular standard throughout her teaching career. She is familiar with the content and requirements of the unit. However, the students in this particular class, and the dynamics that occur as the groups form and perform, are less familiar and less predictable for her. The unpredictability more closely represents Shulman's third form of knowledge, strategic knowledge, that is used when a teacher confronts particular situations or problems. This knowledge "is developed when the lessons of single principles contradict one another or the precedents of particular cases are incompatible" (Shulman, 1986, p. 13). Understandings related to each learner, each learner's cultural context and learning strategies are dependent on the context, the people and the interaction between them. For each application of these three factors, the teacher needs to apply professional judgement responsive to each situation. This cannot be routinised, therefore Marie's ratings reflect her awareness of the need to deliberately draw on these factors.

The process of the Likert-type scales and the atomisation of the factors did not elicit deep discussions with the students. And, while being very helpful in her responses, the teacher did not really think the nuancing of the factors helped her think more about her teaching. It seems both the teacher and the students resisted a centripetal worldview and wanted to examine the classroom processes centrifugally. The classroom was structured around holistic, shared knowledge-building and my direct questioning about atomised, discrete factors went against

the culture of the classroom. It was clear that the learning culture of the classroom was more influential and of more interest to the students. They were more animated and interested in discussing how their learning was building, how relationships were working out, how life-skills were being encouraged (for example, leadership or working as a team) than analysing the factors.

There was a notable difference in the conversations of the students to the conversation of the teacher in one aspect. This was not obvious through the rating scales, but in the feedback. The teacher was very confident that she had the understandings around subject, curriculum, assessment and learning strategies to support the students' learning. She knew this from her years of successful teaching experience. The girls were aware of this, saying that their school was lucky to have this teacher. In our initial meeting, the girls were very protective of the teacher and wanted to be sure that this research would be positive and affirming of Marie as a good teacher. Despite this, the girls were reluctant to rate the subject, curriculum, qualifications and learning strategies knowledge of the teacher. They were not confident in their decisions, feeling that they had no comparisons on which to base their judgement.

However, the students were more confident in rating the factors called understanding the learner and understanding the learner's cultural contexts. In these areas, we could expect that they held more knowledge than the teacher. They are the experts on their preferences, prior knowledge, aspirations and their own languages, cultures and identities.

Section 7: Discussion of Case Study 2

This chapter has attempted to paint a picture of a vibrant, noisy music classroom where both teacher and students led the learning and the teaching. The observations and ongoing discussions with participants resulted in some rich learnings. The discussion below presents some key learnings that have arisen in the analysis of this case study, most of which arose in

collaborative sense-making with the participants. Chapter 8 presents a synthesis and discussion of the learnings across the research.

Drawing from the ako: critical contexts for change model

The focus for this case study was on the context, within the *ako: critical contexts for change* model, called cultural relationships for responsive pedagogy (as described in Chapter 2). Cultural relationships, that is, relationships that valued and respected each person's languages, cultures and identities were foundational to every interaction in this classroom. There was a quantity of evidence for this, observed by me as an outsider and reported by both teacher and students. The most significant evidence is the dedicated time to engage in whanaungatanga on every occasion the class were together. Both the extent of curriculum coverage (with literacy and music standards being addressed in this class) and overall success rate in achieving NCEA Level 1 Music by all the class, shows that the time taken in building relationships amongst the students and with the teacher did not detract from students' achievement.

The students reported that knowing that both their teacher and their friends believed in them inspired them to do their best, and that working as a whānau in every setting helped "bring out the best in them". In many cases, explicit pedagogical acts, led by either the teacher or the students, occurred in response to the relational interactions. While the teacher had lesson plans, these were stated more as intentions and were fluidly followed – the class, including the teacher, willing to be led by the relationships and for the pedagogy to be truly responsive to where the relational practice was leading.

The role of the teacher

The teacher as sole director of learning was not visible within these observations. Marie was deeply respected (and even loved) by these students. She constantly and continuously reinforced her high expectations for her students and her belief that the students were good

musicians, more than capable of achieving well in this unit and across the course. Learning was regularly led by the students, there were very few times when there was explicit teaching of items of knowledge or isolated skills. Across 275 minutes of video-recorded classroom observations, I observed only 19 minutes where the teacher was directly imparting knowledge and then checking students' understanding of this. Learning was located within the whānau of the classroom, students drew on expertise from the teacher, from each other and from themselves.

The nature of the unit being taught may have contributed to the grounded nature of the classroom teaching, grounded in and responsive to the learners' cultural toolkits. A focus on group performance lends itself to working together and problem-solving as a group rather than waiting for teacher instruction. And for musical performance, one would expect that there would be significant class time spent by students practicing and performing. But, even within these parameters, there was plenty of opportunity for the teacher to be the active director of all learning activities – such as, to instruct students on how groups work, to give examples of good groups at work, to impart facts and tips on what makes good performance, to assign roles and to generally direct the learning steps for the students. Marie often stood back and let these flow within the group. For example, at a time when the group were expected to select their group leader and write this down on a piece of paper, one group did not discuss this. When Marie approached the group, she said "Who is your leader?" There was no response from the group. Marie then said "You are such an awesome group" and walked away. One person wrote "Katie" on the piece of paper as the group leader and the group moved on with no further discussion.

Strengthening peer-peer learning relationships

As demonstrated through many of the examples above, the teacher deliberately and explicitly encouraged peer-to-peer learning relationships. Marie said "these kids spend a lot of time together. They need to be supporting each other's learning. I need to give them the

confidence and the means to know they can help each other". In this class, I saw the empowerment of students to lead learning and the acknowledgement of the importance of student friendships in learning. However, research suggests that these factors are not widespread (D. W Johnson & Johnson, 2009; Kimbrough et al., 2017). When the importance of student-to-student relationships for learning are overlooked or when the teacher to student relationship is privileged over that of friendship groups, then long-term relationships between students can be jeopardised. SooHoo (2015) speaks of fractured learning, when multiple interventions hindered student-student relationships. A student with special educational needs said "I don't like getting taken out [of class] because it makes me feel I am different towards the others" (Norwich & Kelly, 2004, p.54). While teacher-student relationships are vitally important, so is the sense of belonging at school that arises from strong relationships between students. In this case study classroom, the relationships between students were seen as important as the relationships with the teacher.

Interpersonal and intrapersonal learning

A major theme in Vygotsky's writings (see Wertsch, 1991) is the interdependence between social processes and individual learning and development. In this class, the teacher laid a strong foundation for students to meet concepts in the interpersonal plane. There were frequent opportunities to interact with the teacher, often out of the scheduled lesson time. In class time, there were extensive, continual, opportunities for students to interact together.

Through the whanaungatanga circle time and the social, interpersonal nature of the classroom, students had opportunities to visit concepts and to experience developmental events. In the whanaungatanga circle students were supported to internalise concepts such as being competent and valued musicians. The messaging was not that they were students who had to cover the music curriculum, or NCEA candidates who had to achieve in the high-stakes assessment. Beyond the music focus, the whanaungatanga built students' self-belief that they were competent and valued learners in general – to internalise the metacognitive

understandings that underpinned their progress. While this was not outwardly spoken, in every conversation with the girls they demonstrated their belief that they were the "competent, connected, actively involved lifelong learners" of the New Zealand curriculum vision. Their high achievement in music affirms this.

Mā te wā: allowing time for intrapersonal learning

There were frequent times where the teacher asked direct questions of the girls and these were not answered. When the teacher observed some of these video-recorded incidents and was asked why she didn't push for an answer, she saw this as a means of treating the students with respect – "I don't want to embarrass them … maybe I am trying not to push them into a corner". When viewing the same incidents and asked for their thoughts on why they weren't answering, Rangimarie said "I don't know. Still thinking, I guess. Just wanted to think about it more." However, many of the questions were addressed later. In most cases, much later, either the teacher or the student obliquely referenced the question again and a response was given. For example, when working in her group, Marie asked Tui "What could you do to make your voice stronger in the group?", to which there was no response. In the class debrief at the end of the lesson, the teacher said, "we need to think about the careful placing of microphones so that all voices can be heard" – smiled and nodded at Tui who smiled back. On another occasion, Marie asked Katie, in front of the group, about the inclusion of some instruments. There was no response, but about 20 minutes later (almost the end of the practice time), Katie approached the teacher away from the rest of group and there was an animated discussion between the two. On returning to the group, the instruments were moved around with no further discussion.

The practice of allowing questions or learning to "sit" until it is the right time to respond allows time for the interpersonal interaction to be internalised and become intrapersonal. It also builds on a mātauranga Māori concept of mā te wā. This phrase carries within it the notions of "in the right time, in the right space". There is no need to rush for an answer but when the

time and space are right, the answer will be ready. Inside a Western culture, it can be considered bad manners to not answer the teacher when questioned: "Answer me when I speak to you!". However, this teacher, a Pākehā, drew from her cultural knowledge to allow the students to answer when the time and space were right.

Spiralling, dialogic teaching

When I planned this research, I expected to see pivotal teaching moments (Black & Wiliam, 2003; Rowland et al., 2005; Stockero & Zoest, 2013) or moment-to-moment pedagogical decision-making (Pere, 1994). However, in the observations of this class, teaching moments were not visible. Instead the classroom practice consisted of a spiralling weave of interpersonal interactions, followed by considerable opportunity for intrapersonal learning. There were frequent examples of times when a direct-teaching moment could have occurred, that is, when the teacher asked a question or noted some hesitation by a student and could have responded to the situation with some direct instruction – telling the students the answer, the right way to organise themselves or to complete a task. Instead she regularly withdrew from the interaction, allowing the students to process the situation and make their own decisions about their learning. This appeared to be a significant contributor to the girls' confidence and belief in themselves as musicians, as leaders and as self-managing learners. It was also integral to the teacher's teaching toolkit – knowing how to set up the contexts for learning, when to stay silent and when to withdraw. These strategies were part of her deliberate acts of teaching. From each of the recorded hour and half lessons, there were often only 3 or 4 times when there was a direct, personal interaction between teacher and one of the girls. Critical incidents underpinning the interviews often involved watching three or four minutes of tape involving an unresolved interaction between the teacher and the students, requiring the participants respond a much wider context than the term 'teaching moment' implies.

Another challenge for me as a researcher, but of tremendous benefit to the students in their learning, was that many direct interactions between the teacher and the students occurred

outside the actual lesson time. These occurred as quiet conversations, one on one, in the music room but not part of a formal, timetabled lesson. The teacher spent many morning tea times, lunchtimes, and the immediate after-school times in the music room. These were very busy times – with multiple students around, playing, singing, talking to each other and many conversations with the teacher. This practice was a significant contributor to the effective, spiralling, dialogic teaching practice.

The role of the More Knowledgeable Other

Within both the concept of ako (Tangaere, 2012) and sociocultural theory (Mahn & John-Steiner, 2012; Vygotsky, 1980) is the concept of the Zone of Proximal Development, learning supported by the More Knowledgeable Other. For optimal learning conditions, there needs to be clear understandings between the learner and the More Knowledgeable Other - the student plays an active role in the learning settings and requires that conditions be set that allows them to "constantly inform the teacher as their mutual negotiation and collaboration build knowledge" (John-Steiner and Mahn, 1996, p.12**.**

Within this case study, a recurring theme was that learning drew from the strengths and skills of others. The roles of More Knowledgeable Other and Less Knowledgeable Other, or that of tuākana-tēina and tēina-tuākana, were alternating (Abtahi, 2017) – often within the same micro-interaction. Sometimes the teacher was the tuakana, and at other times, a student was tuakana, with other students or the teacher being the teina – in line with the whakataukī cited in Chapter 3 mā te tuakana kā tōtika te teina; ma te teina kā tōtika te tuakana (the older guides the younger; the younger guides the older).

There was very little funnelling of the learning through the teacher. I recorded no occasions when one of the girls asked the teacher a direct question about the learning content or the qualification requirements. Decisions about learning and next learning steps grew out of conversations and the resultant next actions were co-constructed. For these girls, there was a

clear sense that they were in charge of and actively leading their learning. They were all comfortable in this position and it was their expectation for how learning occurred in this class. When they viewed the videoclips and discussed what I had labelled the "power-sharing between them and their teacher", they didn't find this unusual or special – "that's the way we do everything in here" (Naomi).

Reciprocal relationships of care and connectedness

Relationships of care and concern were evident within the classroom. There was a clear sense of the teacher's deep care for students, their well-being and their learning. In describing her decision-making when planning this unit, the teacher identified the emotional and social aspect of student well-being that she would be mindful of. For each student, the teacher had an area of personal wellbeing to which she would be paying special attention. In one interview, when we were discussing the focus on the care and wellbeing of the students, the teacher commented that she knew that the achievement of this standard (adding "and any standard, really") would be dependent on wellbeing, rather than on the activity itself. The girls knew that they were cared for by their teacher – they referred to her kindness, her sharing of herself and her friendship towards them in some way in every interview.

Care for each other was reciprocated within the classroom – the teacher showing high levels of care for the students (as outlined above) and the girls demonstrating levels of care for the teacher. The first example of this was very early – the girls not being willing to take part in any research that could require them to say anything negative about their teacher. Another time, Katie referred to the teacher telling another student that they had left a guitar out, saying "I knew she was wrong but I didn't tell her". When asked why she didn't tell, Katie said "I knew she was having a bad day and she didn't need anyone else on her back". She went on to say "[the teacher] always takes care of us, sometimes she needs us to take of her" with lots of nodding and agreement from the other girls.

Ontological pluralism

Despite the high level of positivity regarding the care shown by the teacher, there was one caveat raised by the students. The girls rated the teacher highly on the factor called *understanding the learner*, continually giving this a '5'. I was surprised, therefore, when discussing this rating, for a student to say "I don't think she knows us as well as she thinks she does". Another agreed saying "yeah, sometimes she thinks she knows all about us but she doesn't". On being asked why they had given a '5' on the rating scale, the girls referred to the definition for this factor that was sitting on the table – "understanding me, my preferences, prior knowledge, hopes and interests" and agreed that the teacher knew these things about them. They had given a rating of '4' out of 5 for the factor *understanding the learner's cultural context* – the definition provided being "knowing how to draw from my language, identity and culture". The word 'identity' appeared to be the trigger for these responses. The girls told me they had (over time) shared some risk-taking behaviours and consequences with the teacher and had not always been comfortable with her responses. To me, as another adult, this seemed to further support a deep and personal level of care. However, the girls did not seem to see it this way. One girl (Naomi) said the teacher "does not always understand our identity", the other girls nodding in agreement.

The girls were aware of, and drew from, a complex cultural base. The five girls were Māori, but there was little reference to being Māori in any conversation. This could have been because most students in this school, and most people in the girls' communities, identify as Māori, so being Māori is the norm and not seen as unusual. Their identity as adolescents together was demonstrated through discussion of shared experiences around relationships, risk-taking behaviours and the closeness of their friendships. Another identity was pride in their community, a community regularly described, in national discourses, in a "vocabulary of disadvantage" (Hattam & Smyth, 2015, p. 272).

The girls all spoke of their identity within their Christian faith. Four of the five girls talked of the role of their churches in supporting their music –providing them opportunities to participate, to learn and to perform. More than just performing though, the girls saw their music as a key part of their faith, and their faith as integral to their social identity. The girls made many overt references to their faith in class and through the learning such as in their song choices. The teacher acknowledged the girls' faith as she supported their learning. While I didn't hear the teacher initiate faith-based discussions or learning, I observed (and the girls reported) her acceptance of religious talk, the selection of religious songs and an openness to hearing about and celebrating the girls' performances in church. Some classroom talk was underpinned with a religious overtone, for example, Naomi talking about how a shy boy was being drawn out through the whanaungatanga time and saying "whanaungatanga warms us up ... the class is coming together ... it is helping us change ... John was really quiet but now God has brought him out".

The teacher drew on the pluralistic cultural toolkits of the students in in her teaching. She accepted the ontological pluralisms (J. Turner, 2010) of the students and built on these, even when it was not her own. I don't believe the teacher held the same ontological position around the Christian faith as the girls, but she accepted this as part of the girls' identities and allowed this to be respected and to flourish in the classroom. As a Pākehā, the teacher was clear that she was not Māori and didn't know all about Māori culture. However, she went out of her way to celebrate and value Māori culture and language, using te reo terms whenever she could and ensuring that aspects of Māori culture were embedded into classroom practice – singing waiata, karakia before shared food, and whanaungatanga.

A deliberate strategy of the teacher was to provide opportunities and support for students to speak and contribute in a social group and to gain confidence and competence in speaking and contributing to discussions. The class embraced the concept of whānau, with the associated rights and responsibilities (Bishop et al., 2014) being integral to the class culture. In this

whānau setting, the sharing of opinions and interchange of ideas is expected. The teacher built on the students' cultural plurality to support their learning.

Moving outside the formal structure of the classroom

Many learning and learning-based interactions occurred outside the formally scheduled, timetabled, class-based lessons. One example of this was the time students spent in the music room, and in interactions with the teacher, outside of music lessons. Students were in the classroom before and after school, in lunchtimes and any breaks in their school days. They were made very welcome and demonstrated a clear sense of ownership of this whānau-based learning space. Over the time of my observation, I saw the teacher provide breakfast food for those who were in the music room before school. This was very low key – the food and hot drinks were available and those that wanted some helped themselves. On one occasion when I was present in the lunchtime, the teacher announced that students had been working hard all lunchtime. Marie purchased hot food and brought it back to the classroom. Everyone ate together – the teacher, the teacher aides, students who had been present in the lunchtime and those that arrived for the class. The class then moved seamlessly into the whanaungatanga circle and conversations continued – there was no formal announcing of a lesson start.

The beginnings and endings of all classes were fluid. There was no bell in the music room and often no formal calling to order to begin a lesson. Students arrived at various times in the classroom, often arriving very late in terms of the times listed on the school timetables, but then staying late – well after the timetabled end of period – into their own lunch time, or after school. Lateness was never commented on, other than some private conversations checking that the student was okay.

Conclusion

This case study was selected as an opportunity to investigate classroom practices and experiences in a classroom identified as demonstrating the context within the *ako: critical contexts for change* model called cultural relationships for responsive pedagogy. The setting for case study 3 allows an examination of the learning interactions in a classroom reported as demonstrating good practice the third context of this model: powerful home, school and community connections.

Chapter 7 - Case Study 3: Powerful home, school and community collaborations

Introduction

Nikau School offers a specific focus on the powerful home, school and community collaborations context within the *ako: critical contexts for change* model. This chapter presents information on the learning interactions within the pāngarau (mathematics) programme in a Year 6 class, with a wider focus on how whānau and community funds of knowledge enhance teaching and learning. The observations for this case study occurred in September to October, 2018. As with the other two cases, some learnings specific to this case are presented at the end of the chapter, key learnings synthesised across the research are presented in chapter 8.

Context for this case study:

Nikau School has a reputation as being a school where there is a strong input from whānau and community in all aspects of school life. I received positive reports about Nikau School from Ministry of Education personnel and other professionals who worked with the school community about the exemplary whānau and community involvement in this school. The school has had positive external endorsement of their ongoing and continued community and school links and the impact on student enjoyment and achievement in, for example, their most recent ERO report and the local newspapers.

This case study is a unit of work in pāngarau. It centres around three students, their teacher, two parents and the community involvement in their learning. The students learn within the school's bilingual unit, Ngā Kākano o Te Awa (Seeds of the Stream). Follow up interviews were later held with Ana, the school principal and Heather, chairperson of the school Board of Trustees and also the chair of the board for the local community centre. The community centre is located on the grounds of the school and has close links to the school.

The school is a Decile 2 primary school situated in a large New Zealand urban centre. At 1 July 2018, there were 407 students attending the school. The school has a diverse, multicultural roll. The largest proportion of students in the school (45 percent) identify as tauiwi (recent arrivals to New Zealand), of whom 40 percent are of Asian descent. Many of these students arrived in New Zealand as refugees. The proportions of Māori and European/Pākehā students are 28 percent and 26 percent respectively.

A notable feature of the school is the actions taken to embrace and include the community in all aspects of school life. This is reciprocated, with many community-initiated endeavours being linked to the school. The commitment to school and community links and the diversity of the school community brings a level of complexity. For example, the principal told of a 'maths night' that had been held to share information with the whānau on the learning that was occurring in this curriculum area. Rather than one night for this, the school had over the previous two terms, held six events with two more scheduled for the following term. Each of the maths nights was conducted in a different language, the two most recent being in Spanish and Nepali. On each occasion, the teachers and Community Liaison Workers were present, the evenings being seen as important vehicles for including parents in their child's learning journeys and to build relationships and understandings between parents and the school. Other events, also requiring complex responses to meet the needs of this diverse school and community, include cultural events, celebrations and fun days.

At the time of the interview, the principal advised that the school employed 80 staff to support the diversity of needs and learning opportunities across the school. Of these employees, 20 are employed as teachers. The remaining 60 positions, of whom 30 are teacher aides, are part-time positions that provide many areas of support. Some of these 60 people have two or three different roles within the school. Roles include seven Bilingual Liaison Workers who support home-school liaison. They assist new families joining the school, translate key school messages and support families with their ongoing interactions with the school. Other paid roles within

the school cover functions such as reading recovery, sports coordinator, administrative support, breakfast club and Adult English Learning instructors.

The principal, board chair and teacher all referred to the necessity of having so many community workers to support the learning programmes. Community workers can play an important role in establishing home–school partnerships in communities where the language and culture of the home is different from those of the teachers (Bull, Brooking, & Campbell, 2008). However, in this school, with the number of community workers and the diversity of roles, there is a large administrative burden on the school, particularly on the principal as the employer and manager of these workers. Both the principal and board chair reported that this was a function the community centre could carry, but both the precariousness of the centre-funding (impacting on the lack of security of its management structure) and the bureaucracy surrounding employment conditions precluded this option.

Section 1: Data Sources for this case study

The data that informed this case study consisted of the video-recordings of the classroom observations; interviews with the teacher, the three students and two parents, with later interviews with the Board Chair and the Principal. I also undertook some document analysis, including teacher planning documentation, school strategic documentation, the school website, documentation regarding the community centre and other information such as recent ERO reports.

Framing the case study

To initiate this case study, I approached the principal, Ana, and discussed potential school involvement with her. Ana obtained the approval of the Board of Trustees and recommended Susan as a teacher with strong whānau involvement in her classroom learning programme. Susan confirmed her willingness to take part in the research and asked four students (all Year 6

boys) if they would be willing to talk with me about taking part in the research. In this initial conversation, the boys confirmed their enthusiasm and took parental consent forms home. Three parents gave their approval for their sons (Ezra, Manu and Thomas) to take part in the research. Susan talked to the families of these three boys and asked if a parent or caregiver would be part of this research. Two parents agreed, while the third family were unable to commit due to work and childcare priorities.

After I had completed these classroom-focused observations and interviews and we had begun to analyse the data, it became clear that questions such as how, when and why there was such a high level of community involvement in this school had not been fully addressed. As community involvement is a significant part of the school life, and integral to this case study, I returned to the school and undertook semi-structured interviews with Heather, the chair of the board for both the school and the community centre, and Ana.

Classroom observations

Susan and I agreed that I would attend the classroom programme for a unit of work in pāngarau, joining in with the class and participating in classroom activities as appropriate. On my arrival at the school, I introduced myself to the class and described the research, explaining that I would be filming some parts of the class programme. I video-recorded the pāngarau programme for three sessions of just over an hour each, generating about 200 minutes of video records.

Interviews

Teacher interviews

As agreed, there were three interviews between Susan and I where we explored the learning that had been undertaken, the dynamics of the relationships between the teacher and the three students, and between the students. The interviews were supported with the critical

incident videoclips and the descriptions of the six factors in participants cultural toolkits that could underpin micro-interactions. In addition to these interviews, Susan and I had ongoing conversations, during the on-site time and until the submission of this thesis. In these conversations we have continued to collaboratively explore and synthesise the findings from this case study.

Student interviews

Over the unit of work, I had two formal interview sessions with the three boys. These were conducted in the afternoon (during school time) on the same days as the classroom observations. These interviews, held with the three boys together, were supported with the critical incident video-clips and descriptions of the six factors. In addition, throughout the week, I had many informal conversations with these boys about their learning and their school experiences.

Parent interviews

The mothers of two of the boys came to school to take part in this research. These interviews were semi-structured, that is, I had prepared a list of topics as a guide to the interview but the conversation was free-ranging, following topics as they arose. The parents were asked about their experiences with the school, their child's experiences and their input into the learning programme in general and the pāngarau programme in particular.

Principal interviews

In order to better understand the systems and processes that supported the school, whānau and community relationships within the school, I met twice with the principal. In these interviews, we discussed parent and whānau connections with the school. Ana outlined the actions taken by the school in this area, both prior to her taking up the Principal role and since that time. We also discussed the links between the community centre and the school and she shared her plans and hopes for developing even stronger links between the school, the community and with whānau.

Interview with the chair of the school Board of Trustees and Nikau Community Centre

The interview with Heather, the chair of both the school Board of Trustees and the Community Centre was conducted after an initial analysis of the classroom-based evidence. As with the principal, the interview guide was based around Heather's experiences of the school's journey in establishing the strong whānau and community links and her vision for future development of these links. We also discussed her role as chair of the Community Centre board, and how that community school and school worked together to support the holistic needs and aspirations of the students and the wider community.

Document Analysis

I reviewed the following publicly available documents:

- the school website;
- recent ERO reports; and,
- documentation about the establishment, role and current functions of the community centre.

Internal documents to which I was given access included:

- the records of the establishment and the kaupapa (vision and policies) of Ngā Kākano o Te Awa;
- the teacher's planning documentation; and,
- school records such as newsletters and Board reports.

Section 2: Participants in this case study

The class

The observed learning programme took place in Ngā Kākano o Te Awa. Within this unit, the 74 children work in two whānau groups, the tēina class for Years 1 – 3 and the tuākana class for Years 4 - 6. The majority of students in the unit are of Māori descent, with a large proportion also of Pacific Island descent (Samoa, Niue, Fiji and Cook Islands). My time in the classroom was spent with the tuākana class, observing the teaching of pāngarau. Pāngarau is taught to the different year groups. There were 13 students were present in the Year 6 pāngarau instruction group.

The teacher

Susan is Pākehā, teaching in a Māori-medium setting within an English-medium primary school. In 2018, Susan was teaching in the tuākana class alongside another teacher. Her previous four years of teaching in the school had been in the tēina class. At the time of the observations Susan held a Māori-Medium curriculum development and review role for the school. She was also a specialist mathematics teacher within the school, undertaking professional learning and development as a Mathematics Support Teacher (MST).

The students

Three students took part in this research – Thomas, Manu and Ezra. The boys were all in Year 6, and had had all their schooling within Ngā Kākano o Te Awa. The boys were aged 10 at the time of the observations and interviews. Manu and Ezra both identify as Māori, Thomas identifies as European/Pākehā.

The parents

The mothers of Ezra and Thomas were interviewed for this case study. Both mothers, Janet and Linda, were positive about their children's overall experiences within the school, and specifically within Ngā Kākano o Te Awa. Over the six years these boys had been in this school, the mothers had continued to interact with Susan, this being the fourth year (the first three years of their sons' schooling and this year) where Susan had had key responsibility for their sons' learning.

The Principal

Ana was appointed principal of the school in June 2014. She was attracted to the school because of the strong links with the community and the many initiatives to strengthen relationships with whānau and community being undertaken in the school. Ana followed a long-serving principal. Many of the initiatives such as the Nikau School Hall and Community Centre and the Community Garden were set up in the time of the previous principal. Ana was appointed as principal because of her commitment and ability to continue to lead a school that, in the words of the board chair "promoted the idea that family health and wellness is crucial to the success of children at school."

On her move to the area to take up this role, Ana's two children enrolled in the school, both in Ngā Kākano o te Awa. Ana reported that she was strongly invested in the school as a parent, as a community member and as the Principal.

The Chair of the Boards

Heather has been on the Board of Trustees for this school since 2005, most of this time as chair. Her three children attended the school, all moving on to local secondary schools as they completed their time at the school. Heather is fully behind the moves the school has taken to

"support the wellbeing and the holistic care of the whole whānau, keeping the child surrounded by that nurture and care". She is proud that the school has managed to keep this focus without compromising student achievement. Like the principal, Ana is full of praise for the vision and foresight of her predecessors. She spoke of the two previous Board of Trustees' chairs who had been instrumental in working with the previous Principal and establishing a series of community events that quickly grew into the community initiatives that still thrive within the school today.

Two years ago, Heather was appointed chair of the board of the community centre. She will continue in this role into the future but said she will resign from the school board in 2019.

Section 3: The unit of work

Learning within Ngā Kākano o Te Awa

The classrooms within Ngā Kākano o Te Awa have been deliberately named as whānau groups. It is the school expectations and the practice of the teachers that the classroom operates with whānau-type relationships. One way this is demonstrated is in the before-school times. Students who arrive at school early are welcomed into the classroom and greeted by the teachers. This before-school time is considered time for informal whanaungatanga, the teachers talking to the students and parents and whānau as they arrive. Teachers join the students in their various games and activities, checking in with the students and sharing stories. Susan was deliberate about sharing her own life with the students as well as hearing about theirs. The teachers said that whanaungatanga helped build relationships with the students and gave insights into any support needed for students throughout the day.

Parents took advantage of the before-school time. Throughout my time in the classroom I saw many parents visit the classrooms and spend time chatting and interacting with teachers, their own children and others. Included in these events was an extended time where I observed as

Thomas taught his mother the rules of a game set out on the table. A group of parents, about ten each morning of the observations, stayed for the opening karakia (prayer).

The whānau-type relationships were further demonstrated at lunch time. The students sat together in the class room to eat their lunch, the teachers sitting amongst the students. The school provided fruit and this was shared, all students taking what they wanted. I also observed students sharing their food with one another, and teachers sharing food with students.

A particular feature of the learning programme for the tuākana class is the programme for boys called Tama Tū, Tama Ora (Confident Boys, Healthy Boys) and the programme for girls called Mana Wāhine (Powerful Women). The purpose of both programmes was to develop, within the children, the specific and complementary roles and responsibilities derived from gender roles and linked to each student's holisitic well-being.

Led by a male teacher and supported by other staff members and, at times, parents, the Tama Tū, Tama Ora programme gives opportunities for the boys to take part in a number of activities. While I was at the school, the focus was on mau rākau (the use of traditional Māori weapons). Other aspects of kapa haka (Māori performing arts) had been the focus earlier in the year. Ezra, Thomas and Manu were very positive about this learning time. They explained that they have had opportunity to identify what they would like to learn and the teacher then found members of the community who could support them with this learning. For example, another initiative within Tama Tū, Tama Ora was around Māori art, with groups of four boys being driven to an artist's studio during the scheduled Tama Tū, Tama Ora time. The artist, a member of the local Māori community, was helping the boys with their art works.

Alongside Tama Tū, Tama Ora, the girls' programme, Mana Wahine, was led by Susan. For 2018, the girls had chosen to follow a programme of learning based on kaitiakitanga (guardianship or duty of care), exploring and developing their relationship with, and

responsibility to, the awa (stream) that runs along the school border. Together Susan, some parents and the girls researched the roles of the various ātua, in particular the female ātua, and identified how they connected to the awa. Another local artist helped the girls design their own kaitiaki (image of a guardian). The images were publicly displayed on both Matariki (Māori New Year) lanterns and protectors for the trees the girls planted on the banks of the stream. While I was on site, Susan, the girls and some parents undertook a hīkoi (walk) along the length of the waterway, stopping along the way to assess the cultural health indicators of the stream. A member of a local iwi joined the group and shared histories and stories relating to the local area. The culmination of the work for the year was a set of tukutuku panels (an artform using lattice work) designed and created by the girls, telling the story of their stream from their perspective. These panels were on display for the general public space in the central city shopping area over the Christmas period.

The pāngarau programme

The classroom observations and video-recordings occurred in the pāngarau programme. For the teaching of pāngarau, the Year 6 students formed a separate group being taught by Susan, the Year 4 – 5 students being taught by the other teacher. Pāngarau was one of the few learning programmes that separated students into their year groups. The separation of students by year groups, rather than ability groups, was a strategy introduced by Susan in her Mathematics Support Teacher role. Susan referred me to the research she has used to underpin the deliberate year group teaching for pāngarau, (see, for example, Education Review Office, 2018; Hunter & Anthony, 2011). The unit of work occurred over a week.

Teacher expectations for the unit of work

When asked, Susan said the class enjoyed pāngarau, adding, with a smile, “at least I hope so”. The biggest challenge for the class, she said, was that she was beginning her teaching of this class at Year 6, “an age when attitudes towards mathematical identity are already ingrained”.

As an example, she referred to Manu who had begun the year saying, using a colloquialism for useless, that he "sucked at maths" and it had taken a couple of terms, but she was pleased that now his "prevalent disposition was to give it a go". Manu is still working towards achievement at Curriculum Level 3 (the expected achievement for Year 6). For Ezra and Thomas, the focus of her teaching is to help them reach Curriculum Level 3 and to gain confidence in themselves as mathematicians. When asked how this focus was being applied, Susan referred to each session having a 'low floor, high ceiling'; that is, purposefully structured so it is easy for all students to experience some success, with opportunities to stretch the thinking of all.

She suggested that her learning in the Mathematical Support Teacher role has increased her subject content and pedagogical knowledge around the setting of mathematics tasks. When explaining the introduction of challenging tasks to the class, Susan referred to the work of Hunter and Hunter (2018), saying that that challenging tasks demonstrate high expectations for students and allow students to make mistakes, take risks, persist and overcome problems through effort and hard work. She said "students may struggle, but this is enacted within an ethic of care".

I asked Susan about her goals for these three boys for the planned unit on fractions. Susan said she would be keeping an eye on Manu's accuracy while encouraging him to use multiple strategies as he came to understand fractions. At this point, she had not yet adjusted her teaching plan for Manu, but she would as the sessions progressed, her most likely adjustments being to adapt the contexts to those that are relevant and familiar to him. For Thomas and Ezra, the overarching goal for this unit was for them to continue to grow their confidence and enjoyment. A recent assessment activity had identified that she needed to provide the boys with more concrete activities, and support in how to use the concrete materials. Specifically, for Thomas, Susan would be working on building his confidence and perseverance, encouraging him to keep "pushing through" and to "keep going" – the goal by the end of the year to have him working independently. For Ezra, her teaching goal would be to encourage him to talk

about or to explain what he is doing and why; she wanted to inspire him to want to talk about what he was doing, rather than waiting for others.

Session 1

Susan introduced the pāngarau session in the main classroom with the full whānau class (Years 4 – 6). A well-known, and clearly well-loved, game was played – Tere Toru (Fast Threes). After about 10 minutes of this game, led by students and overseen by the two teachers, the class broke into the two groups – the Year 6 group moving into the adjoining classroom with Susan.

The movement between the two classes took about 6 minutes before the 13 students were seated on the whāriki (mat) in front of an electronic screen. Susan sat on a chair in front of the children. Susan talked about the planned purpose of the day's learning programme, an individual assessment of learning from the previous unit on multiplication and division. She wanted to know each child's understanding of these concepts in order to inform her planning for the unit on fractions.

The class were told that they were going to learn a new game, Splat, as a warm-up to the assessment. A picture of a seemingly random scattering of coloured dots was shown on the screen. A 'splat' appears on the screen and, having been told the total value of dots that are under the 'splat', the children determine what dots have been covered. Five different combinations were put on the screen, resulting in a high level of excitement and a lot of calling out of numbers. Of the three boys participating in this research, Manu was the most enthusiastic, shouting out random numbers and gradually correcting these until he determined the correct one. Susan asked him to explain his reasoning which he did, giving a thumbs-up signal to the students sitting around him as he did so. Ezra joined in calling out numbers, looking to Manu for his response, then calling out the same number. When he was asked by Susan at one point to give his reasons for his response, he did not reply, sitting in silence until another student was asked to explain. As another student replied to Susan, Manu leant over

and whispered an explanation to Ezra. Thomas sat through the game, smiling and laughing with other students but not attempting any responses.

Susan then introduced to the students an activity that she called an individual assessment. She said that she was going to give some problems and students were to sit by themselves and work them out. The students were free to use any materials they liked and Susan pointed out, by name, the numbers boards, abacus, beads, blocks, paper and felt pens, and said that students could use any materials from the shelves.

At this point, what was to be the first question was put on the board:

> E 5 ngā paepae heki i e hokona ē Maka, e 36 ngā heki kei ia paepae. E hia katoa ngā heki i hokona e Maka? (There are 36 eggs in a container and Mark bought 5 eggs. How many eggs are left?)

Together the class translated the question and instructions from te reo into English. The children were then told to find a place to work on their own, with the equipment they wanted and to solve the problem.

Most of the class moved off with great enthusiasm and picked up different resources. Some students, including Manu, sat at a table. Manu began to draw some eggs. Four boys, including Ezra and Thomas did not move off the mat. Ezra and Thomas were sitting together and had picked up a container of counting cubes. Susan asked them if they wanted help, to which there was no reply. Susan explained the problem again and told the boys they could use any equipment they like. No-one moved away from the mat, and no further resources were collected.

The noise level in the class had grown with students calling out to each other. Susan called all the class back to the mat and asked some students to explain their work. When asked, Manu gave the correct answer but was unable to explain how he had arrived at that answer or how his drawing had helped him. Neither Ezra nor Thomas volunteered any response. Susan guided

the class through some ways to solve the problem and then ended the session earlier than planned.

At the end of the day, Susan and I discussed this session. Susan frankly explained that the lesson had not gone as planned. Her intention was to do a quick recap of word-based problems, and to trial an individual assessment as the class had not tried this format before. She had expected to be able to move quickly through the assessment task and onto the lesson planned for the day.

Susan was disappointed with the session. She said that she felt responsible for this, attributing it to her lack of experience with teaching the senior class (before this year, Susan had taught in the junior class). She had wanted to trial the individual assessment practice, saying "this is the last term for these kids at this school, when they move to another school they need to be able to cope with assessments like this". She repeated twice that what had been observed wasn't her usual practice. When prompted to say what she would usually do, Susan gave a number of answers. The written word problem was taken from a resource and was not the usual type of problem for the class. Susan liked to use authentic, responsive contexts, linked to the children's experiences and with opportunities to bring their own ways of thinking and responses to the learning. She wanted to ensure that all students demonstrated conceptual understandings of the problem and how it should be solved, rather than just obtaining the correct answer. Working individually was also not a common practice in this classroom, the students were always encouraged to work together to solve problems and to test their thinking with others. Susan also said that, despite the problem being presented in te reo, the context did not draw from te ao Māori and, therefore, did not "sit well with the class".

Session 2

The second session began with a repeat of Splat, along with a discussion of the strategies for solving mathematical problems such as the heki (egg) example from the previous day. The same question was put on the screen and the students encouraged to talk about how they

could solve that problem. This was quickly covered (just over a minute), with the students responding enthusiastically, talking to each other, then calling out ideas and making suggestions on how to solve this.

Susan told the class that they were going to begin learning about hautau (fractions). Each student took a piece of paper and, following her lead, folded the paper into halves. They were then asked to fold the paper a different way to show a half. Thomas followed this instruction and showed his paper, when asked. Manu, who was sitting beside Thomas, called out "same" and showed his paper to the class. The teacher asked if anyone could show a quarter. Ezra was called on to show his paper, Manu again calling out that he had folded his first.

At this point, 20 minutes into the session, Susan told the class they were to show their understanding of fractions in a new way. Each student was to take a large sheet of paper, divide it into sections and show by colouring in part of the section, the list of fractions on the board: ½; ¼; ¾. Susan asked "Who doesn't understand?", Thomas raised his hand. Susan asked five students to stay on the whāriki, including Ezra and Thomas. These five students repeated the activity, Ezra following the instructions, and Thomas looking away. After five more minutes, two students moved from the mat to join groups at the table but Thomas, Ezra and a girl remained on the whāriki and continued to work with Susan. Susan then moved away from the whāriki to roam the room, talking to Manu as part of her conversations with each table. Thomas and Ezra continue to sit on the mat but did not complete the activity, talking quietly to each other without drawing on the paper. After another 10 minutes, Susan called the class to the whāriki and the students shared what they had drawn.

Session 3

This session also started with the students playing Splat. The questions for Splat had become more complex, and students worked in groups of three to discuss their strategies and work out the answer. Manu and Ezra were in one group of three, Thomas in another. A new student had

joined the class that morning, a new enrolment to the school. Susan asked Manu to help him play this game and to work out what to do.

Susan then drew ½ on the board, circled the '2', and asked Ezra to tell the class what the '2' meant. There was no response. Other students began to call out and, after a two minute wait, Susan asked another student to explain. Two other fractions were worked out together, then ¾ was put on the board. Manu was asked to explain what the '3' and the '4' meant. After some false starts: "you break it into 3, no, you break it into 4, no you break it into . . . ", Manu provided an accurate explanation. This was celebrated by the class. The students then moved to the tables to colour pre-prepared sheets of paper drawn up in squares as if they were tukutuku panels. The students were required to colour in the number of squares required for the listed fractions. Manu called Ezra to a table so they could work together. Thomas elected to stay on the whāriki, and worked through the fraction ¾ with Susan. Susan asked how many parts they needed to draw on the paper, Thomas did not respond. After being asked twice more, Thomas responded "12". Susan then drew four squares onto the paper and asked Thomas to show ¾. Thomas did not respond. Susan explained again, Thomas said "3" and then coloured in the squares. The session ended with all students returning to the whāriki to show their work and discuss the strategies they had used.

Susan later told me that the practice of asking student to continually return to the main group in to confirm and articulate their conceptual understandings was a deliberate strategy. Susan referred to the work of Lyle (2008) that talking is the key to learning, and to Hunter and Hunter (2018) that students need opportunities to verbalise their reasoning, analyse and critique the reasoning of others, and explain the reasoning of the other members of the group.

Section 4: Community involvement in Nikau School

Since the establishment of Ngā Kākano o Te Awa, the unit has included a parents' strategic planning group, called the Runanga Mātua (Parents Group). This has a termly hui (meeting),

open to all parents and whānau. While the teachers initially implemented this hui and ran the evenings, this is now led by whānau members with teachers attending. The hui are opportunities for whānau to receive an overview of the teaching and learning programmes and to feed in their thoughts, opinions and aspirations. It is also an opportunity to raise any concerns. Susan describes these hui as "fairly fluid" saying they can be "either very general or very specific". She said some parents and all the teachers found them really valuable. The principal was very positive about the strategic potential of these hui, saying that "the parents love it". While Susan agreed, she felt that there was still some way to go in realising the full potential of this initiative. She said there was relatively low attendance at some of these hui, and some whānau were not represented. The principal and teachers have continued o seek ways to remove barriers to attendance – either physical barriers (such as holding the hui when there are challenges around work commitments) or emotional barriers (such as whānau being uncomfortable in a school environment). One strategy for overcoming these barriers has been to make some of the hui less formal – for example, they had trialled a lunchtime hui where whānau members eat with the class, then hui with the children present, the teachers taking notes.

Despite the whānau setting and the whanaungatanga value that is so prevalent in the unit (and the wider school), the principal said that developing mana ōrite relationships (Berryman et al., 2018) with parents remains an ongoing challenge for the teaching team. Some strategies for interacting with parents include face-to-face conversations before and after school, text messaging, a whānau page on Facebook, printed pānui (notices), a google site developed to support learning at home, and a pukapuka kāinga (home book) for communicating and for sharing learning. Termly hui for whānau are held at different times of the day in order to give whānau multiple attendance options - lunch time, after school and in the evening. These hui always prioritise time for whanaungatanga and the sharing of food. Learning stories are shared with whānau using Storypark (an online communication programme), celebrating the learning activities and successes of the students. Towards the end of the year 'Kai me te Tākaro' (Food and Games) was held, a whānau evening involving games, shared food, and opportunities for

the students to share their learning in the Mana Wahine and Tama Tū Tama Ora programmes. Despite all these strategies, the teachers are aware that the relationships still had some way to go to be truly mana ōrite – a sense of equality in terms of the relationship and responsibility for outcomes.

The development of the Graduate Profile for students is an example of parent input into learning priorities for their children. Over 2014 and 2015, teachers and parents met to discuss both marau-ā-kura (curriculum content) and a Graduate Profile. From this consultation, the teachers developed a Graduate Profile that, founded in mātauranga Māori, portrays the capabilities, successes and values of the students leaving the unit to progress to other schools. The Graduate Profile has continued to inform much of the ongoing programme and decisions regarding assessment and definitions of student success. In 2017, this profile was reviewed with the community. In 2018, the Graduate Profile was adopted for use across the school, also in consultation with parents and community.

Susan has, in 2018, developed Ngā Āhuatanga o te Pāngarau, an assessment tool for pāngarau using the Graduate Profile as a starting point. Ngā Āhuatanga o te Pāngarau outlines the competencies, skills and dispositions required to be successful in pāngarau.

The views of the parents

The first interview was with Ezra's mother, Janet. Janet is Māori, trained as an early childhood teacher and was, at the time of the interview, working for an education agency in the region. Ezra is the older of two children in the school, one in each of the whānau groups in Ngā Kākano o Te Awa. Their whānau selected this school for their children because of the bilingual unit and the positive reputation of the school.

Janet talked of her "really strong relationship with the school". She was particularly positive of the whanaungatanga shown in the school, commenting on the relationships between teachers

and parents, but also how the school fosters strong parent-to-parent relationships. She says that this school has been "the best thing for Ezra". His "personality - his quietness and his cheekiness - is celebrated". The teachers build his "mana and his self-belief", calling on him to step up as a leader, and she is particularly pleased with the teachers' public declarations that Ezra is a leader. When asked what could be less positive about the Ezra's experiences in the school, Janet could not identify any issues, although she would like Ezra to speak in te reo more frequently. Her major worry is concerning transition beyond Year 6 into a new school and whether Ezra's positive experiences will continue.

Janet talked of her considerable involvement with the school in previous years, including her time on the Board of Trustees and as a member Runanga Mātua. Janet said that her involvement in the runanga has given her a good overview of the teaching and learning for the unit. She is pleased that her knowledge of te reo me ngā tikanga Māori (Māori language and customs) has been drawn on by the school. Since she has taken up her current job, Janet has not been as involved in the school as previously. However, she feels she still contributes to the school, and is in touch with school life. She values the proactive contacting of parents by teachers – saying she receives a personal communication at least twice a term, by phone call or a text. The three-way (student-parent-teacher) conferencing is also very informative. As she reflected on her levels of involvement, Janet said that her reduced involvement is a positive indicator – "if she had concerns she would be there". She described the learning, the environment and her son's development as "flourishing".

When asked about whānau contribution to pāngarau, Janet was less specific. She is pleased with Ezra's progress in pāngarau and believes there is a good home-school partnership with the learning. This has been fostered by Susan's provision of activities for the whānau to do together, Janet referring to resources provided such as a set of cards for family maths games. Janet knew of the pāngarau curriculum hui held with parents earlier in the term but had not been able to attend due to other commitments. She felt she didn't need to go as she was already confident in her understandings and happy with the programme.

The second interview was with Linda. Linda's son, Thomas, is the third child in their family to attend this school, the older two children having completed Year 6 and moved on to other schools. His younger sibling is a pre-schooler and the family plans to enrol him at this school when he reaches school age. Linda is Pākehā and has lived in the Nikau community her whole life. She is proud of the fact that her children are the fourth generation of their whānau to attend this school. She chose to enrol Thomas in Ngā Kākano o Te Awa because of the good reputation of the teachers and she liked the philosophy that underpins the unit.

Her main contact with the school was through walking her children to school every day and talking to the teachers on almost every occasion. She described the teachers, including Susan, as "amazing" and repeated several times her belief that they cared for her children and did their best for them. She said "Thomas is definitely growing and thriving here" and said this was due to ongoing encouragement by teachers and by his peers. A highlight has been the recognition by the teachers of Thomas' shyness, which they responded to by including Thomas in a social skills course. This has really helped him to "come out of his shell". Linda also talked about the many opportunities Thomas has through school initiatives, such as kapa haka, sports teams, Paw Prints (a social skills and confidence programme that includes animals), and the Tama Tū, Tama Ora programme. When asked about any less-positive experiences, Linda said that she had been concerned at one point because of the bullying behaviours of a couple of kids. She felt that the school had listened to her concerns, supported Thomas well and had dealt with the problem, which is no longer an issue for Thomas.

When asked to describe her own involvement, Linda said that, while she has come to every parent interview, she does not come to any parent hui due to personal anxiety issues. She appreciates the informal and ongoing interactions, talking warmly of her "chats" with Susan and the opportunities to "learn all about everything Thomas is doing". She is satisfied with her level of contribution saying that "they are doing a good job". She could not recall any examples of her involvement in the content or delivery of the pāngarau programme. However, she talked

of the whole family enjoying the maths games and activities integral to the home-school partnership for Thomas's learning in mathematics.

The Community Centre

The community centre was opened on the school grounds in 2007. It began its life as Nikau School Hall and Community Centre. The community centre was envisaged when the school required a school hall. The vision was widened to a community centre that would support local whānau and build on the multiple initiatives underway in the school. Architecturally the building has been designed to represent the connections between the school and the community. The school hall is the centre of the building and sits on the school boundary, the other facilities are in two 'arms' that stretch along the border of the school and appear to embrace the school. There are two main entrances to the building, one from the school grounds and one from a carpark area in the street behind the school – allowing the centre to face both the school and the community.

The vision of the community centre is that 'Nikau' is a thriving and caring community of health, hope and possibility. Their mission is to:

- promote wellbeing for people and community by providing accessible support and activities
- collaborate and advocate with and for the Nikau community.

In its opening year, 14,000 people visited the centre, mostly from the immediate community surrounding the school. In 2017, 42,000 used the facilities. The activities and services that are run from within the centre include midwives, Plunket Nurse, hearing tests, cervical screening, health navigation, immunisation clinics, community celebrations (e.g. Matariki, Lark in the Park), social groups, community gardens and the Nikau on the Move programme. The centre employs an activity coordinator, a community nurse and a drugs and alcohol counsellor. At the time of the interview, they were in the process of appointing a role called "Community

Navigator", described by Heather as a person who walks alongside families to help navigate bureaucratic processes and systems. Alongside the centre are places for clothing, goods and food exchange, that are managed by volunteers. Some food and goods are donated by local businesses and are provided to families as required.

While the centre is currently strong and thriving, there have been challenges in its development. When it opened, it had 20 different funding streams, many of which were from philanthropic sources, the funding only being guaranteed for a year at a time. This has made long-term planning difficult, and has hampered security of employment. The centre receives some funding from the local council, this covers a small part of its operating costs. No funding for the centre is received from the Ministry of Education. Although the number of funding streams have been reduced to about 12, the centre remains vulnerable to the removal of funds at any time, and to the administrative burden imposed by applying and re-applying for grants.

Heather referred to a time, several years after the opening, when there was a sense that the centre was being under-utilised. A family fun night for the community was held at the centre as the basis of consultation for how the community wanted the centre to operate. This has led to a re-energising of the centre, with some new appointments, new connections with agencies and a marketing strategy for the facilities.

Heather also talked of the "need for deliberate synergies and symbioses" between the school and the centre. The centrality of the relationship is in both strategic plans. Maintaining close links with the centre is one of the principal's appraisal goals. The principal is fully supportive of this, saying "community relationships cannot be the responsibility of one partner [the school], the strength is in the shared responsibilities".

The partnership between the Community Centre and the School

There is a close relationship between the school and the centre. The board chair said that a sustained response to the well-being and holistic support of whānau cannot fall on the shoulders of the one principal or one school. There needs to be a community response, with trained professionals supporting the complexity of whānau and community needs and challenges. Both Heather and Ana stated several times that the wellbeing of children is intrinsically linked with the wellbeing of their whānau and significant adults in their life. A recent report from the Office of the Children's Commissioner also stresses this: "They [children] recognised that their whānau unit needed to be well in order for the children to be well" (Office of the Children's Commissioner & Oranga Tamariki, 2019). This report also highlights the extra challenges faced by those who are recent migrants, which is particularly relevant to this school due to the high proportion of migrant families on their roll.

Heather and Ana believed the success of the centre has been the diversity and range of the services provided, plus the close links with the school. Whānau and community members who arrive at the school and need some support are directed to the community centre on site. Care is taken to ensure that those who seek support from the community centre are treated with respect, and the skills and talents that they bring can also be shared with the wider community.

While there is not a deliberate linkage between the Community Centre and the specific learning programmes in the school, the principal and board chair believe that there are positive impacts on the children's learning and well-being. The board chair recalled the establishment of the centre and the discussions around providing a "seamless link between the community" and the school, of it being "natural for whānau to be in and out of the school and its grounds". For that to happen, there needed to be multiple reasons for whānau to want to be on the grounds – beyond those directly connected with their child's learning or behaviour. She told of their belief that the more positive experiences that parents and whānau had connected with the school, the more their sense of agency would grow. The principal has carried this vision and

provides multiple opportunities across wide settings for whānau to be present on site – either in school or the Community Centre facilities - and to become comfortable with the setting and the staff. The school has extensive anecdotal evidence that the more comfortable whānau are on site, the more the opportunities occur for interactions with teachers, better the outcomes for students. These positive impacts have been noted in the school's ERO reports and are now included in the school's self-review evidence gathering and analysis.

Section 5: Analysing the learning micro-interactions

In order to 'unpack' the micro-interactions within the observed unit of work, interviews were held with the teacher, students and mothers. Part of each interview focused on the understandings from their cultural toolkits brought to the interaction by each participant. These discussions occurred following the review of some of the critical incidents recorded in the videotapes. As had been agreed, I asked each person to both rate the use of the six factors (using the Likert-type scales) that could underpin the learning interactions.

Rating the factors within participants' cultural toolkits

Teacher

Susan was asked to rate how much she had drawn on each of the factors and how much she would have liked to have drawn on these.

Table 9: Teacher rating of extent to which each factor has been drawn on to support student learning throughout the unit

	Rating	
Factors: Understanding	**How much did you draw on each factor?**	**How much would you have liked to have drawn on each?**
Subject content	4	5
Curriculum content	3	5
Assessment requirements	4	5
Learning strategies -	3	5
The learner	2-3	4
The learner's cultural context	1	3-4

Susan felt she was confidently drawing on her subject content knowledge of pāngarau. As the school's Mathematical Support Teacher, she has undertaken considerable professional development in order to build her knowledge and skills for the teaching of mathematics. In this role she leads the teaching of mathematics and supports all teachers with their mathematics programme. Because of this deliberate intent to develop her subject content knowledge, Susan is confident that both the classroom programme and the micro-interactions between Susan and individual children were informed by this. She gave a '5' in response to the question "how much do you wish you had drawn on the subject content knowledge over the course of the unit of work?".

Susan was less positive about how much she had drawn on curriculum content knowledge in the unit. She rated this a '3', saying that she felt less secure in this area as this was the first year she had taught older children rather than new entrants. She said that knowing the learning that students are doing and what will be coming next in their learning is really important. When asked how much she would have liked to have drawn on curriculum knowledge, she rated this a '5' – she would have liked to have felt more confident and more knowledgeable about the next steps for these students in order to build on it for this teaching.

In regards to the factor called understanding assessment requirements Susan said she had drawn on this quite strongly, rating this a '4'. She began the unit of work with an assessment task which, although this appeared unsuccessful in terms of immediate outcomes, had guided her thinking about what the students knew and needed to know next. Susan believes that a fine-grained knowledge by teachers of what students can do, what the next stage of their learning is and how to analyse what students have done and why is integral to teaching mathematics. Susan also repeated her desire to have the students well-prepared for their next school – she wants them to feel confident as they meet new ways of teaching and new ways of being assessed. As a result, she is introducing some more formal assessments into her programme. She therefore rated how much she would have liked to have drawn on assessment knowledge as a '5'.

For the amount she had drawn on learning strategy knowledge, Susan rated herself a '3'. She felt that she could have used a wider range of strategies, especially in the first session. She believes this is really important and would have liked to have drawn on this more – therefore she rated the amount she had drawn on learning strategy knowledge as a '5'.

Susan gave herself a low rating (a '2-3') for her use of the factor understanding the learner. She rated how much she wished she had drawn on this factor a '4'. This surprised me, Susan is a teacher who invests strongly in getting to know the students, in creating multiple opportunities for children to draw alongside her and talk, and she has multiple engagements with whānau. She also knows these students well, having taught them in the tēna class when they were younger. When questioned about the rating given, Susan felt she hadn't drawn on relational knowledge as much as she could have in this teaching, her focus had been on the content.

When asked how much she had drawn on learners' cultural contexts, Susan rated herself very low (a '1') and gave a rating of how much she wished she had drawn on this as a '3 - 4'. I was surprised, again, by these ratings. In an earlier conversation, Susan had passionately discussed her belief that learning is about *ako*, which she defined as meaning to learn, study, teach, or advise. She explained that this root word is found in both ākonga (learner) and kaiwhakaako (teacher), which she says infers the cultural responsibility and reciprocity of learners and teachers involved in shared construction of new understandings, skills and knowledge (Berryman et al., 2016). She told of telling her students that she is both an ākonga (a student), through her ongoing study and a kaiwhakaako (their teacher). She felt that she was actively constructing a learning culture and learning relationships in the classroom, in which all were considered both learners and teachers. However, Susan felt that in this case, with this unit of work she did not draw on this cultural knowledge and did not need to, to a great extent. She felt that fractions needed to be taught and she did so, her aim was to ensure the children were being prepared for the knowledge they needed for the next year. It was clear that Susan was aware that drawing upon cultural knowledge must go beyond surface-level actions, such as the

use of cultural iconography to decorate a worksheet. This meant that sometimes, such as in this unit of work, she did not add any explicitly Māori cultural focus to the learning.

Students

The three students were also asked to complete the Likert-type scales. They were asked to rate how much they felt the teacher had drawn on each of the knowledge factors, and how much they would have liked the teacher to have drawn on these. I read the definitions of the domains to the boys for each question and they discussed these together. The boys saw each other's responses, Thomas and Ezra agreeing together on their rating choices.

Table 10: Teacher rating of extent to which each factor has been drawn on to support student learning throughout the unit of work and how much they wish she had drawn on each factor

	Rating					
	How much my teacher drew on each factor			**How much I wish my teacher had drawn on each factor**		
Factors: Understanding	Thomas	Ezra	Manu	Thomas	Ezra	Manu
Subject content	4	4	5	5	5	5
Curriculum content	2	2	4	5	5	5
Assessment requirements	4	4	5	5	5	5
Learning strategies	5	5	5	5	5	5
The learner	5	5	5	5	5	5
The learner's cultural context	4	4	5	5	5	5

As can be seen from the table, the boys were mostly positive in their answers.

The boys were a little puzzled by the first question – "how much does your teacher draw on subject knowledge in teaching you pāngarau?" When asked, I expanded this to "how much does your teacher draw on her knowledge about pāngarau in teaching you pāngarau?". They felt the answer was self-evident – a lot. Manu gave a '5', Ezra and Thomas a '4'.

The next item, curriculum knowledge, also resulted in some keen discussion. Susan has taught these boys pāngarau since they started school at age 5. She is also responsible, in the dual teaching team, for their other curriculum areas as well. However, there was considerable

debate between the boys of how well the teacher knew what would happen in mathematics/pāngarau teaching next year when the boys went to a different school. In the end, Manu awarded a '4', the other boys a '2'. When we had finished the rating scales, Manu re-visited this answer. This was his only response not at the top of the scales. He considered changing his answer as he appeared to feel that anything less than a '5' was disloyal to his teacher. He repeated four times statements similar to "Susan is the best" and "She's the best teacher for our class".

The three boys were very positive about the teacher's knowledge of both learning strategies and assessment. Thomas and Ezra gave a '4' for assessment knowledge and Manu a '5'. When talking about learning strategies, the boys (all of whom rated this a '5'), had animated and positive recall of a number of pāngarau lessons where they had particularly appreciated the teaching strategies such as sharing chocolate bars, building model houses, making plans and following recipes.

The item that elicited the least discussion was regarding relational knowledge: "knowing about me – my preferences, prior knowledge, aspirations and interests". As I started to say "this is about knowing you, how you learn, what you like and don't like... ", the boys quickly gave the top rating – a '5'. They were very confident that Susan knew them well and this was reflected in her teaching.

The boys were also positive about the teacher drawing from their cultural contexts. There was little discussion about this. The boys talked together, agreeing that Susan knew a lot, but perhaps not everything. They then chose the ratings – a '4' from Thomas and Ezra and a '5 from Manu.

In responding to questions about how much they would like their teacher to draw on the various factors, each boy responded with a '5', saying that they thought they were all really important and that their teacher should use them all.

Parents

Both were asked how much has their cultural toolkits had been drawn on in order to support their child's learning in pāngarau, and asked to complete the Likert-type scales. In the table below the two parents' responses are recorded, alongside the rating given by the teacher on how much she draws on parents' cultural toolkits.

Table 11: Parent ratings of how much their cultural toolkits are drawn on, how much they would have like them drawn on and the teacher's perceptions of the extent to which she draws on parents' cultural toolkits for pangarau

	Janet		**Linda**		**Teacher**
	Factors drawn on to support your child's learning:		**Factors drawn on to support your child's learning:**		**How much do you draw on parents' cultural toolkits?**
Factors: Understanding	How much are they drawn on?	How much would you like them drawn on?	How much are they drawn on?	How much would you like them drawn on?	
Subject content	3	4	1.5	3	4
Curriculum content	2.5	3.75	2	3	2
Assessment requirements	3	4	1	3	1
Learning strategies	4	5	2.5	5	3
The learner	4	4	3.5	5	4-5
The learner's cultural context	5	5	4	5	4-5

In the interviews (as reported earlier), both parents were very positive about their sons' experiences and learning in the school in general. When the questions and Likert-type scale responses were given, the focus was specifically on the contribution to the pāngarau programme.

Janet felt that she had experience and understandings about subject, curriculum and assessment knowledge and that these have been drawn on to enrich the programme and her son's learning. She rated the extent to which her knowledge was drawn on as a 3 for subject knowledge, a 2.5 for curriculum knowledge and a 3 for assessment. She would have liked to have had a little more involvement in these areas, rating the levels she would have liked to

have had her subject, curriculum and assessment knowledge drawn on as 4, 3.75 and 4 respectively. She explained that she had rated these knowledge factors in this way because, although she felt she did have a lot to offer the learning programme, due to both her time commitments and her confidence in the programme as it was, she didn't want too much more involvement. She was generally satisfied with her current level of involvement.

Linda, gave less-positive ratings for the extent to which her subject, curriculum and assessment knowledge were drawn on – rating these: a '1.5' for subject knowledge, a '2' for curriculum knowledge and a '1 'for assessment requirement knowledge. She would like for her knowledge to be drawn on more, rating this as a '3' for each of these domains. She felt she did have something to share about her son's learning, but would only do so in response to direct questions or specific requests for advice, she would not be comfortable either initiating the conversations or contributing to a public meeting on pāngarau.

Janet was more satisfied than Linda on the extent to which her knowledge about learning strategies was drawn on by the teacher – rating this a '4' while Linda rated this a '2.5'. Both parents would have liked their knowledge in this domain drawn on 'a lot' – rating this a '5'.

The responses varied in relation to the factor called understanding the learner. Janet felt that this was drawn on 'a reasonable amount' (a '4'), and this was the level that she would like this to be drawn on. Linda rated the amount this was drawn on as a '3.5', but she would have liked it to have been drawn on a lot – rating this a '5'.

Janet rated the extent that her understanding of the learner's cultural context was drawn on a lot, rating this a '5' and this was the level that she would have liked it to be drawn on. Linda was also positive about this factor, rating the level to which this is drawn on as a '4', and the extent she would like it drawn on as a '5'.

Teacher views of whānau cultural toolkits

Susan was asked how much she drew on whānau knowledge factors to inform the subject content knowledge of the pāngarau programme. She felt that whānau regularly shared with her about the programme, informally through ongoing discussions and more formally through the deliberate seeking of feedback through maths nights and curriculum consultation events. Her caveat around that, the reason for giving this a '4' not a '5', is because while many whānau are involved in these discussions, some are not.

When asked about drawing on whānau cultural toolkits for curriculum content, Susan rated this a '2'. She felt that whānau are deeply interested in what children are learning and how their interests, needs and aspirations are being met through the programme. She does not, though, regularly seek their input from a curriculum content view.

In terms of drawing on whānau understandings of assessment requirements in mathematics, Susan rated this a '1'. She did not think it was appropriate to expect whānau to have a deep understanding of the nuances within mathematics progressions, although the celebration of their child's success and an informed knowledge about what their child needed to do next is essential for whānau.

She has always found whānau very interested in the strategies used for teaching and learning in pāngarau and how these can be used in whānau-tamariki interactions as well. She rated her drawing of whānau funds of knowledge around teaching strategies as a '3'.

Drawing on whānau understandings of the learner is very important for Susan – she rated this a '4-5", again going for the midpoint between the numbers. When asked about her rating, Susan explained that she goes to considerable lengths to constantly draw on whānau funds of knowledge, seeking out whānau and deliberately building her knowledge and understandings about each child. She rated this a '4 – 5,' rather than a straight '5' because there are some parents she doesn't see as frequently as others.

A very similar response was given by Susan for her rating of '4 – 5 'for how much she draws on whānau regarding the learner's cultural context. Susan discussed her awareness of the importance of a congruence between home values, behaviours and norms and the classroom's cultural practices. She sought this information as carefully and as sensitively as she could. Due to her length of time teaching these students, she felt she could be quite confident that she was drawing on the whānau funds of knowledge for this, but that it was not, and possibly never would be, complete or even, as per the rating scale descriptor, 'a lot'.

Acquiring and applying the six factors

Susan was very positive in her subject content knowledge, both in how she was drawing on this and how much she wished she had drawn on it. This is not surprising, due to her specialist mathematics role in the school and the additional personal study and school-based professional development she has been doing in the subject content area of mathematics. Despite this confidence in the subject content, Susan was less confident about how well she was preparing her students for their next year's learning experiences, when the students will move to new schools. Susan said she "was nervous that they will meet more formal, more traditional mathematics lessons" in their next school, including "more formal or written assessments". Her rating for the factors understanding curriculum content and understanding assessment requirements reflected this concern.

The concern about preparation for a change of school and different styles of teaching was reflected by the students. The students were very confident in Susan's teaching now but debated amongst themselves how well Susan could be preparing them for the next school. Thomas and Ezra ended up rating this a '2', their lowest response. Manu rated this a '4', his lowest rating

In this exercise, Susan gave herself a low rating for the use of the factor understanding the learner in the unit of work. She attributed this to her focus on content requirements. The driver for this focus was preparation for next year's teaching, Susan stating that a poor understanding of fractions affects students' progress at Year 7. It appears that the constraints of future curriculum expectations, artificial and arbitrary as they are, impacted on the micro-interactions in this classroom. I would attribute this to the power of the institution, it appears that, although external agencies, the principal, parents and other teachers were highly affirming of the relationally-based teaching Susan exemplifies, the fear of not preparing children for institutionalised learning, caused Susan to move back from what she knew was best practice.

The students, though, were very positive about Susan's understandings about them – all boys rating this a '5'. The noticeable feature of the discussions was the reciprocity of the relational space. While the students were not asked and did not discuss the level of their relational knowledge about Susan, they were very caring about her and her feelings. An example of this was Manu's reluctance to give any rating lower than the top score.

The parent responses indicated their desire to contribute more in the areas of the subject content, curriculum, assessment and learning strategies factors. However, despite this desire to contribute more, neither parent could visualise how this could be achieved – one feeling too busy to physically visit the school more, the other saying she was too shy to offer her opinions. Their highest ratings were for understanding the learner and understanding the learner's culture. There was a high level of congruence with the teacher rating in these two dimensions – the parents rating the amount the teacher draws on these ratings similar to the ratings given by the teacher for how much she draws on these.

Section 6: Discussion of Case Study 3

As in the previous two chapters, this section outlines some key learnings that arose in the collaborative sense-making with the participants as this case study was analysed. Some of the learning from this case are not presented below but are included in Chapter 8, the synthesis of the learnings across the research.

Drawing from the ako: critical contexts for change model

The priority focus for this case study was on the context, within the *ako: critical contexts for change* model, called powerful home, school and community partnerships (described in Chapter 3). The case demonstrates the commitment of the school, the parents and the community to work together for the benefit and the support of the children in the community. In the discussion below, the learnings regarding the powerful home, school and community partnerships context are presented and discussed.

Sociocultural constructions of the child as a learner

A notable feature of the school is, in the words of the board chair, "the holistic care of whānau and students". The care demonstrated comes from the school's implementation of both a sociocultural theory of learning and a te ao Māori worldview. Sociocultural theory describes learning as a social process rather than an individual phenomena (Kozulin et al., 2003). The school focus sent a strong message to the learners, and to their whānau, that learning builds on the social processes in which learners are involved and does not rest solely within formal schooling structures. There is tacit acknowledgement by the school that, from birth, children are cultural participants in life and relationships (Rogoff, 2008). The school takes multiple steps to enact mana mokopuna, the principle that children and young people are unique individuals who exist within the context of their family, whānau, hapū, iwi and wider family groups (Pere, 1991). Enabling the participation of the students and their families from diverse cultural and

language backgrounds, and from varied life circumstances, such as holding eight community meetings to share the mathematics curriculum is just one example.

Another example is how the community funds of knowledge that were drawn on in the learning programme. Some boys were being driven to a local artist to learn traditional Māori arts, including whakairo (carving). This artist was not connected directly with the school but had been sought out by a teacher in order to enhance the learning opportunities for the students. The Tama Tū, Tama Ora programme for boys and the Mana Wāhine programme for girls both had significant input from parents, community members and kaumātua from local iwi.

Rogoff (2003) tells us that the child cannot be separated from the institutions of which they are a part. In this school, there are deliberate steps to link the institutions, both the institution of family and the institution of school, with the child. And to build the congruence between the institutions so the child is equally comfortable in both settings. Participants recognised that this was a two-way process, the school shaping the child and, in turn, the child shaping the school (Liu & Matthews, 2005).

Ako and the role of friends

The kaupapa of Ngā Kākano o Te Awa reflects a te ao Māori worldview about learning. In this worldview, learning does not occur in isolation from those around us but is a joint endeavour (Ministry of Education, 2014). Most activities and ways of working in the classroom programme encourage cooperative learning and mutually-beneficial relational ways of working. The students expected to learn with and to teach their friends.

While the students in the class turned to their teacher for assurance and affirmation about their learning, they also turned to each other. The boys commonly looked to each other before responding in the whole class learning space, and talked to each other when they left the whāriki to work together at tables. The students drew from each other in answering questions

and in following the teacher's instructions for setting up their mathematical activities. This was a frequent occurrence and encouraged by the teacher. Research tells us that students regularly draw from each other before seeking teacher input (Boud, 2001), in some settings this is a covert practice and described as cheating, in others, such as in this school, it is seen as a valid and important learning strategy. When giving answers to questions, students sought confirmation from the teacher that they were on the right track, but also appeared to seek assurance form their friends that they were both mathematically correct and that their answer was presented in a manner that was socially appropriate.

Negotiating identities

Cummins (2003) says that the teaching-learning relationship can be viewed through two lenses – either that of strategies and techniques to cover a subject discipline or through that of identity building. In Ngā Kākano o Te Awa, the students' identities as successful Māori learners is at the forefront of both the learning and the messaging to students at all times. The message about being capable learners and leaders within the school is carried in most conversations. The class programme explicitly acknowledges the simultaneous success trajectories of the *ako: critical contexts for change* model. It supports students to succeed in the Western dominated education system. It has an equal focus on the knowledge and skills associated with being successful in te ao Māori. This came through many avenues, the key areas being the Tama Tū, Tama and Mana Wāhine programmes.

The interviewed parents were very happy with the decisions made regarding the focus of the teaching. They believed their children benefited from the emphasis on both the success trajectories: learning and achieving for the future and cultural identity strong and secure. Both parents said they thought their children were well set-up for future learning. The boys, though, were less confident. When asked about their teacher's curriculum knowledge, the boys said they were not fully confident that they were being well-prepared for Year 7. There were close links between Nikau School and the intermediate school – both through formal links and shared

programmes and events, and through past students of Nikau School visiting the students and teachers as they walked through the school grounds and called in to visit. The boys told me that "maths is taught differently at intermediate" and they had some unease that they wouldn't be well-prepared for this – even though they told me about the success of Nikau School students at the intermediate school. The reports from the boys, in response to the descriptions of the mathematics programme, is that there is a lot more testing and "being told you are doing it wrong" at the intermediate school. The boys are nervous about this and appear to have absorbed a pervasive view that constant referencing to meeting (or not) a predetermined standard is the norm for schooling, and is the means to educational success.

Home, school and community partnerships

As presented in Chapter 3, the research is unequivocal: parental involvement improves student achievement (Bull et al., 2008). However, the current structure of our schooling system can be a barrier to parental and community involvement in a school. Despite the role of parents, wider familial and societal groups as the first teachers of children and ongoing support as they grow into adulthood (Rogoff, 2008), the notion that the responsibility for children's learning rests with schools and teachers is deeply embedded in our society. Some parents, particularly parents from minority cultures, are considered by teachers to be irrelevant or detrimental to children's progress (Brooking & Roberts, 2007), and this discourse is, even if not articulated, picked up by both the children and their parents. While schools may declare they wish to have a partnership with parents for their children's learning, the structural factors are not altered (Bull et al., 2008; Desforges & Abouchaar, 2003; Epstein & Sheldon, 2006; Harris & Goodall, 2007), resulting in an imbalance of power between the school and the parents. Interactions between parents and the school can be school-centric (Lawson, 2003), that is, the agenda for most interactions is that of the school, the parents have little or no influence in the school environment.

At Nikau School, there had been a conscious effort to disrupt the power dynamics with deliberate steps taken to empower parents within a mana ōrite partnership. The principal, board chair and Susan all referred to the need to nurture and to care holistically for those associated with the school. One of the parents told of her family's long association with the school across four generations. The board chair spoke of her own positive experience, more than 10 years earlier, when she enrolled her first child. She said it felt "like the family was enrolled, not just the child" - the sense of acceptance and acknowledgement of the learning partnership from day one with the school meant that the whānau felt "empowered to engage, like our voice mattered and we were safe". From her perspective on the Board, she saw genuine partnerships being "built through lots and lots of small ways".

The evidence of respectful partnerships with parents was even more evident in Ngā Kākano o Te Awa. This was not unexpected as in kaupapa Māori education settings "home–school partnerships are not a desirable extra, they are absolutely fundamental to how the school operates" (Bull et al, 2008, p. 61). Parents are integral to the strategic planning process through the Runanga Mātua. There are multiple hui, formal and informal, where information is shared and input is sought. These hui are one means of ensuring strong parent-to-parent relationships are built, another focus beyond the legislated mandates of schools but essential for ongoing support of the child throughout their lifespan. Parents are also very visible at the start and end of the school day – bringing or collecting their children, talking to teachers and other children and staying for the morning or evening karakia.

Even in this setting, though, the interviewed parents reported that their input into the teaching programme could be strengthened. Both parents spoke of their full confidence in the teacher and the teaching programme, and their willingness to defer to the teacher's expertise. They therefore neither sought opportunities nor attended every provided opportunity for them to feed into learning programmes. They were generally very satisfied with their relationships with the school, their child's learning experiences and their child's progress. However, when asked to rate how much their subject, curriculum and assessment knowledge was drawn on in the

teaching of pāngarau, both parents gave low ratings on the Likert-type scale, and both indicated that they wished this was drawn on more. This may well be a missed opportunity for teachers – it suggests that good teachers draw from parents' generalised knowledge about their children but do not tap into funds of knowledge about specific learning contexts.

The complexity of school-community relationships

A focus on Ngā Kākano o Te Awa shows one aspect of the very complex relationships and interactions within this school. It is a bilingual unit operating successfully within the school, as evidenced by the school's 2014 ERO report that encourages the rest of the school to replicate the vision and practices of the unit. However, this is just one facet of this multiculturally and multilingually diverse school.

This diversity is welcomed and celebrated by the school – the principal described the school as being "blessed" by the richness of the multicultural community. She has sought external support and professional development for the school that places the notion of "mauri ora" (defined as everyone flourishing) at the centre of all school reform.

Demonstrating this ethic of care comes at a cost. One of the challenges is around employment - there are 80 employment agreements for the school being managed by the Principal, of which only 20 are for teaching staff. Just the clerical side of this level of employment is a major workload for a small primary school. The management of this number mainly part-time roles is very time-consuming. The ancillary roles include seven Bilingual Liaison Workers, supporting student learning and home-school connections but also supporting new New Zealanders to navigate their new life. This goes beyond the scope of the school's sphere of responsibility but there are no other funding sources for this. While the school can see the advantage of these roles being located in the Community Centre, the funding mechanisms and management infrastructure are not secure enough for the Centre to take on the employment arrangements.

A significant proportion of the children and families in the school have complex needs. These needs are associated with being refugees, migrants, new New Zealanders and factors that affect families in poverty. Responding to and supporting children and families in these circumstances takes its toll. There are considerable time demands for the principal and teachers in supporting a variety of school activities in ways that reflect the diverse community. There are also the ongoing interactions with multiple agencies (Police, Oranga Tamariki, Health, Housing, Social Development and multiple different contacts within the Ministry of Education) that all require time and energy. The principal, board chair and Susan each referred to the personal toll from the ongoing care, over years, for the families in different crisis situations.

The tension for parents

The challenges did not sit solely with the school. The expectation that, as parents, they could contribute from their cultural toolkits into the classroom programme created a tension. Both mothers in this case study wanted to have their cultural toolkits drawn on more, but neither wanted more involvement with the school. The parents cited both the busyness of life and feelings of anxiety as reasons for not having greater involvement in the school. It appears that, for stronger partnerships between home and school, more than a willingness from both parties is required. In this case both the parents and the school were open to and supportive of greater involvement, however a number of factors outside the control of either party hindered the engagement.

The need for a paradigm shift

This school was selected for a case study in this research because it had been identified through a range of information sources as having strong home-community-school links. This was definitely the case. The school personnel – the teacher, the principal, and the Board Chair all knew that the school had taken significant steps in "blurring the boundaries between the community and the school" (Heather). There was evidence across the school of many practices

in developing the educationally powerful partnerships initiated within the observed unit that had spread to other parts of the school. The two interviewed parents were also very positive about steps taken to develop the partnerships; the openness of the school for their input and direction; and the many opportunities they had to bring their input into the classroom and the learning programmes.

However, despite the willingness and openness for a mana ōrite partnership, all parties – teacher, principal, board chair, students and parents - were conscious that there was some distance to go truly realising the potential that close whānau-school and community-school relationships offer. This case study suggests that a system-level paradigm shift, that is, both a structural and a cultural change is needed. As individuals, both the parents and school personnel appeared to have embraced a cultural change – valuing and celebrating the diversity of multiple viewpoints into a community learning space. However, despite each of these partners (home and school) actively holding a worldview that acknowledged how important these relationships and partnerships are, the schooling system itself worked against full implementation. Both the Ana and Heather alluded to barriers to a collaborative partnership that occur because the very institution of education is disconnected from whānau life. Heather referred to the social construct of schooling as a game where "all participants need to learn the rules and go along with them". Implicit in her conversation was the inequity in this – those with capital within the dominant culture know the rules of the game, those who are outside that culture need to stumble on the rules.

Conclusion

This chapter has presented the data gathered within this case and the shared analysis of what that information could mean. The initial unit of analysis was the pāngarau programme within a classroom, within the Ngā Kākano Te Awa unit, within this school. The influences of whānau on this programme could not be determined without widening the lens to view how the school structures, procedures and culture supported and promoted the development of powerful, mana ōrite relationships with whānau. The relationships with whānau could not be examined

in isolation of the community. The lens for this analysis needed to go even wider to examine the role of the community, and the attached Community Centre. The learnings from this have been rich.

Chapter 8: Discussion and cross-case synthesis

Introduction

This chapter discusses findings from an iterative research journey, derived from the questioning, exploration and information that arose through the literature reviews, document analyses, and the ongoing discussions, challenges and theorising with the participants in each case study. Each of the case sites was purposively chosen, as part of the multiple case study methodology (Stake, 2005) in order to iteratively explore the assumptions that were arising from these data sources and allow for an ongoing process of learning, unlearning and relearning (Wink, 2011). In this chapter, I have synthesised the information from across these sources in order to respond to the research questions proposed in Chapter 1.

As previously stated, the research questions are:

1. How does the macro-context of the Treaty of Waitangi underpin and inform the micro-context of classroom interactions in New Zealand schooling?
2. What theoretical frameworks underpin effective pedagogical practices in New Zealand classrooms?
3. How are the cultural toolkits (knowledge, understandings and positionings) of teachers, students and parents drawn on within classroom micro-interactions?
4. How does the *ako: critical contexts for change model* support effective classroom micro-interactions?

Each of these questions are addressed in the sections below.

Section 1: How does the macro-context of the Treaty of Waitangi underpin and inform the micro-context of classroom interactions in New Zealand schooling?

This research was designed to examine children's experiences in classroom micro-interactions. Classroom micro-interactions are very small components within the education system,

requiring a microscopic or centripetal view (Durie, 2011) in order to isolate, examine and begin to understand them. However, this research found that micro-interactions are strongly influenced and informed by the macro-context in which the school is located, that is the philosophies, theories, structures and processes that, although invisible to the participants in the micro-interaction, are present and very influential. In order to achieve a legitimate examination of the micro-interactions, a telescopic or centrifugal view is needed, as a means to assist participants and observers to make connections, "think outwards" (Durie, 2011, p. 25) and to examine the wider contexts and relationships in which the phenomenon being examined is occurring.

The promise of a bicultural education system in New Zealand

Schools in New Zealand have a legal obligation, through the 1989 Education Act, to uphold the principles of the Treaty of Waitangi. The Treaty principles should impact on how the school is structured and led (Ministry of Education, 2012), on how children learn (Ministry of Education, 2013) and on curriculum provision (Ministry of Education, 2007). A commitment to a bicultural partnership requires that the worldviews of both the Treaty signatory partners are prioritised, with the contributions from the cultural toolkits of both parties being equally visible, respected, and valued. Under the Treaty, children in New Zealand schools are promised an education system that reflects the nation's dual cultural heritage and the partnership that was promised between iwi and the Crown.

The Treaty was signed in 1840 and the first Education Act was passed in 1877. The content and implementation of this Act provided neither the commitment nor the means for State-led education to honour the principles or expectations of the Treaty. Through the 1877 Act, free, compulsory and secular state schooling was introduced to New Zealand and a model of mass schooling, commonly known as the factory model (Callahan, 1962; Labaree, 2010; Leland & Kasten, 2002; Sleeter, 2015), became the structure for our schooling. This model has not been replaced through any subsequent reviews of the Education Act.

New Zealand's schooling model is based on the values, ideals and standards of mass schooling as instituted in Great Britain and Europe (Penetito, 2004). It is characterised by the setting of predetermined learning content, to a standard determined as suitable for each age group, resulting in a 'one size fits all' model for what is learnt, how it is taught and the desired outcomes of that learning. Despite the prevalence of this model across the Western world, I have found and would now argue that the factory model does not embrace the views of the child inherent in the philosophies of many of Western heritage.

Furthermore, from its inception, the factory model of schooling has not incorporated the perspectives from te ao Māori (Pihama & Lee-Morgan, 2019) to the extent that could be expected from a bicultural partnership foundation. In te ao Māori the purpose of education is much broader than achieving the predetermined standard and more fitted to responding to the gifts, talents and responsibilities of the child and their whānau (Calman, 2012; Hemara, 2000). From a te ao Māori perspective, the goal of education, wider than being limited to schooling, is that of community and individual wellbeing (Hemara, 2000). Learning is based in mātauranga Māori reflecting the enduring relationship and connection to a student's environments (physical, cultural, and spiritual) and acknowledging that knowledge is derived from a range of sources and contexts (Ministry of Education, 2014). In this philosophy of education, neither the learning content nor the desired outcomes can be wholly pre-set by the State but are responsive to the community, the context and the child.

Although, historically speaking, schooling through the factory model is a relatively recent phenomenon (less than 150 years old) it appears to be deeply embedded in our national psyche as the default means of educating children. Today's expectation is that all children aged between six and 16 years will attend school, and, to various degrees, enjoy or endure this experience. Considerable time, energy, research and policy focuses on how to make schooling within this model more effective and efficient. There is research, though, that argues that the factory model has been disadvantageous for students and is not a suitable model for state

education. The reasons include that the factory model perpetuates racism and social stratification; is based on a narrow Euro-centric world view; is boring for students; and, is a means for perpetuating an unjust societal status quo (Leland & Kasten, 2002; Mokyr, 2001; Sleeter, 2015). The outworkings of this model of schooling have been particularly disadvantageous for students described as "ethnic, racial, and linguistic minority students" (Bartolome, 1994, p.180) and those with special education needs (Berryman et al., 2015). Of concern to New Zealand is the disadvantage within this model experienced by Māori as demonstrated through New Zealand's national statistics that show, to name a few indicators, poorer achievement, attendance, engagement, retention and enjoyment of education by Māori than by non-Māori students (Ministry of Education, 2019b, 2019c, 2019d).

The challenge for schools and teachers is that there is a strong and prevalent rhetoric that New Zealand's education will build from the nation's bicultural partnership, have a commitment to honouring the principles of the Treaty and respect both a Western and te ao Māori worldview (Ministry of Education, 2007, 2012, 2017d, 2019d). However, the documents that guide New Zealand schooling do not make visible the tenets of this rhetoric and the reality falls short of this promise. Instead, this doctoral research shows and I would now argue, the philosophy underpinning the factory model of schooling is dominant across New Zealand's education system and has, through this dominance, become the unacknowledged default position for decision-making. Schooling through the factory model is so normalised and embedded that the disjunction between the rhetoric and actual practice can become invisible, as it was for me as I began this research. Well-intentioned teachers may replicate and perpetuate the outworkings of this philosophy without being aware of how disadvantageous it is for some, if not many, students in their classrooms.

The Doctrines of Discovery

The explanation above shows that the first Education Act was passed shortly after the Treaty was signed and mandated the factory model of schooling as compulsory for all students. This

leaves some questions as to how this could happen. Why, in a country with many more Māori children than Pākehā at the time the Act was passed, was the British model prioritised? Why has the Treaty been relatively ineffective in ensuring that there was full partnership, protection and participation (Royal Commission on Social Policy, 1988) for and by both Treaty partners in the ensuing Education Act? Answering these questions required me to 'think outward' once more and to further widen the centrifugal view of the macro-context of classroom practice.

The prevailing political and paradigmatic settings that accompanied the arrival of British settlers and the signing of the Treaty of Waitangi are grounded in historical events dating back to the fifteenth century. In the 1400s a series of papal bulls (decrees issued by the Pope) allowed European monarchs to seize lands inhabited by Indigenous peoples if they were the first European nation to 'discover' these lands. For example, a papal bull, called the Dum Diversas issued in 1452, Pope Nicholas V gave permission for King Alfonso of Portugal to search out and reduce any "Saracens and pagans and any other unbelievers" to perpetual slavery (Harjo, 2014; Mutu, 2018; B. A. Watson, 2010). Under the same pope, this permission was extended in 1455, through a bull called Romanus Pontifex, to give the Catholic nations of Europe authority over lands discovered during the Age of Discovery. This bull allowed full seizure of non-Christian lands and the enslavement of native, non-Christian peoples in Africa and the Americas. Other decrees followed, further endorsing the right of 'discoverers' to seize land and enslave non-White Indigenous peoples in the name of European, Christian monarchs. In 1496, King Henry V11, issued a decree on behalf of England to allow explorers to claim lands occupied by 'heathens and infidels' on behalf of England (Davenport & Paullin, 1917; Miller et al., 2010; Mutu, 2018). In 1792, Thomas Jefferson declared that the Doctrine of Discovery would extend from Europe to the United States government (Dunbar-Oritz, 2014).

Under the Doctrines of Discovery, lands not occupied by White European occupants were declared empty (terra nullius) and the inhabitants declared non-human (classified along with native flora and fauna). In 1769, Captain Cook claimed New Zealand for King George III. In 1840, the year the Treaty was signed, Lieutenant Hobson declared the South Island terra nullius

under the same Doctrines (Katene & Taonui, 2018; Mutu, 2018; Ngata, 2019). With the 'discovery' of New Zealand by Captain Cook, the Doctrines of Discovery became part of New Zealand's legal framework. The Treaty itself had no legal status as exemplified in an 1853 court case *Parata vs The Bishop of Wellington.* In this case the judge declared the Treaty of Waitangi 'a simple nullity' and found, citing the Doctrines, the only valid title to land was Crown title (Katene & Taonui, 2018). More recently, the Doctrines of Discovery were cited in the 2003 Foreshore and Seabed case (*Ngati Apa vs Attorney General*) and upheld in the subsequent 2004 Foreshore and Seabed Act (Katene & Taonui, 2018; Ngata, 2019).

The beliefs of the Doctrines of Discovery, that white nations are able to 'discover', enslave and colonise all Indigenous nations, has permeated the Western world and the countries they have occupied. In a 2012 meeting of the Permanent Forum of the United Nations, the Doctrines of Discovery were denounced as the "shameful root of all the discrimination and marginalization Indigenous peoples face today", that "encouraged despicable assumptions … Indigenous peoples were 'savages', 'barbarians', 'inferior and uncivilized' … [among other] constructs the colonizers used to justify their subjugation, domination and exploitation of the lands, territories and resources of native peoples" (United Nations, 2012, p. 3).

When the Treaty of Waitangi was signed, the Doctrines of Discovery underpinned the prevailing global paradigm and legal context, entitling European settlers to seize land and resources, to subjugate the Indigenous inhabitants and believe they were superior to Māori. Colonisation was seen as means of civilising the natives of the land. This political viewpoint has remained current, despite the United Nations calling, in 2012, for the abolition of the Doctrines of Discovery, acknowledgement of the ongoing impact of these Doctrines, and the need for ongoing redress. Although less visible in our nation's rhetoric than talk of the Treaty, the Doctrines have remained highly influential. In an interview in 2015, Moana Jackson said that "to honour the Treaty, we must first settle colonisation" (cited in Katene & Taonui, 2018, p.48). For an education system to fairly reflect both the heritages of New Zealand's Treaty partners,

the Doctrines of Discovery that underpin the history of colonisation of New Zealand need to be both addressed and redressed.

The influence of theories of the hierarchy of races

At the same time as New Zealand's education system was being established, a theory of the hierarchy of races was becoming prevalent, aspects of this becoming known in the 1870s as 'Social Darwinism' (R. Williams, 2000). These theories included the belief that some races of people were superior to others, the White race being the most superior (Claeys, 2000; Spencer, 1852; R. Williams, 2000). Darwin believed that the "optimal outcome of human natural selection would be the triumph of 'the intellectual and moral' races over the 'lower and more degraded ones'" (Claeys, 2000, p. 237). This theory was prevalent in society and in our schools, for example, New Zealand textbooks from 1879 onwards referred to five great races of men of which the white race was the greatest (McGeorge, 1993). As recently as 1978 the Department of Education recommended for use, in the Social Studies Index of Resources, a book called "The Māori and The Missionary". This book said the missionaries "went to the aid of the backward races" (p.1). The concepts of both cultural and genetic superiority have underpinned educational policies (Bishop, 2005; Sullivan, 1994) and remain influential.

Some structural changes have occurred over time, for example the requirement in the 1989 Education Act for all schools to honour the principles of the Treaty of Waitangi and the New Zealand Curriculum vision that "Māori and Pākehā recognise each other as full Treaty partners" (Ministry of Education, 2007, p. 8). However, these changes have been implemented without the acknowledgment of the influences of the Doctrine of Discovery or Social Darwinism as part of the schooling policy framework and beliefs on which they are building. Jackson (2019) says that unless, as a nation, New Zealand acknowledges and addresses the "mythtakes", the "deliberately concocted falsehoods to justify a process that is actually unjustifiable" (p. 102), we cannot move forward. These unacknowledged mythtakes are part of the policy sediment (S. J. Ball, 1993) in which newer education policies are founded.

Against the background of both the 'hidden history' of New Zealand education and the rhetoric of an education system that calls for a bicultural partnership under the Treaty of Waitangi, I selected three case study sites to examine effective practice in New Zealand schools. The three cases operate within the structures and expectations of State schooling, each of the teachers being identified as an effective teacher through a range of sources both internal and external to their school.

The worldviews underpinning the case study classrooms

Case Study 1 was set in a school that, seeking to do the best for its students, had examined a range of evidence and determined that they needed to focus on improving the student outcomes in writing, by improving teaching. This decision was informed by the school's desire to have all their students meet the goals and standards set by the State –that all students by the end of Year 8 of their schooling should be achieving at Curriculum Level 4. This goal reflects a key premise of a factory model, the outcomes for all students should be standardised according to a child's age and year level. One of the responses by the school to effect improvement was to employ an external expert to teach the teachers how to do better in reaching the standardised goal. The goals themselves and their relevancy to their students were not questioned. As the case study shows, while the goal of teaching students how to reach Curriculum Level 4 in writing appeared to be achieved, the experience was somewhat unsatisfactory for both the visiting expert and the two student participants. Both students reported that their individuality, personal preferences and expertise had not been acknowledged in the learning experience. One of the students, Alice, was resigned to this experience and said it was unrealistic to expect anything different in the circumstances of a visiting teacher. The other student, Stephen, was quite dissatisfied and wanted learning that, regardless of a context of a visiting teacher, responded to his abilities and potential.

In Case Study 2, the classroom philosophy was one of valuing and celebrating each child's individuality and the expertise they brought to their learning. The teacher, Marie, based her lesson planning on student well-being and on building learning-based relationships amongst the students (whanaungatanga). She drew these concepts from both her own personal beliefs about children and her understanding of and commitment to a te ao Māori perspective in the classroom. As a Pākehā, she was willing to learn about a Māori worldview, having done this through her previous learning experiences in Te Kotahitanga, but learning daily through the classroom context where students provided leadership, both in the subject area and in the culture of how learning would occur.

A third perspective was gained in Case Study 3, a case that was set in a Māori immersion unit within a school and this unit employed te ao Māori perspectives in its programme and pedagogy. The school had instituted this unit as it responded to the aspirations and desires of members of the school community.

While all three of these examples demonstrate some effective practices, none provides a definitive example of how the representation of both Western and te ao Māori world views leads to effective schooling. As described, both students in Case Study 1, were dissatisfied with the impersonal nature of the teaching received from a warm, friendly teacher who was an expert in the age-related curriculum expectations of the factory model. The students in Case Study 2 were grateful for the experiences in that classroom, but reported that this experience was not replicated across their schooling experience. The students in Case Study 3 reported some nervousness that their positive classroom experiences in this school were atypical and they were not being well-prepared for subsequent schools.

There appear to be two messages in these examples. The first message is that the students in case study 2 and 3 were far more positive about their enjoyment of and satisfaction with their learning than those in case study 1. Case study 1 provided an example of schooling practice that sought to increase teacher effectiveness in reaching the standards and levels of

achievement in the curriculum as deemed appropriate by the State. In both cases 2 and 3 the worldview that underpinned the teaching philosophy included perspectives from both Western and te ao Māori worldviews where relationships are valued and the principle of mana atua is reinforced - each child in the class is unique and born of spiritual greatness, and teaching practices should reflect this.

The second message is that the effective practices seen in these case studies may not be widespread, even within the same school or the same schooling pathway. There is a lack of guidance or explicit requirement within school policies and procedures to ensure that all teachers will incorporate clearly-understood concepts from both the worldviews drawn from both Treaty partners. A result of this is that the positive impacts seen within the effective classroom practices viewed in these case studies may remain sporadic and inconsistent in students' experiences. Students are not guaranteed that they will be in classes with teachers like Marie and Susan, teachers who have both deliberately embraced te ao Māori perspectives on their own volition. For the children in this research, and for most children in the education system, their classroom experiences may well remain a matter of chance, part of the lottery of schooling experiences.

In the case studies, Marie and Susan exemplify two Pākehā teachers who have embraced their responsibilities to build learning inside a bicultural paradigm. The students in their classes were flourishing and thriving in these settings. However, without widespread, system and school level acknowledgement, owning and redressing of the 'mythtakes' both buried and alive in our educational history, the desired implementation of a bicultural paradigm for New Zealand education remains flawed.

Views of the child

An explicit acknowledgement of bicultural worldviews would, I believe, assist educators to examine their own ontological perspectives of children and how they learn. The central premise of this thesis is that both Western and te ao Māori heritages hold views of the child that incorporate the concept of mana ātua, that is, that every child is inherently imbued with uniqueness and spiritual greatness. Every child is 'tamariki', a term that encourages a view that children are embued with divinity, for example, created in the image of God (Genesis 1: 26-27; James 3:9) and a carrier of the divine spark from Tama-nui-te-rā (Pihama et al., 2004). However, in a mass schooling model, the child can be perceived as incomplete or deficient (Apple, 2012; Gorski, 2008; Luria & Vygotsky, 1992). The role of teaching in a factory-model paradigm becomes that of addressing the deficiencies within the child and the areas where they fall short of curriculum expectations. Bartolome (1994) contends that:

> the most pedagogically advanced strategies are sure to be ineffective in the hands of educators who implicitly or explicitly subscribe to a belief system that renders ethnic, racial, and linguistic minority students at best culturally disadvantaged and in need of fixing (if we could only identify the right recipe!), or, at worst, culturally or genetically deficient and beyond fixing (p.180).

An alternative view of the role of teaching, present within the paradigms underpinning both the Western and te ao Māori heritages, is that the adults' role, both teachers and whānau, is to fan the divine spark in every child.

A connected challenge for teachers is that the 1877 Education Act declared that schooling in New Zealand would be free, compulsory and secular. These three requirements remain current. In declaring schooling to be secular, it has become structurally difficult for teachers and school leaders to venture into areas that verge on spirituality or taha wairua, spiritual well-being, as referenced in the New Zealand Curriculum (Durie, 1994; Ministry of Education, 2007). Rameka (2015)has described New Zealand's education system as being essentially secular, "leaving little room for ideas and beliefs of the sacred or spiritual" (2015, p. 82). She posits that

Western rationalism has prioritised scientific logic and reason over faith and spirituality, leaving teachers fearful of inadvertently straying into non-secular territory or countering Western rationalism.

Across the three case studies, all teachers spoke of their deliberate steps to promote student well-being, all stating frequently and in multiple ways how they sought to build positive experiences, relationships and success for the students in their classes. While the term 'spiritual' was not used by any teacher, a view of spiritual well-being was obliquely referenced, including concepts such as having a purpose in life, being true to yourself, personal beliefs, goal setting and cultural values (Education Review Office, 2016a; Hay & Campbell, 2012). In Case Study 1, John referred to potential impacts on student wellbeing as he talked about the absence of his relational knowledge of the students. The interviewed students were aware that, for their learning experiences to be positive, the focus needed to be broadened from their academic achievement into holistic wellbeing. Marie, in Case Study 2, was deeply conscious of the need for holistic care for the student and sought to positively promote physical, emotional and relational wellbeing. She supported each of the aspects of spiritual well-being listed above in the common discourse in the classroom - "you are awesome" being a common comment, along with the messaging around being successful learners and musicians. Case Study 3 was set in a bilingual unit with a teaching philosophy based on mātauranga Māori. Spiritual concepts within mātauranga Māori were overt in this programme, examples being the Tama Tū, Tama Ora and Mana Wahine programmes. Through these programmes, the children's connections to the land, culture and history were fostered, with the intention of enhancing children's sense of well-being and identity. The programme, though, stopped short of overt references to personal spirituality or sense of personal sacredness.

All three cases show that, while overall wellbeing was prioritised in classroom practice, references to spiritual well-being were constrained. If educators felt less constrained about engaging with concepts such as spirituality, spiritual well-being and mana ātua, they may have greater freedom in which to examine their own and their school's ontological positioning

around their views of the child. This examination would allow educators to consider how, collectively or individually, each child is viewed - either in terms of their potential, uniqueness or spiritual greatness or, derived from the factory model, in terms of the incompleteness of their learning journey and how this can be remediated.

Drawing from the heritages of the Treaty partners

In addressing this research question, I have argued that there is potential in New Zealand, through the requirements to provide schooling that reflects the heritages of both Treaty partners, to examine the ontological underpinnings of our education system. However, there is no explicit guidance provided in the administrative and curricular documentation about schooling that sets out an official position regarding the ontological perspectives of how each child could be viewed or how learning could be perceived. In this absence of guidance, the prevalence of the factory model has resulted in children being viewed in terms of how well they achieve in the learning of content, standards and expectations set by the State, divorced from reference to the uniqueness of the child. Children become described in terms of 'what they need to do next', which leads to an ontological view of the child as deficit, needing to be shaped into the desired output of the factory model of schooling.

An alternative to a system that draws its ontological positioning from a factory model of implementation is already a legal requirement for New Zealand's education system. Under the Education Act, New Zealand's education system is obligated to enact the principles of the Treaty of Waitangi which includes the requirement for schooling to reflect bicultural partnership of the Treaty and to represent the dual heritages on which the country has been founded. One party in the bicultural partnership draws from a Western heritage and includes an ontological perspective from Christianity and Judaism that all children are divinely created. The equal partner is a heritage rooted in te ao Māori, a heritage that describes children as tamariki, the carriers of the divine spark.

There is, therefore, a dilemma in that the same Education Act that directs the schooling system contains two opposing ontological perspectives without acknowledgement or clear guidance on how to simultaneously address both perspectives. One perspective is that the systems, structures and values of the factory model is the compulsory method of schooling. The second perspective is that educators are required to implement the Treaty of Waitangi and the heritages of both Treaty signatories. These two perspectives are, I believe, inherently dichotomous. However, the views of the child implicit in the factory model are pervasive and have become deeply embedded in New Zealand's education system. In the absence of clarity about the ontological positions within the heritages of both Treaty partners; teachers, school leaders and policy makers are rarely challenged to reflect on their own views of children and the overall purpose of education. In this absence, the processes and structures of the factory model have become the default positioning and educators, who may well believe that their own children are a divine spark, base their classroom practices for other people's children on the default ontology inherent in the factory model. Explicit guidance on the worldviews of the Treaty partners could, I believe, both enable and challenge educators to examine and understand their personal ontological positioning. This explicit guidance would support educators to question the extent to which they view children in terms of limitations or in terms of being tamariki, imbued with divine spark and created in the image of God. Clarity around ontological positioning also encourages questions around the role of educators – to remediate a child's learning deficiencies when measured against the standards pre-set by the State or to fan the innate divine spark in every child.

Section 2: What theoretical frameworks underpin effective pedagogical practices in New Zealand classrooms?

My second research question, also located in the macro-context of New Zealand's education system, required an examination of the theories that underpinned the pedagogical practices within effective classrooms. Teachers' pedagogical practices grow from their epistemological

positioning which are, in turn, linked to their ontological beliefs (Knight et al., 2014). As discussed above, a teacher's ontology informs their view of the child and the purpose of education and their role within that. Their epistemology informs their belief about how knowledge is constructed and how students in their class will come to know and to learn (Levers, 2013). Pedagogical practices flow from epistemological beliefs, as understandings about how learners learn, helps to guide the moment by moment decision-making in a classroom (Cohen et al., 2007). This occurs whether the underlying epistemology is acknowledged or not – "implicitly or explicitly, epistemological assumptions fundamentally shape pedagogy and assessment" (Knight et al., 2014, p. 25). And, just as teachers' ontologies are personal to them, so is their epistemology: "there is epistemological latitude within ontological delimitations" (Levers, 2013, p. 3).

I contend that the absence of explicit guidance on the ontological positioning that is rooted in the heritages of both Treaty partners has resulted in the epistemological positioning for teaching and learning in New Zealand schools also being unclear. Therefore, teachers' pedagogical practices may respond to the requirements of a factory model of schooling rather than being founded in sound epistemological understandings and clarity about the nature of knowledge and how this is transferred in classrooms. Magrini (2010) emphasises an epistemological challenge for New Zealand teachers linked to the implemented model of mass schooling, describing an "essentialist curriculum [which] is structured around a set of predetermined standards for competency" that risks precluding "the emotional and intellectual biography of the student in the learning process" (p.12).

In order to answer the research question *what theoretical frameworks underpin effective pedagogical practices in New Zealand classrooms?,* I explored the practices in three effective New Zealand classrooms.

The pedagogical practices that underpinned the case studies

As discussed above, Case Study 1 was selected in order to showcase a school that was deeply invested in supporting its students to achieve well within the education system. In order to assist the students in their school excel in the curriculum expectations set as appropriate for Year 8 students, the school had undertaken a number of interventions designed at supporting teachers to raise student achievement. One of these interventions, paid for through school funds, was the employment of an external expert to model for teachers the steps required to assist students to reach the achievement level deemed appropriate for their age. The intervention was very appropriate in the ontology enacted through the factory model. The standard was identified and steps and components of the good practice in writing identified. These steps were then taught to the students who followed the teacher-led instruction to complete a writing task. The relationship between the school and the visitor was a business relationship, the goals and outcomes of the teaching session were set out in the business agreement. The clarity and perceived effectiveness of the instruction of the outside expert led to the practices being filmed for sale to an international market. .

The epistemology sitting behind the observed pedagogical practices in this case study includes the belief that children learn to write well if they are taught a set of skills and processes based on predetermined criteria for success in writing. The expertise in the learning context sits with the teacher, and this expertise can be grown if a teacher gains more knowledge about how children learn to write. Other students can support a child's learning experience but this input is secondary to the teacher as leader of learning. Likewise, the demonstration of friendly rapport between the teacher and students helped create conditions for learning, but was less important than the teacher expertise and practices.

In the classrooms that were the sites for Case Studies 2 and 3, both teachers, Marie and Susan, had incorporated perspectives from te ao Māori into their pedagogical practices. This included features such as a deliberate focus on the uniqueness and potential of every student; a valuing of whānau-type relationships; and, fostering whakapapa-type connections through the classroom programmes to the students' local, social and historical connections. They had built

their understandings and practice through deliberate acts of professional learning and development. For Marie, this had been through her engagement with Te Kotahitanga, this professional development building her knowledge but also supporting her developing critical consciousness, challenging and changing her worldviews. Marie said "Te Kotahitanga changed my life", and talked of how this learning changed her "heart and mind".

Susan began to learn te reo Māori in her initial teacher education, continuing this learning throughout her career. When a bilingual unit opened in her school, she was invited to be part of the teaching team, learning te ao Māori principles as she, a Pākehā, partnered with other teachers who were Māori. She said that, although she had seen the benefit of pedagogical practices from a te ao Māori worldview, she had not challenged her own theoretical positioning. Her awareness came through extended professional learning with an external provider, Poutama Pounamu. The learning from Poutama Pounamu was based in Kaupapa Māori and critical theories, and, over a period of 18 months, caused Susan to examine her role in perpetuating a status quo that privileged a Western worldview with her agency to bring change in her school and community.

For both teachers to understand the role of the ontological beliefs they unconsciously held, and to understand the ongoing impact of these beliefs on their pedagogical practices, required deliberate acts of unlearning and learning on their part. In both cases, this learning was supported by professional development providers, over an extended period of time that allowed for the conscientisation to occur. As Marie said, their commitment to change needed to involve both mind and heart – they needed the theoretical learning in order to understand the status quo but knowledge of students' situations and ongoing learning was insufficient in itself. The change came through critical consciousness, their commitment to intervene in the status quo in order to change it (Freire, 2005).

Both teachers articulated their belief that, if students enjoy their schooling; are secure in their school-based relationships; have a strong sense of belonging in school; and, have their cultural

identity strong and secure then achievement against curriculum goals will follow. To achieve this, they looked outward (centrifugally) to the relationships and connections in the bigger picture of their students' lives. A key focus of classroom practice in both cases was the fostering of positive relationships, both between the teacher and students, and amongst students. Expertise did not reside solely in the teacher but students' expertise was also valued in the classroom, both their understandings of their own leaning and in leading learning with their peers. Both teachers used the term 'ako' in describing their teaching philosophy, all involved in the classroom (including themselves) were both teachers and learners – sometimes the tuakana in the teaching interaction and sometimes the teina. In Case Study 3, parents, whānau and community were active participants in the classroom programme and in the life of the school.

The theoretical frameworks that underpinned effective pedagogical practices across the case studies

In each of the case studies, there were findings about effective pedagogical practices specific to that case. This section presents the findings that have been derived from a synthesis of the data across the three cases.

Mana ōrite relationships

It is likely that most people involved in New Zealand would agree that good relationships are essential for children to have a positive schooling experience. However, ensuring cultural relationships for responsive pedagogy as described in the *ako: critical contexts for change* model (see also Berryman et al., 2018; Bishop et al., 2014) requires more than being nice to students or building good rapport. In Case Study 1, John carefully and skilfully built rapport between the students and himself. He was warm and empathetic with the children, sharing some information about himself, smiling and chatting with the students, both in and out of class time. However, despite this rapport, neither John nor the students were fully satisfied with the overall learning relationships. In Case Studies 2 and 3, relationships were fundamental

to the learning process and reinforced on a daily basis through whakawhanaungatanga at the start of each day or each lesson.

Research shows that classroom interactions and relationships are key determinants in how students develop a sense of belonging within school and within the wider education system (Berryman & Eley, 2019). They affect how children come to view themselves as learners or not (Wearmouth et al., 2011) and are the "most immediate determinant of student success or failure in school" (Cummins, 2003, p. 51). But how relationships are enacted in a classroom setting are influenced by the ontological positioning of participants. It is possible for teachers to care deeply for students while viewing them through a deficit lens – that is, demonstrating warmth and concern towards students but perceiving them in terms of what they cannot do, and having low expectations of their success. Bishop and Berryman (2006) found that students wanted a relationship with their teachers and needed to know that their teachers cared for them. However, they also wanted to be confident that their teacher had expectations of their success and that this translated into high expectations of their own teaching performance, translating into high expectations for their own achievement.

From a Kaupapa Māori theoretical perspective, relationships are essential for learning (Bishop et al., 2014), however the relationships for learning must go beyond building good rapport. They must be based in whānautanga (Cranston, 2018), that is teachers connecting with learners as though metaphorically they were family (whānau). When relationships of whānautanga underpin pedagogical practices, teaching decisions are based on "what you would want for your own child or whānau member and helping this play out for other people's children in your school" (Berryman et al., 2018, p. 8). The participants in the relationship meet "as relations" (Hoskins, 2012, p. 96), with familial responsibilities. Berryman and her colleagues (2018) call for mana ōrite relationships, where there are "responsibilities to both groups to maintain the mana of the other, and understand the mana of both as ōrite (equal or the same) (p. 3)". These responsibilities include having a deep understanding of the term 'mana', going beyond being

polite to each other, and embracing a broader definition, taking responsibility to maintain the "intrinsic value, dignity and influence" of the individual (Pere, 1991, p. 35).

Valuing the mana of the child in classroom relationships was exemplified in the manner in which my initial engagements with the class were negotiated from the first interactions. At Harakeke College, the students invited into the research did not agree until the rules of engagement had been agreed on, that is, until all five girls were included in the research and that all interviews would be with the group. At Nikau School, while only the pāngarau teaching was video-recorded and used in the critical incidents' analyses, I was included in all classroom activities over the course of the unit, from the before-school interactions, through the day and in the after-school hui. These examples demonstrated that the relationships integral to these classrooms would draw from Kaupapa Māori concepts of whānautanga, family-type relationships (Cranston, 2018) and through whakapapa, our connection to each other. My involvement in both these classes had to be enacted as a relation (Hoskins, 2012) not as an objective observer and this status impacted on the nature of my engagement with the class. My agenda as an adult visitor to the Harakeke College was not more important than the girls' comfort with the process. In Nikau School, I was invited to join the whānau-like culture, fully participating in the classroom, not limiting my involvement solely to my own areas of interest. This centrifugal view of the connections through "antecedent relationality" (Hoskins, 2012, p. 96) gives both the host and the visitor responsibilities and obligations for ensuring that the engagement is both mana enhancing and mana ōrite.

In both Case Studies 2 and 3, the students articulated their deep levels of care for their teachers. In these cases, the students were reluctant to take part in any research that could require them to say anything negative about their teacher and overcoming this reluctance required that the participation in the research was sanctioned by the teacher and a relationship and level of trust was built with the researcher. The Ministry of Education tells us that, within a Kaupapa Māori theoretical framework, positive relationships are the responsibility of all, not just the teacher, with "support, assistance, nurturing, guidance, and direction [being]

reciprocal" (2014, p. 27). The rhetoric of reciprocal learning and reciprocal relationships is prevalent in our education system and may well be the aim of many teaching practices. However, for the reciprocity to be enacted, more than rhetoric is required – educators need to be critically conscious of the nature of the power dynamics in their relationships with students and how they are applying kaupapa Māori theory. If either relationships or learning remains rhetoric and is not experienced by students as genuine, then the educator risks perpetuating oppression and building hopelessness (Freire, 1994). Critically conscious educators examine their own "situatedness and sense of self" (Dell'Angelo et al., 2014, p. 11) within classroom relationships to ensure these are participatory and empowering rather than patronising or impositional.

Relationships between students

The relationships between teachers and students is only one part of classroom dynamics, relationships amongst students also significantly impact on a child's sense of well-being at school (see, Alton-Lee & Nuthall, 1992; Donald Beasley Institute, 2004; Morris, 2002). Walton, Cohen, Cwir and Spencer (2011, p. 259) tell us that "the mere sense of social connectedness" enhances students' motivation to achieve. Marie and Susan deliberately planned learning experiences in their classrooms that would enhance the relationships between students. This was particularly visible in Case Study 2, Marie identifying friendship links in her planning prior to the unit of work starting and closely monitoring the mood of the class regarding relationships as the unit progressed. The girls talked of how their friendships directly influenced a number of key decisions about their learning that could have significant impact on ongoing life choices, for example decisions regarding matters such as, attendance, participation, and subject choice. I did not observe planning linked to friendships in Case Study 1 with the visiting teacher but this does not mean it did not occur with their regular teacher. Research suggests that this is not the case in many classrooms and student-student friendships are rarely prioritised in planning, teaching, or play activities (Davis & Watson, 2001; Donald Beasley Institute, 2004; MacArthur, 2002). Structural practices such as remedial programmes, teacher aide interventions (required to sit with the teacher aide not with friends), being stood down or suspended or even being

moved for talking to friends in class can lead to both fractured learning and friendships for our students (Meyer et al., 1998).

Both Marie and Susan undertook deliberate acts to create the conditions for positive cultural relationships between students within their classrooms. Both teachers used a strategy of whakawhanaungatanga in their practice. Marie said that the whanaungatanga circle, a feature of every observed lesson, was instituted to support student relationships. In Nikau School there was a structured time of whanaungatanga at the beginning of each day – teachers, students and parents sitting together over games with personal, informal conversations encouraged. These are examples of classroom practices that deliberately built student-student learning-based relationships, with power-sharing occurring between students building relations of interdependence.

Mutual respect within mana ōrite relationships

Building understandings about children's social, cultural and historical context requires sensitivity on the part of all participants, especially teachers given the power imbalances inherent in many teacher-student relationships. This includes not asking for more information from a child than they, themselves, would be willing to share with the child. Alice, in her interview said, "teachers don't have to know all about me", she did not appreciate being questioned by all teachers on matters she considered deeply personal. The students in Case Study 2 shared intimate information with Marie, but not with all their teachers. Even within the very positive relationships viewed in Case Studies 2 and 3, the students did not feel compelled to share everything with the teachers. In an interview, one of the boys in Nikau School said Susan "knows a lot, but perhaps not everything". One of the girls at Harakeke College, as part of a discussion on the closeness of their relationships with their teacher, said Marie "does not always understand our identity". The students were wary of conversations that appeared to be an information-gathering exercise and appreciated a mutual, reciprocal and respectful sharing of information to the extent that all participants were comfortable.

Students' openness to sharing with their teacher was dependent on a number of factors, all included within the concept of whanaungatanga (see Bishop et al., 2014). Open sharing within the safety of whanaungatanga is dependent on the level of trust students have with their teachers - both regarding the respect with which teachers would receive and treat the information, and the respect with which the teachers would use or share the information. It is also a reciprocal relationship, Bishop and his colleagues (2014) saying that whanaungatanga in pedagogical settings is where "power [is] shared between self-determining individuals within non-dominating relations of interdependence" (p.190). When power is shared, teachers and students open themselves to each other with equivalent levels of vulnerability. Both whānautanga (family-like relationships) as described by Cranston (2018) and whanaungatanga (relations of interdependence) as described by Bishop et al. (2014) require that the relationships are driven by notions of care and belonging, not driven by the teacher's lesson-centric agenda and used as a tool for ensuring students can access the predetermined lesson plan. In this concept, both critical theories and Kaupapa Māori theories work in complementary ways.

Fostering strong and secure cultural identities

The manner in which students' social, cultural and historical contexts are respected and treated plays a key role in the development of positive or negative personal identities and a flourishing or languishing sense of mauri ora (Durie, 2016). Bioecological models of child development show that children grow and develop in mutual interactions between themselves and their immediate settings (Bronfenbrenner, 1979). The child who attends school is not a separate entity but is nested in layers of social, cultural and historical influences from their whānau, community and wider networks (Tangaere, 1997). A child's schooling experience should recognise these influences, Tharp (1989) saying that the stronger the links between the child's cultural context and the context of the school, the more likely learning and development will be optimised. Cummins discusses the role of classroom interactions in building students' self-worth through messages (both direct and indirect) communicated to students regarding their identities, concluding that "only interactions that generate maximum identity investment on

the part of students, together with the maximum cognitive engagement, are likely to be effective in promoting achievement" (2003, p. 55).

Student identities draw from a complex cultural base. For example, the interviewed students in Harakeke College resisted being defined solely in terms of their ethnicity. Despite many signs of the girls' pride in their Māori cultural heritage (through, for example, their language, choice of songs and descriptions of family practices), there was little reference to being Māori in any conversation, even when directly questioned. Teachers need to resist the desire to describe and label students in simple, uni-dimensional terms, a Western construct "colonial in origin and colonial in intent" (Te Wiata & Crocket, 2017, p. 73). The desire to describe student identities as if these were based on one characteristic is limiting.

Identity and stereotypes

Ethnicity labels are particularly complex, carrying a risk that teachers will conflate the notion of 'culture' with that of 'ethnicity', believing that, having learnt about an ethnic group, they can apply those learnings to all children with the same ethnicity label. There was an example in the filming where John demonstrated his appropriate sensitivity about a possible culturally-located response. When asked why he hadn't asked a boy to answer some questions John said that, as the boy was Pasifika, he had not wanted to risk embarrassing him as his experience had shown that, as a culture, Pasifika children are often reluctant to be singled out. John knew that this was a stereotype and may or may not apply to the child in the incident, but without knowing the individual child, he needed to draw on this generalised understanding. While John was aware of the potential limitations of these assumptions, there may be classes in New Zealand where teachers, due to conscious or unconscious bias, hold stereotypes about ethnicities without the same sensitivities. A sizeable proportion of students still report that their teachers are racist towards them (Office of the Commissioner for Children & New Zealand School Trustees Association, 2018), the teachers seeing the child in terms of the label, rather than as an individual within the uniqueness and complexity of their own identity.

A further consequence of imposing single-factor identity labels on a child is that we underplay the importance of their whānau and community influences. Rogoff (2003) tells us that an individual "must be understood in, and cannot be separated from, [their] social and cultural-historical context" (p. 50). A te ao Māori perspective widens the 'nestedness' of the child to include all whakapapa connections, current, past and future (Graham, 2009; Rameka et al., 2016). When a child is perceived in terms of a single influence, such as their age or their ethnicity, there is a danger that educators can lose sight of the multiple influences from their social and cultural-historical contexts that form their identities and directly and daily impact on their learning. Describing a child in terms of the labels developed for efficiency within a factory model of schooling risks removing a focus on the uniqueness and potential of tamariki.

Identity as learners

Part of the vision statement for the New Zealand Curriculum (Ministry of Education, 2007) is that students will become lifelong learners. For this to occur, students need to develop an identity as a successful and competent learner. All three teachers in these case studies were adamant that all the students in their classes should and could achieve academic success.

Marie explicitly and frequently stated her belief that the students were capable musicians who could shine within both the education system and the qualifications requirements. The students also demonstrated their belief in their (individual and collective) likelihood to succeed in the unit of work, in their learning and as musicians in their life. The girls frequently referred to themselves as musicians in the interviews. In Case Study 3, the students were beginning to identify themselves as mathematicians. Each of the boys described themselves as "good at maths" in the interviews, Elias and Tyler describing their struggles to come to terms with the concepts about fractions in the observed lessons as part of the process in becoming good mathematicians. Elias and Tyler's mothers, in their interviews, both reported that their sons were "good at maths" and that they engaged in mathematically based activities at home "for fun", implying a competence in mathematics and a developing sense of identity as a mathematician.

John, in line with the classroom teacher and school's goals, was clear that all students would achieve at Curriculum Level 4 or above in writing. However, neither Alice nor Stephen identified themselves as life-long writers, a developing aspect of their identity that goes beyond the confines of the case study observations. For example, in a school of nearly 500 students, Stephen was one of 30 students in an extension writing class. However, he did not describe himself as a good writer until he was selected for that class. Stephen's mother said that Stephen would not have "put himself forward" so she was pleased that his regular classroom teacher had recognised his abilities and nominated him for this class. Despite this recognition, Stephen did not see writing as part of his identity or as being significant for him into the future.

Synthesising this finding across the three cases indicates a need to attend to the simultaneous success trajectories in the *ako: critical contexts for change* model. There is a risk that a relentless focus on academic success in a subject area without a consideration of the cultural identities or the student's identity as a lifelong learner in a subject area can be detrimental. This could be worthy of further investigation. The students in Case Studies 2 and 3 had gained confidence in the view of themselves as (respectively) musicians and mathematicians. New Zealand schools are obligated (under the National Administration Guidelines, Ministry of Education, 2017) to give priority to the progress and achievement in literacy and numeracy, especially in years 1 – 8.

The boys in Case Study 3 will have had regular and ongoing mathematics learning experiences. Both Stephen and Alice had had over seven years of being taught writing – most likely on an almost daily basis. However, neither of these students, despite their obvious success in this area, appeared to be developing identities as writers. In Case Study 2, the girls reported their identities as musicians were also being confirmed through home and community settings. The boys and the parents in Case Study 3 spoke of the enjoyment of pāngarau in the home. The students and parents in Case Study 1 did not talk of links between a school focus on writing and the links to experiences in the home. This suggests the building of a cultural identity in a learning areas is enhanced by powerful home, school and community contexts for learning. In

contexts such as these, the learning from the school is able to be affirmed and extended by the learning in the home and vice versa. It seems that, for students to develop a belief that they were developing a sense of being lifelong learners in the subject and that they were learning and achieving for the future, requires more than frequent exposure to a subject area. The right conditions, including attention to the development of strong, secure cultural identities as lifelong learners, in school, home and community, and to learning and achieving for the future needs to be attended to.

Interpersonal and intrapersonal learning

In sociocultural theory, learning occurs on two planes always beginning at a social level, the interpersonal space then being internalised, following a series of transformations, as intrapersonal learning (Burns, 2005; Vygotsky, 1997). In a schooling setting, interpersonal learning occurs within very busy classrooms, and through the multitude of micro-interactions that make up a student's day. Many of these interactions are between the teacher and students (P. Jackson, 1971; Shavelson, 2003). As the case studies demonstrated, interpersonal learning micro-interactions are also occurring among students, students learning and multiple micro-interactions occur between the students, students being as influential in classroom dynamics as the teacher (Siope, 2013). Marie had a deliberate policy of ako, supporting student-to-student interpersonal learning, ensuring that students were able to help each other as tuākana-tēina, both in knowing they were permitted to do so and in building student confidence and capability to support each other.

The learning moment.

In the observations, I found it difficult to isolate, across the classroom observations, the teaching moment (Black & Wiliam, 2003), the moment to moment pedagogical decision-making (Pere, 1994) or incidents of teaching on the fly (M. Heritage, 2007, 2013; Shavelson, 2003). I was seeking incidents where students sought interpersonal support in order to facilitate their intrapersonal learning. However, these specific incidents were not obvious. Seeking a teaching moment implies that the teaching is the key act but, when students' cultural relationships are

strong, the strengths and expertise of the students can come to the fore, allowing these learning moments to become significant. The second part of the challenge, most clearly demonstrated in Harakeke College, was that the learning moment was rarely a one-off moment event. Instead the interactions between the students and the teacher, or even between the students themselves, often circled around in a dialogic spiral (see Berryman & Eley, 2017a; Bishop, 2011; Bishop & Berryman, 2006), the 'moment' building on multiple interactions and sense-making that had previously taken place. This resulted in quite long periods of time occurring between when questions were asked and when potential answers surfaced.

The dialogic spiralling or extended wait times between teacher or student questions and a learner response was a marked feature of Case Study 2. It was also present in Case Study 3, although seemingly more explicit through the teacher and with shorter wait times. For example, in this case, when students were working independently at the table, Manu twice asked the teacher to give him an answer. In both these incidents, Susan encouraged him to keep thinking or to work it out. But, at the end of the lesson, Susan came back to the questions and encouraged Manu to share his answers to these questions. A focus on the teaching moment implies that the teacher must impart information on the spot to make the most of that 'moment'. A focus on a learning interaction recognises the role of the student in constructing knowledge and respectfully gives thinking time for that to occur.

The zone of proximal development

As noted earlier, Vygotsky (1980) defined the zone of proximal development as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (p. 78). Vygotsky illustrated the idea of the zone of proximal development through examples of parents supporting a child's early development. When transferred to classroom learning, for teachers to operate within the zone of proximal development, they must know every child well, including knowing interests, aspirations and prior learning experiences of the students and being deeply invested in building

their understanding of the students and the social and cultural factors in which they were immersed. Peers and parents are also significant contributors to learning within the zone of proximal development. Each child's zone of proximal development is highly personalised.

Learning within the zone of proximal development is supported by the More Knowledgeable Other. In some learning interactions, the role of the More Knowledgeable Other is always taken by the more senior person in the interaction. In other interactions, all parties in the interaction, irrespective of seniority, can be positioned as learners and therefore all are contributors to the building of knowledge. This is an expectation in te ao Māori where the roles of tuakana and teina are fluid and that, for both teachers and students, the roles are interchangeable. This is visually portrayed in the steps of the poutama, learning occurs through interactions with the support of others (Tangaere, 2012; Vygotsky, 1980). Regardless of who is in the role of the More Knowledgeable Other, though, the quality of the relationship impacts on the effectiveness of the pedagogy. Knowing the learner ensures that pedagogical strategies suit the learner's requirements in the particular moment of the interaction.

Gaining expertise to become the More Knowledgeable Other

For teachers, there is a clear pathway to expertise – through training, through ongoing reflexive praxis and the craft knowledge gained through their experiences (Kennedy, 2002; Shulman, 1987, 1986). In addition to this pathway, a teacher can also gain 'expertise' about the learners in their class, both individually and collectively, through the relationships they build with the child, their whānau and their wider community. This knowledge base is as important as the knowledge that informs the lesson content (Ministry of Education, 2014; Pere, 1994; Tangaere, 2012). The pathway to expertise for students and whānau is not documented as clearly in the research but is just as important in the interactions. Every child is born with expertise about themselves as a learner (Ministry of Education, 2014; Pere, 1994; Rameka et al., 2016) and brings this expertise into all learning interactions. This transfers into understandings about how their peers learn, supplementing their information derived from the relationships with their peers who, in many cases, they have had a longer term relationship through both the length of

their schooling and the range of experiences both in school and in the community than the teacher has with students. Students may also have a great deal of knowledge about the lesson content from their life experiences and interests and can draw on this in different ways.

Timing of responses

Learning opportunities regularly occurred outside of the classroom timetable. In both Case Studies 2 and 3, a significant amount of learning and learning-based interactions occurred outside the actual lesson time as quiet conversations, one-on-one, that were not part of a formal, timetabled lesson. Marie spent almost all of her morning tea times, lunchtimes, and the immediate after-school times in the music room. These were very busy times – with multiple students around, playing, singing, talking to each other and having conversations with the teacher. Interacting outside the formal school programme was also a feature of Case Study 3 where all teachers were in the classroom before and after school, spending time with students and whānau. The school encouraged this practice and supported it by ensuring at least half an hour was free of other commitments for teachers before and after school. In these times I observed the teachers sitting at tables, with games and materials, and available to talk with students and parents.

The influence of parents

The case study set in Nikau School was selected in order to showcase the influence of parents, whānau and community on classroom interactions. But, although the physical presence of parents in the classroom only occurred in Case Study 3, the influence of parents was visible in all three cases. In Case Study 1 I talked with the parents of the interviewed students as I went to their homes for the interviews. In those discussions, the parents were deeply interested in their children's learning and their writing experiences, including the visit to the school by the expert teacher. The two students spoke of their parent's hopes for their future, parental support for their learning and their parent's knowledge of their writing abilities. Neither parent could reference, in our conversations, any times when their expertise about their children had been drawn on to inform this school, or their children's previous schools, learning programmes.

In Case Study 2, the influence of parents was also strong, although there was little input by parents into the classroom programme. The girls from Harakeke College talked of their parents support in terms of their identities – such as being productive community members, good sisters to their siblings, church members and being good musicians across these roles.

An examination of the perceptions of the role of whānau in classroom interactions is again dependent on participants' ontological positioning. A factory model of schooling has deliberately moved the responsibility for education from families to the state. But this position is not reflective of the beliefs held by many who adhere to either or both Western or te ao Māori worldviews. In both these traditions, the child who attends school is 'accompanied' (sometimes physically but always spiritually and emotionally) by their immediate and extended family and cultural connections (Tangaere, 2012).

The inclusion of parents in classrooms

To know a child's context, school personnel must build relationships with the child, parents and community, as the child and their cultural context are mutually constituting (Rogoff, 2003). The case studies showed that, despite the desire of both parents and teachers to build these relationships, there were some structural barriers to this occurring. The two mothers in Case Study 1 were highly supportive of their children's learning but felt that their support occurred outside the school programme, and that they were not involved in decision-making about their children's learning programmes within the school context. The parents from Nikau School believed they had opportunities to contribute to the programme and that they had important information, knowledge and skills to offer. However, despite parental desires and teacher commitment to parental involvement in Nikau School, there were a number of structural and cultural barriers that constrained their input. Community involvement, as described in Chapter 7, was very difficult to implement despite the considerable commitment and efforts by both the school and the community. Systemic processes and structures (such as resources, accountability frameworks and legal requirements around, for example, employment and health and safety) and wider societal structures (such as the work commitments of parents and

community members) presented significant barriers to productive home, school and community collaborations.

Theoretical frameworks that could underpin effective interactions in New Zealand classrooms

In response to question two, I have examined the theoretical frameworks that underpin effective interactions in New Zealand classrooms. In this case, there is no explicit guidance provided to state schools on the theoretical frameworks that could or should underpin effective classroom practices. To determine what has been effective through the case studies, I have mapped the pedagogical practices observed to the epistemological positioning that underpins them and then linked these to different theoretical frameworks. The four theoretical frameworks that were prominent in the observed effective classrooms were the bioecological model; sociocultural theory, critical theories and Kaupapa Māori theory. These worked together interconnectedly and interdependently.

These four theoretical approaches are set out in the curriculum document for Early Childhood Education in New Zealand, Te Whāriki. Te Whāriki tells New Zealand early childhood educators that "effective curriculum and pedagogy are underpinned by evidence-informed theories about how children learn and how adults can play a role in facilitating this process" (Ministry of Education, 2017b, p. 60). Educators in that sector are then guided directly to the same theories as listed above. Challenges remain in the early childhood sector in implementing the theories (see, for example, Rameka, 2015). To reiterate, I would suggest that the cultural mores and processes of the factory model of education have permeated society and become the status quo, influencing the ontologies and epistemological positionings across educational setting, including early childhood education. However, for this sector, the frameworks are provided and the potential for change is in place. Educators familiar with these frameworks, or who receive support through relevant professional development, will activate their critical consciousness around the place and outworkings of these theories. This will enable them to resist practices that perpetuate the current disparities in our education system and enact the transformative praxis embedded in these theories.

A framework that has been provided is *Tātaiako: Cultural Competencies for Teachers of Māori Learners* (Ministry of Education, 2011b). This framework explicitly sets out five cultural competencies for teachers, "each competency describes related behaviours for teachers at different stages of their teaching career, and what the results could look like for learners and their whānau" (p.2). However, as this description says, the competencies refer to teacher behaviours rather than evidence-informed theoretical frameworks. Teachers may be able to demonstrate these behaviours, and have these behaviours acknowledged and rewarded through their performance appraisal system, without having to engage in an appropriate examination of their own (or their school's) epistemological positioning about "how children learn and how adults can play a role in facilitating this process" (Ministry of Education, 2017b, p. 60). That is, it is still possible for teachers to meet the requirements of Tātaiako while believing in a "banking pedagogy" (Freire, 1996, p.11), where the role of teaching is to deposit information into students while maintaining the systems of oppression inherent in education's current status quo. Transformative praxis in teaching comes, Freire says, when teaching is an "ontological vocation" (p.12), that is, teachers know and reflect on their ontological beliefs about learners and, I would add, their epistemological beliefs about how learning occurs.

A further caution about using Tātaiako as if it were a theoretical framework for pedagogical practices is that the competencies are described as "cultural competencies for teachers of Māori learners" (Ministry of Education, 2011b). In describing these behaviours as being suitable for Māori learners, Māori students continue to be positioned as the problem in the system and a discourse of pathologising minority students (Bishop, 2005) may be perpetuated. There is a risk that Māori learners are seen as different to all students. Berryman et al (2015) say that:

> failure to acknowledge inequities in education and the wider context of society between those that fit within the parameters of the *normal* dominant and those who are defined

> as being *different* from normal is to ignore a fundamental social injustice and to be complicit in an oppressive regime (p.6).

A description of behaviours for teachers of Māori learners, without an accompanying acknowledgment or challenge of the ontologies and epistemologies in which these behaviours are enacted, may perpetuate a belief that Māori students must be treated differently to the norm.

I believe that the clarity of guidance about the need to have effective curriculum and pedagogy underpinned by evidence-informed theories, and the similar clarity around the advocated theoretical frameworks provides a solid foundation for early childhood educators. However, the compulsory sector is not as well-served. There is a lost opportunity through the absence of similar advocacy in guidance provided for educators within the compulsory schooling sector. This absence of guidance can mean that educators are not challenged to ask epistemologically-focussed questions about what counts as knowledge and how that knowledge is constructed by the learner. A system focus, instead, encourages questions about what children are learning and how they are achieving and how teachers should behave with learners. Educators within the system are not prompted to engage with deeper, epistemologically-framed systematic consideration of how they come to know the world and their role within that world (Denzin & Lincoln, 2011; Packer & Goicoechea, 2000).

Section 3: How are the cultural toolkits (knowledge, understandings and positionings) of teachers, students and parents drawn on within classroom micro-interactions?

One of the foci of this research was to metaphorically put classroom micro-interactions under a microscope. This close, centripetal examination provided an opportunity for teachers and students (and, in Case Study 3, two parents) to examine factors that impact on those interactions. Through the identification of a number of micro-interactions, isolated as a series

of critical incidents, participants were able to analyse, unpack and interpret these incidents and the factors that had made these effective learning moments, and/or how they could have been improved. In order to analyse these micro-interactions I isolated, from a review of the literature, six factors that could underpin a learning moment. These factors were originally drawn from research on effective or expert teaching practices but, as my understanding grew and was broadened through the research and insights of all participants, I expanded these factors to include the understandings brought to each learning interaction to include teachers, students and parents. These understandings are derived from professional practice by reflective practitioners (Kennedy, 2002; Ministry of Education, 2014; Shulman, 1987) and by the cultural toolkit that every participant has developed through their social, cultural and historic positioning (Bronfenbrenner, 2005; Bruner, 1999; Pere, 1994; Rogoff, 1994; Tangaere, 2012; Vygotsky, 1997). The six factors (outlined in Chapter 3) are:

- understanding subject content;
- understanding curriculum content;
- understanding assessment requirements;
- understanding learning strategies;
- understanding the learner;
- understanding the learner's cultural context.

The most significant finding from the examination was that every factor, the full cultural toolkit of every participant, was needed and was used in rich and rewarding interactions. The factors are interdependent and contextual, there was no rule for when one factor would be better placed than another in a response. The contexts were very dependent on the expertise that each participant brought to the interaction.

When the interactions were between a teacher and a student, the teacher expertise in all of the six factors affected the choices made about which factor would be prioritised in that particular learning moment. The student expertise also affected the factors drawn on, their own understandings across the six factors influencing when they initiated an interaction, how they responded to a teacher-initiated interaction and how they accepted or responded to the

exchange of ideas within the interaction. An example of this is the interactions between Marie and the students regarding the mash-up as a song choice for one of the groups. Marie's expertise across the six factors, brought to this interaction, were gained through her professional experiences as a teacher, as a developer of assessment tasks in music for NZQA and a developer of tasks for the Association of Music Teachers, plus her personal experience a musician and as a well-known performer in the community. The girls are also experts in their own rights, they are experts in themselves as learners, both individually and as a group, having been learners together for a long time and in classes across the school outside of music. They are also competent musicians in their community and all had been successful in interschool music competitions. In the group task, the students nominated a 'mash-up' rather than a single song as their song choice. Marie suggested that a single song was a better fit for the assessment criteria. After respectfully considering Marie's advice, the group continued with their mash-up, Marie acknowledging as the group performance developed, that their choice was a good one and the group all achieving well against the assessment criteria for the standard.

Some of the observed micro-interactions were between students, the students guiding and supporting each other's learning. Again, all of the six factors were present across the interactions as can be seen when the boys at Nikau School were talking to each other about their learning. I observed the boys drawing on their understandings about subject content, for example Manu and Ezra carefully working out together how to represent three quarters. In another interaction, Manu drew on curriculum knowledge (previous learning), when he encouraged Ezra to remember his learning when he had made a birdfeeder. As they worked together to solve the three quarters challenges, I frequently observed the boys drawing on assessment requirements and learning strategies, seeking ways together to obtain the correct answers to share on the whāriki and encouraging each other to try different ways to draw the grid. Manu demonstrated the factors 'understanding the learner' and 'understanding learning strategies' when he encouraged Ezra to remember the birdfeeder. Manu was able to apply the learning from the birdfeeder context to the new context. The factor 'understanding the

learner's cultural context' permeated the learning interactions between students across the class, most observed interactions being respectful and mana-enhancing, the students not putting their friends and peers in situations where they were uncomfortable or shown up.

The positive learning-focussed interactions between students, observed in both case studies two and three, were supported by the conditions Marie and Susan had created for students to assist each other in the natural ebb and flow of classroom relationships. To enable this, they mostly did not assign 'buddies' within classroom pairings, or tightly control the peer to peer partnerships. When students are able to make their own decisions about the best pairings for them to be working in, it is more likely that the classroom culture is one of power-sharing and self-determination (Berryman et al., 2018), and they are better able to work together in "mutual negotiation and collaboration" (John-Steiner & Mahn, 1996, p. 200). In the self-selected pairings there would seem to be more opportunity for fluidity in the tuakana-teina ako roles (Rameka & Glasgow, 2017). Bishop and Berryman (2006) have shown that students, especially those described as non-engaged Māori students, want to work with their friends in school, with Hughes and his colleagues (2001) showing that learning with friends supports students' general well-being and motivation to learn.

In this research, all participants were asked to rate, using Likert-type scales, their perceptions and experiences with these different factors in the learning micro-interactions. The responses within each case are presented in the individual case studies. A synthesis of the information across the three cases is presented below.

The factors teachers considered important in learning micro-interactions

The three teachers were asked how much they had drawn on each of the factors in their micro-interactions throughout the unit of work and how much they would have liked to have drawn on them.

All teachers rated drawing on their understanding of the subject content the highest. John was the most positive, rating this a '5', the only '5' he gave in response, across the categories by a teacher, to the question, how much have you used the different factors. It would be expected that John would have rated this a '5' as he was employed by the school to draw from his subject content knowledge about the teaching of writing. Teachers were also positive about how much they had drawn on the factor called understanding the assessment requirements. The lowest ratings, across the range of teacher responses, were for the factor called understanding the learner's cultural context. Susan rated this a '1', explaining that her teaching in the observed unit was atypical of her usual teaching practice, her driver being that she felt she had to prepare the children for the type of work they would be receiving at their next school. When asked how much she wished she had drawn on this factor, Susan rated this a '3.5', while she believed that all practice should be culturally responsive, she felt compelled to prepare the children for their next school and to ready them for practices that were more transmission-focussed and with less likely to understand or respond to children's cultural location. In this, she was torn but, because of past students visiting her and talking of the differences in teacher practice, Susan believed that she owed it to the children to change her practice to reduce the "shock of next year's experiences" at their new school.

The range of ratings for how much teachers wished they had drawn on the factors was much higher than how much they had drawn on these strategies. John gave the same ratings for both understanding subject content (a '5') and for understanding assessment requirements (a '3'), in answer to both questions explaining that, for the purposes of this unit, he believed this was about the appropriate level. The biggest differences were John's scores for understanding learning strategies, understanding the learner and understanding and being responsive to the learner's culture. John was very conscious that he would have taught the unit of work differently if he had been able to draw more from these three factors. Marie gave her highest rating for how she had drawn on these same three factors (respectively a '4', '4.5' and '4.5'). She gave a rating of '5' for each of these factors in how much she would have liked to have drawn on them, explaining that these are very important to her, "fundamental to my teaching

really" and she always wanted to improve. As these ratings show, the teachers felt that drawing on all six factors would have enhanced the teaching and learning.

The factors students considered important in learning micro-interactions

The ten students were asked to rate how much they thought the teacher had drawn on the six different factors, and how much they would have liked the teacher to have drawn on these.

They provided a range of responses to the question "How much has your teacher drawn on each of these factors when working with you in this unit of work?". The students from Harakeke College and Nikau School were very positive in these rating scales. Of the 30 ratings given by the five girls from Harakeke College for these questions, they gave 20 ratings of '5' (the highest rating and 10 ratings of '4'. For the three boys from Nikau School, of the 18 ratings they provided across the six factors, they gave nine ratings of '5', seven of '4' and two of '2'. The students from Totara Intermediate School were less positive.

The most positive response was for the factor called understanding subject content, with seven students giving a rating of '5'. Students were almost as positive about the factor called understanding assessment requirements, with six students giving a rating of '5'. The factor with the largest range of ratings was that called understanding curriculum content, the ratings ranging from '5' to '1.5'. This was one of the two areas where four of the girls from Harakeke College gave the lower score of a '4', saying that the teacher had not drawn from any of their other subject areas in the unit of work. The boys from Nikau School gave their lowest scores for this factor – two of the boys giving a rating of '2', referencing their disquiet that they were not being prepared for their next school.

Students were most positive about the extent to which the factors called understanding learning strategies and understanding the learner were used by the teacher, eight students giving rating of '5' for these two factors. However, one student in Totara Intermediate School

gave a rating of '1' for the visiting teacher for the factor understanding the learner, explaining that the visiting teacher didn't know them and this had impacted on the learning. The other interviewed student from the same school, though, gave a rating of '4' for this question, saying that a visiting teacher couldn't be expected to know them, explaining that John had done the best he could under the circumstances. In this setting, the different ratings by the students of the same experience seem to indicate that one student was resigned to a system where teachers can lead classes without knowing the students and this is the way things are; the other student did not make these allowances, feeling that he had been disadvantaged through the teacher not knowing him as a learner.

The factor called understanding the learner's cultural context also elicited a range of responses. A card showing the factor was presented to the students and I provided a prompt "this is about the teacher knowing what is important to me and my family – what we believe, what matters most to us". In case study 1, Stephen gave the lowest rating, a '1', saying that it was impossible for a visiting teacher to know about him. Alice agreed that a visiting teacher couldn't understand and be responsive to her culture, but she didn't see this as a problem, being reluctant to be put in a position where she had to share personal details with a visiting teacher, therefore rating this a '3'. The students in case studies two and three were slightly less positive in their ratings for this factor than for other factors, in both cases students felt there were things the teacher did not know – as one of the boys said in case three, their teacher "knows a lot, but not everything".

The request to rate how much the students wished their teacher had drawn on the six factors drew very positive responses – the most frequent rating being a '5', the lowest rating being a '4'. The students emphatically stated that, to get the best learning opportunities, they need their teachers to be skilled practitioners across all factors.

The factors parents considered important in learning micro-interactions

The two parents from Nikau School were asked how much the different factors (using the same descriptors) in their cultural toolkits were drawn on by Susan and how much they would have liked to have these drawn on.

There was a difference in the ratings given by the two parents but both parents would have liked the various factors in their cultural toolkits to have been drawn on more by the teacher than they currently were. Both parents were most positive about their contributions to the factor called understanding the learner's cultural context and reported that they were able to talk to the teachers about their own and their children's languages, cultures and identities with this information respectfully used to shape their children's learning. Both parents were positive about the factors called understanding the learner and understanding learning strategies, these factors both relating to parents and teachers building a shared understanding of their child. Both parents would have liked to have their understandings, knowledge and skills drawn on more for the three labels called understanding subject content, understanding curriculum content and understanding assessment requirements. Contribution to these three factors would require a more visible parental influence in planned classroom programme. However, there were a number of reasons, explored in Chapter 7, why these parents did not feel they could make a greater contribution.

In a separate interview, Susan was asked how much she felt she drew on the parents' cultural toolkits for the classroom programme. The teacher felt there was a high level of parental input into aspects of the classroom programme, giving a rating of '4' to the factor understanding subject content. The teacher referred to the programmes such as Mana Wahine and Tama Tū, Tama Ora and a student-led inquiry programme called Miharo (Wonderment). Both parents felt they had been consulted with and had opportunities to contribute to these significant aspects of the learning programme, but not to the areas they considered more core, such as literacy and numeracy. When prompted to explain why this was important to them, the parents both expressed some degree of unease that any time away from what they perceived

to be the standardised curriculum could compromise their son's later success in their schooling. One parent said "Ezra loves this school, I hope he will be ready for NCEA and all that".

The teacher's lowest rating was a '1' for the extent to which she felt she drew on parent's contributions to understanding assessment requirements. In discussing this, Susan said she felt that assessment was the professional practice of teachers and that reporting requirements did not give much room for doing it differently. Both parents, though, wished to contribute more to this area, one rating a '4' for the extent to which she would have liked this to be drawn on.

There was relatively close agreement between the teacher and parent's ratings of the extent to which parents' understandings of the learner and their understandings of the learner's cultural context was drawn on by the teacher in learning interactions. Susan believed that she listened to parents and responded to their contributions about their child and the parents agreed this happened. Susan, though, was slightly less positive about how much she drew on parents' contributions to the factor called understanding learning strategies – rating this a '3'. There was a mixed response from the two parents for this factor – one rating this a '4' and one a'2.5'.

There was good communication between parents and Nikau School, as discussed in Chapter 7 and the analysis of the parents' ratings indicates that these parents feel the information they share about their children is valued and is used by the teachers to enhance learning experiences. However, neither parent reported that their cultural toolkit was drawn on in the ongoing learning programme for the school. While they appreciated the areas where their input was sought, they both reported that they would have liked to have a greater input into the core programme. This presents a dilemma because, although the parents wished for more input, for a variety of reasons, they were unable to be physically present at the school at the times when their input could be timely and useful. Physical attendance remains the key means for increasing contributions to classroom programmes. Despite the value of parental input into schooling, as seen through the research (see Chapter 3) and the reports of all parties in Case Study 3, there are structural barriers to attaining this state. The barriers include parents'

availability and capability to have this level of influence. The barriers also include challenging understandings about how the role of the teacher is viewed in the school, and how their professional responsibilities and accountabilities will be exercised. Addressing these barriers was outside the agency of a school to manage on their own, a system response, different to the current system support, is needed.

The complexity within micro-interactions

Children's day-to-day schooling experience are made up of hundreds of micro-interactions, with their teachers, other students, their whānau and others they meet in their school life. The factors that underpin all interactions are necessary and work interdependently, and the manner in which they occur is as important as the content of the interaction. Micro-interactions have the potential to either enhance or erode a student's mauri (Durie, 2015, 2016) and are the immediate determinates of students' success or failure in their schooling (Cummins, 2003; Wearmouth et al., 2009). From a factory model perspective, some of the daily interactions a student experiences are learning focused, the interactions supporting the student as they work towards the academic goals set by the system (M. Heritage, 2007, 2013; Ministry of Education, 2006; Shavelson, 2003), while other interactions focus on behaviour, class management or building rapport. From a te ao Māori perspective, every interaction is a learning interaction, as every experience that affects the growth of mauri and dignity in a child is as important for learning as those that link directly to the lesson content (May et al., 2004; Ministry of Education, 2014; Pere, 1994).

Micro-interactions are fleeting, they arise spontaneously as part of the ebb and flow of classroom conversations and experiences. The learning experience can continue after the actual interaction has occurred, spiralling, unresolved and building until the right time and space arose. Responses within these micro-interactions are mostly unplanned with the participants drawing from their cultural toolkits as they relate to and interact together. The understandings required by each participant in order to make these learning micro-interactions

effective are complex and interdependent. The separating and grouping of the various understandings into the six factors aided the examination of the interactions in this research, but these isolated components of the interactions do not give the full picture. This comes from understanding the macro-contexts in which schooling is based, the contexts that underpin the classroom practices and the theoretical positionings in which the responses are based.

Section 4: How does the *ako: critical contexts for change model* support effective classroom micro-interactions?

There are a number of implications arising from this research. One solution would be to provide a list of these implications and to encourage educators to examine their practices in a centripetal manner, that is, to pay attention to the small component parts and to get better at each of these small parts. An alternative I have chosen is to examine a model that is in use in New Zealand schools that provides a means to examine both the macro and micro-contexts of schooling, the *ako: critical contexts for change* model.

Applying the ako: critical contexts for change model

The *ako: critical contexts for change* model (as outlined in Chapter 2) was developed as a tool to support whole school reform through processes that would accelerate students' learning. Across the different elements of the model, discussed below, the macro-context of schooling is considered along with the micro-context of the daily experience of that schooling as lived by individual children attending school. Although this model was developed as a means for implementing whole school reform, in this research, I have applied the model as a means to closely examine classroom practice, particularly classroom relationships and the learning micro-interactions that occur as part of classroom programmes.

For this research, the three contexts: adaptive expertise driving deliberate professional acts; cultural relationships for responsive pedagogy; and, home, school and community connections are considered as the micro-context of schooling – the contexts that underpin children's daily experiences. The components of the macro-context, the system structures and processes that surround these micro-contexts, are: cultural identity strong and secure; learning and achieving for the future; and, belonging through equity and excellence. The theoretical frameworks permeate both the macro and the micro contexts and are made explicit through the poutama staircase that is embedded and rising up through in the model.

Mauri ora

The centre of the *ako: critical contexts for change* model is mauri ora. Mauri ora is a concept that cannot be directly translated into English, containing the notion of flourishing, of wholeness or wellness (ora) within our mauri or life force (Durie, 2015). At the opposite end of the continuum (Berryman & MacFarlane, 2017) is the concept of 'mauri noho', where the individual's lifeforce is weakened or languishing (Durie, 2015). On a day-to-day basis, a learner's experience of schooling has a significant impact on the state of their mauri (Berryman & MacFarlane, 2017; Bishop & Berryman, 2006). Central to their experience will be the outworkings of the ontological view of the child as held by the adults in their school with whom the child interacts. Teachers' cultural toolkits are formed through their ontological beliefs and affect their discursive positioning, that is whether students are viewed within discourses of agency (agentic positioning) or from within discourses of deficiency (Bishop et al., 2009). Teachers' positionings are key determinants of the classroom culture, impacting on how students interact within micro-interactions and how the values and influences of whānau and community inform relationships and learning. Students' day-to-day experiences continue to impact on their mauri, some students continuing to find schooling to be "overwhelmingly awful year after year" (Bishop & Berryman, 2006, p. 255). A focus on the child flourishing in our system and every child recognised as unique and of spiritual greatness, is a means to ensure that students' experiences in schooling builds a child's mauri.

The micro-context of schooling and learning micro-interactions

Cultural relationships for responsive pedagogy

This context within the *ako: critical contexts for change* model is clear that relationships come first, for responsive pedagogy and that the culture of the relationships matter. Regardless of the expertise brought across the six factors, learning interactions will not be effective if the learner does not believe that those with whom they are learning know them and care about them; recognise their potential; have high expectations for their learning; and, support their learning within nurturing and mutually beneficial relationships (Berryman & Eley, 2017b, 2019; Bishop & Berryman, 2006; Durie, 2016; Office of the Commissioner for Children & New Zealand School Trustees Association, 2018; Wentzel & Muenks, 2016). Although warmth, empathy and friendliness lay the foundations for learning relationships, they require more than good rapport. Effective learning micro-interactions come from a place of mana ōrite (Berryman et al., 2018), of mutual respect across all participants. The learners in the interactions must be certain that they, their whānau and their sociocultural contexts (both current and historical) are valued and respected. They must also reciprocate this, valuing and respecting their partners in the interaction, whether teacher, student or whānau.

The quality of the relationship impacts on the effectiveness of the pedagogy. Responsive pedagogy grows from mana ōrite relationships where both the students' and teacher's perspectives and expertise are valued (Berryman & Eley, 2017a, 2017b). It is "the ability of educators to respond in flexible, context-sensitive and intelligent ways to novel situations that arise in their work" (Si'ilata et al., 2015, p. 5). Knowing the learner ensures that pedagogical strategies suit the learner's requirements in the particular moment of the interaction. These strategies can come from any of the participants – the role of More Knowledgeable Other (Cole et al., 1978; John-Steiner et al., 1994; Vygotsky, 1980), or tuakana-teina (Ministry of Education, 2014; Rameka & Glasgow, 2017) can be shared. The strategies used will also draw from all six factors that could underpin the understandings in the interaction, being responsive to the aspirations, interests, preferences and learning needs of the participants. Responsive pedagogy

is not bound by the classroom timetable or lesson plans, it is responsive to the learning opportunities that arise within the interactions, ensuring that children are learning and achieving for their future and that their cultural identity is being strengthened.

Adaptive expertise driving deliberate professional acts

The examination of the micro-interactions that could underpin a learning moment showed that all six factors were considered necessary by all participants. When asked, no participant could identify any one of these factors that they felt was more important than the others, all factors were drawn on, or participants would have liked to them to have been drawn on, in order to enhance the learning experience. Every response required a level of expertise, and this could be drawn from a combination of any or all factors. The expertise included the subject of the learning (understanding subject content); understanding previous or lateral learning (curriculum content); the goals of the learning (assessment requirements); how this learner or learners in general can best understand the concept (learning strategies); the toolkit this learner brings to the interaction (the learner) and an understanding of the learner's cultural context.

All participants in each micro-interaction, students, teachers and parents, brought their expertise to the learning experience. Each participant drew from their cultural toolkit and applied this adaptively, prioritising one factor over another or combining these in response to the particular context of the situation. Their expertise was revealed through their adaptive application of the various factors in response to the context (D. L. Ball et al., 2008; Bruner, 1996; Shulman, 1987).

The *ako: critical contexts for change* model describes this context as adaptive expertise driving deliberate professional acts. When applied to whole school reform, the professional practice refers to the actions of educators including school leaders, teachers and policy-makers. In the consideration of learning micro-interactions in this research, I have counted the expertise from

all participants in the interactions, including students, parents and teachers, as the 'professional' acts that supported learning.

Powerful home, school and community connections

A third context within the *ako: critical contexts for change* model is that of powerful home, school and community connections. Nikau School was selected as the site for Case Study 3 because of the many good reports of the close links between the school and the community in which it is located. However, as previously stated, while the physical presence of parents in the classroom only occurred in these observations, the influence of parents was visible in all three cases. In both case studies one and three, parents confirmed they both wished to contribute to their child's education and to the life of the school. In case study three, the teacher, principal and chair of the school Board of Trustees all talked of their desire to have full parental and community involvement in the school and in the classroom. Despite this commitment, the process for parental involvement was not easy. The parents found it difficult to be physically present at the school when their input was requested. There are multiple reasons why parents may find it difficult to attend school, including barriers such as other commitments, a fear of being challenged by school personnel and feeling unable to bridge the cultural divide between school and home. In addition, these parents were not always comfortable with the consultation process held by the school, both saying that they were not the experts in the schooling system. This belief may grow from their own inculcation into a factory model of schooling that declares education is the role of the State and not of the whānau. These parents were experts in many ways about their child's education, including knowing the cultural match between their whānau values and experiences and the school culture, and their child's interests, aspirations and learning preferences. The parents and teacher all separately reported that that there was no easy way for parental knowledge across the cultural toolkit factors to be shared.

Both the principal and the Board chair of Nikau School spoke of the challenges in trying to fully implement wider community involvement in the school, describing difficulties that occur when a system talks of the need for productive partnerships (Ministry of Education, 2019b) but does

not provide the structural supports needed to enable mana ōrite partnerships. For example, accountability for student achievement rests solely on the school; parents and whānau have no visibility in the accountability for their own child's success. Although schools' Boards of Trustees comprise mostly whānau representatives and are held responsible for overall success of their school, accountability frameworks do not include whānau or acknowledge their contribution to student success in schools. In addition, the principal and chair both spoke of the need to change teachers' hearts and minds about the role of whānau - some teachers holding an ideology that education is the role of the state, the need to unlearn this perception can create challenges around teacher attitudes and perceptions.

Despite the barriers and the challenges encountered by a school and parents who wanted to experience the powerful home, school and community partnerships included in the *ako: critical contexts for change* model, this is an area that must be developed. The onus to bring about the connections rests with the school: "what is needed is pedagogical leadership that is committed to creating connections between schools and family, whānau, and communities (Robinson et al., 2009, p. 169). Parental influence, even when not physically present in the micro-interaction, is still considerable. The child who attends school is 'accompanied' by their immediate and extended family and cultural connections (Bronfenbrenner, 1979b; Rogoff, 2003; Tangaere, 2012). As Bronfenbrenner describes it, the child is nested within the various relationships and contexts that make up their sociocultural context. A te ao Māori perspective widens the 'nestedness' of the child to include all whakapapa connections, current, past and future (Graham, 2009; Rameka et al., 2016). These influences need to be considered by all participants within the micro-interactions.

The macro-context of schooling and learning micro-interactions

Simultaneous Success Trajectories

The *ako: critical contexts for change* model includes the two simultaneous success trajectories: cultural identity strong and secure; and, learning and achieving for the future, both of which are

essential if we are realise the goal of belonging through equity and excellence (Berryman & Eley, 2017b). When the *ako: critical contexts for change* model is applied to school reform, the simultaneous success trajectories, grounded in the principle of belonging through equity and excellence, encourage a focus on the goals of the school and the need to ensure that neither academic success, cultural identity, nor a sense of belonging be compromised in realising those goals. In this research, I have applied the *ako: critical contexts for change* model as a means for examining classroom practices, particularly the micro-interactions that underpin a child's daily classroom experience. In this setting, the two simultaneous success trajectories and the principle of belonging through equity and excellence are equally important. At an individual level, a check that each interaction in which a student is involved is undertaken in a context that ensures their cultural identity is strengthened is essential. Likewise, every interaction in the classroom should support each child as they are learning and achieving for the future.

Cultural identity strong and secure

The influences on a child's formation of their cultural identity is part of the macro-context of the school and society. The interplay between the child and their community is what shapes their cultural identity. However, the micro-interactions within the classroom play a significant role in how the child's belief about themselves is formed and reinforced. Classroom experiences have potential to either foster or erode a child's mauri and the building of positive or negative, flourishing or languishing personal identities. Durie (2016) says that relationships that are disempowering and humiliating leave the individual's mauri in a weakened state, constrained by a loss of hope and an apprehensive mind.

A significant influence on the quality of the interactions that either erode or foster a child's mauri will be the teacher's ontological positioning and their views of the child. If the child is seen as tamariki, then every interaction will focus on the potential, uniqueness and spiritual connectedness of that learner. The relationship between the participants will be mana-enhancing, with every interaction ensuring the child's inherent dignity is intact (Pere, 1994). Conversely, if the interactions in a classroom are based on an ontology derived from the

processes and structures of a factory model, then the interaction will more likely be focussed on how well the child is meeting the standard and how their deficiencies can be remedied. There is a strong likelihood that, no matter how kindly the messages of their deficiencies are given to the child, the interactions will be detrimental to a child's mauri. It is the daily experiences, located within the ontological positioning pervasive in the classroom, that will allow an individual's cultural identity to be strong and secure, or not.

Learning and achieving for the future

The second success trajectory in the *ako: critical contexts for change* model is 'learning and achieving for the future'. This trajectory references education success, causing educators to consider both the purpose of schooling and definitions of success at school. The answers to these two questions will be different and again are dependent on one's ontological position. In an ontology derived from the factory model, success is academic achievement in the curriculum determined by the State to the standard set by the State. There is a 'one size fits all' view on the purpose of schooling and on the expected achievement resulting from a child's school experience.

An alternative ontology positions learning and achieving for the future more broadly and more responsive to the gifts, talents and responsibilities of the child (Calman, 2012; Hemara, 2000). In te ao Māori the goal of education (wider than just schooling) is community and individual wellbeing (Hemara, 2000). Learning is based in mātauranga, reflecting the enduring relationship and connection to the student's environments (physical, cultural, and spiritual) and acknowledging that knowledge is derived from a range of sources and contexts (Ministry of Education, 2014). In this ontology, neither the learning content nor the desired outcomes can be preset by the State but will be responsive to the community, the context and the child.

The different ontological positionings lead to different interpretations of the success trajectory of learning and achieving for the future. They will also impact on micro-interactions and pedagogical practices as, from their ontological base, educators work to support the child in

learning and achieving for the future. For the child, the ontology is not likely to be overtly manifest. However, it will inform the daily micro-interactions they experience; driving either towards the goals, standards and credentials of the factory model of schooling, or driving to enhance the wellbeing of the individual and their community.

Equity, excellence and belonging

The need for learners to have a strong sense of belonging within their classroom, with their school and with the goals of the education system have been presented earlier (see Chapter 3). Research shows that a sense of belonging is crucial for students to learn and achieve for the future and for their cultural identity to be strong and secure (Baumeister et al., 2002; Chiu et al., 2016; Cummins, 2003; Durie, 2015, 2016). Across the case studies, the students reported a strong sense of connectedness to school, to their learning, to their teacher and to their friends and classmates. This was building a strong foundation for their enjoyment of and success in the education system.

In the *ako: critical contexts for change* model, belonging, equity and excellence are all important and one cannot be traded off against another. This requires participants, in learning micro-interactions, to check to see the ontology that is driving their particular response. Is the driver of the response to enhance student belonging in the class, school or wider system? Or is it about achieving excellence against the learning goals? Or about equity and fairness to achieve class or school goals for student groups?

The poutama

The poutama underpins the *ako: critical contexts for change* model and visually portrays three messages. Across these three messages are the four theoretical frameworks that are embedded in the model and explicitly referenced in Te Whāriki (Ministry of Education, 2017b). The first message within the poutama is that the education system needs to reflect the bicultural promise of New Zealand and honour the mandate to reflect both Māori and Western perspectives and ways of knowing. The theoretical framework within this message is that of

Kaupapa Māori theory. The second message is that the child cannot be separated from the social, cultural and historical contexts in which they are situated, the bioecological model and sociocultural theory. The third message is that the purpose for learning is for both community and individual wellbeing, this is represented by the staircase going up to attain knowledge and understanding, and coming down to share back out with one's community. The wider purpose of education, going beyond individual benefit and using education to benefit communities (Hemara, 2000) and to lead to an equitable and socially just society (Freire, 1996) is intrinsic to both Kaupapa Māori theory and critical theories.

As has been argued, I believe there is an absence of explicit, evidence-informed theoretical frameworks in the guidance provided for New Zealand's compulsory schooling sector. This absence does not mean that school policies or teaching practices are atheoretical (Dell'Angelo et al., 2014), rather that often unacknowledged theories will fill the vacuum that the absence of stated theories leaves. Freire argued that teaching is an "ontological vocation" (1996, p. 12), requiring a theoretical framework about children and how they learn.

The risk, in New Zealand schools, from the absence of an explicit theoretical framework is that the processes and structures embedded in the factory model paradigm are unconsciously absorbed by teachers as the prevailing theoretical framework. In this paradigm, the ontological view of the child is that they are incomplete or deficient, needing to be brought up to standard through their schooling. A different paradigm arises from a consideration of the heritages of New Zealand's bicultural partnership which, as a result of this research I now contend, encourages a view of a child as tamariki – the carrier of the divine spark and made in the image of God.

Having a clear theoretical framework provides participants a means by which to review each learning micro-interaction in the light of the epistemological positioning that underpins pedagogical practices in the micro-interaction. These include questions such as: what

constitutes knowledge?; how do children come to know?; and, what is the role of the classroom in supporting children in coming to know?

Conclusion

I began this description of how the *ako: critical contexts for change model* can be used for examining classroom micro-interactions with a focus on the centre of the model, mauri ora. I now end this description by returning to this central point. This is deliberate to demonstrate that the model is not linear but is a spiralling, dialogic model. All components are interdependent and must be simultaneously determined and addressed. Dealing with a part and not the whole, no matter how efficiently or effectively, will always fall short of building mauri ora across our schooling system. For schooling to truly contribute to mauri ora, I have argued, will not come solely from expertise within the component parts, determined through a centripetal view. This is necessary, with every educator professionally required to continue to build their expertise and to create the conditions to draw from and to build the expertise of all participants in classroom interactions. But, in addition, attention must also be paid to the ontological positioning of all participants in education and impact of this positioning on a child's mauri. In New Zealand, our bicultural partnership opens the door for educators to view the child as complete, whole, brimming with potential, and made in the image of God. Children can be recognised as tamariki - carriers of the divine spark. When this ontological position underpins every classroom micro-interaction, then children will experience mauri ora and their education will be a positive experience.

In the following and final chapter, I discuss the implications of this research for New Zealand schooling.

Chapter 9 - Conclusion and Implications: Fanning the divine spark

In this concluding chapter two question frameworks are provided for educators and policy-makers to support ongoing critical self-review so that transformative change might be achieved. The chapter concludes with a set of recommendations for change at both a system and classroom level.

Section 1: Implications of this thesis

Views of the child

The 1989 Education Act that guides schooling places a legal obligation on all State education institutions to uphold the principles of the Treaty of Waitangi. In honouring this Treaty, educators are required to draw from the worldviews of both the signatory partners and to enact these across all aspects of schooling. There is no doubt that there is much goodwill and many good intentions across New Zealand's schooling sector to honour the Treaty and to address the richness of the heritages of both Treaty partners (Ministry of Education, 2007, 2012, 2015b). A centrifugal view of the Treaty of Waitangi should include a consideration of the historical and sociocultural factors that surround it, both at the time of signing and its ongoing implementation. The Treaty is rooted in the context of the Doctrines of Discovery, a context that always privileges a Western worldview as both superior and dominant (Katene & Taonui, 2018; Mutu, 2018; Ngata, 2019). The Doctrines of Discovery have an ongoing impact on beliefs and practices across New Zealand society including schooling. Despite a relatively recent refocus on these Doctrines and the ongoing damage they have caused over centuries, they have remained largely unacknowledged and have not been substantively redressed (Katene & Taonui, 2018; United Nations, 2012). In this context, the promises of the Treaty have not been realised, and the beliefs and ontologies that underpin the Doctrines of Discovery have continued to permeate the fabric of New Zealand society and, in turn, have hindered the implementation of the principles of the Treaty. One significant impact of this, in terms of this

thesis and New Zealand schooling, has been that acknowledgements of a te ao Māori view of the child as tamariki have been curtailed. However, a Western view of the child as created in the image of God has also been side-lined, with a rationalist view that dismisses notions of a spiritual dimension and prioritises a secular view of the world, prevailing in policy frameworks (Herring, 2016; Rameka, 2015). These beliefs, both of the dominance of Western thinking and ways of being and the promotion of rational thinking over the acknowledgement of a spiritual dimension, are pervasive but relatively unacknowledged.

Relatively soon after the signing of the Treaty of Waitangi, the Education Act of 1877 came into force. This Act legislated that education would be directed by the State, and that the goals and outcomes of education would be determined by the State, the factory model of schooling was adopted by New Zealand. Rooted in Western rationalist thinking, the factory model is seen as an efficient means of mass schooling, educating all children in the curriculum deemed appropriate by the State and to the standard determined by the State (Labaree, 2010; Penetito, 2004; Sleeter, 2015). This thesis argues that the adoption of the factory model without the accompanying explicit directives regarding honouring the heritages of both Treaty partners, especially considering their views of the child, has created the conditions for current educational practices. That is, the absence of ontological directives has resulted in the processes of the factory model becoming the default ontology. The factory model of schooling has been detrimental for generations of tamariki, particularly for Māori, children with special learning needs, and those whose cultural toolkits do not closely align with the dominant Western-centric culture (Glynn, 2015; Hemara, 2000; Penetito, 2004; Pihama & Lee-Morgan, 2019). In the default position inherent in the factory model, a child is viewed in terms of how well they measure up to the established standards for learning within the curriculum deemed appropriate by the State (Sleeter, 2015). Descriptions of children by well-intentioned teachers and education officials are couched in terms of what the child needs to learn in order to meet or exceed the standard and how their shortfalls can be remediated. Children are viewed as deficit, “smaller, somewhat weaker and less intelligent” (Luria & Vygotsky, 1992, p. 62) than the adults they will become.

There is an opportunity in the New Zealand's educational policy framework to draw from our dual cultural heritages and to provide guidance for educators through an explicit declaration of an ontological view of the child as tamariki, carriers of the divine spark. Realising this opportunity could open conversations for educators, both in teaching and in policy, to consider their own beliefs and practices and how these are impacting on every child's day to day experiences of schooling. Even if education policy continued to direct that the factory model is the preferred method of schooling in New Zealand, clear direction regarding the ontological positioning of the child would, I believe, begin to permeate the discourses throughout our educational system. The factory model could revert to being a process rather than its current position as the historical and pervasive ontology that is embedded across our schooling system.

Classroom relationships and pedagogical practices

The ontological positioning of all participants influences their epistemological beliefs which determines their discursive positioning and the nature of classroom relationships and micro-interactions. The participants' theoretical views, whether acknowledged or unacknowledged, about knowledge, the nature of knowledge and how knowledge is acquired impacts on their interactions with learners (Dell'Angelo et al., 2014; Freire, 1996; Knight et al., 2014; Levers, 2013). This thesis argues that the absence in schooling documentation of the preferred or even the possible theoretical frameworks that could underpin pedagogical practices in New Zealand classrooms is a further second gap in the system.

Four theoretical frameworks that could and should underpin learning are provided for teachers in New Zealand's early childhood sector through Te Whāriki. Guidance around these four theories is not provided for teachers in the compulsory schooling sector. The New Zealand Curriculum (Ministry of Education, 2007) contains a section called "Effective Pedagogy" that refers to the "kinds of teaching approaches that consistently have a positive impact on student learning" (p.34). The listed teacher actions are not presented within a theoretical framework

and teachers are not, in this key document for teaching in New Zealand schools, challenged to examine the epistemologies that underpin their own or their school's pedagogical practices. Tātaiako (Ministry of Education, 2011b) presents a set of cultural competencies for teachers of Māori learners. These competencies outline a set of behaviours for teachers, again without calling for teachers to examine their own discursive positioning or the epistemologies that underpin the implementation of these competencies and behaviours.

Pedagogical practices, along with other aspects of school life, are reviewed by the Education Review Office. A set of indicators underpin school reviews (Education Review office, 2016). The current purpose of ERO reviews, with the evaluative judgements based on the evaluation indicators, is to address the nation's "current priorities in education [that] are to reduce achievement disparities within and across schools and to improve education provision, pathways and outcomes for all students" (p.5). The indicators, while presented in a discourse of equity and excellence for all students, do not give guidance on the pedagogical theories that underpin the desired outcomes and processes. Instead, a focus on theories of school improvement perpetuate and further strengthen the factory model of schooling.

The processes and drivers of the factory model of schooling have again, I believe, filled this theoretical gap. In this theoretical framework, learning is perceived in terms of the content to be covered and the standard to be reached. In order for children to achieve, they need to learn the prescribed content, skills and understandings and, where the required standard is not reached, remedial programmes of learning must be instituted. Teachers are both the authority figures and the experts in ensuring that the content is covered in the most efficient way possible.

The role of others in the learning interactions, for example, among students or of whānau is undervalued in classroom practice (for example, Berryman et al., 2015; O'Neill & Bourke, 2014; Siope, 2013). This epistemological positioning has been detrimental for many children (Bishop & Berryman, 2006; Brooking, 2007; D. W Johnson & Johnson, 2009; Nuthall, 2007). It can

underpin classroom interactions that reflect both the imbalance of power in the relationship between teacher and students and the belief that the teacher is the expert with the child lacking expertise (Cummins, 2003). In many cases, this results in interactions that are disempowering and humiliating, leaving the recipient in a state of mauri noho (Durie, 2015, 2016).

Classroom relationships and pedagogical practices grow out of participants' theoretical perspectives, whether these are held consciously or not (Dell'Angelo et al., 2014; Freire, 1996; Levers, 2013). Specific guidance for educators in the schooling sector on theoretical perspectives, such as that provided for early childhood educators, could bring educators' views on the nature of knowledge and how learning occurs to the fore. This research calls for theories about how children learn and how adults facilitate that process to be made explicit in school documentation. There is little guidance on the theoretical frameworks that could underpin pedagogical practices in school documentation. When this guidance is provided, it reinforces the ontologies present in the factory model of schooling. The New Zealand Curriculum (Ministry of Education, 2007) refers to teaching approaches that impact on student learning, a discourse that reinforces the search for effectiveness and efficiency within the existing schooling model. In Tātaiako (Ministry of Education, 2011b), the competencies are described in te reo Māori giving the impression that they are drawn from mātauranga Māori, yet describe teacher behaviours without reference to the ontologies and epistemologies within te ao Māori. The ERO indicators (Education Review Office, 2016) do not reference theories of learning, referencing instead school-improvement theory, saying that the indicators are "underpinned by a research-based theory of improvement" (p.10). The ontologies that underpin the current factory model of schooling remain unchallenged.

Effective micro-interactions

Classroom micro-interactions are the most immediate determinant of a child's enjoyment and success in schooling and are the settings in which the fanning of the divine spark occurs or not

(Cummins, 2003; Pere, 1994; Wearmouth et al., 2009). While set in the macro-contexts of the ontological and epistemological views that are embedded in schooling policies and practices, the micro-interactions are the lived realities and the daily experiences of children (Chiu et al., 2016; Meyer et al., 1998; Pere, 1994; Pihama & Lee-Morgan, 2019). The micro-interactions occur between teachers and students, and among students. Parents and whānau also have a significant impact on classroom micro-interactions (Bull et al., 2008; Ministry of Education, 2014; Rogoff, 2003). Effective responses in micro-interactions are complex. All participants bring their own cultural toolkits to the interaction (Bruner, 1996; Rogoff, 2003). The toolkits contain the knowledge, understandings and positionings of the individuals across a range of factors. This research examined how six factors within participants' cultural toolkits underpinned classroom micro-interactions and found that all of these factors were found to be necessary and interdependent, drawn on responsively according to the context of each interaction.

There are implications in considering how these factors are acquired and how they are drawn on in classroom contexts. There are clear pathways for teachers to develop expertise in their understandings about subject, curriculum, assessment requirements and learning strategies. Applying these understandings with adaptive expertise takes time and commitment to deliberate professional learning and an openness to be responsive in every context (Berryman & Eley, 2017b; Eley & Berryman, 2019). The case studies showed that all participants believed that effective learning interactions required the participants to draw on understandings about the individual learner and that learner's cultural context. There can be some challenges in acquiring these factors as specific understandings about students cannot be taught, they require a commitment to respectful, reciprocal mana ōrite relationships that go beyond a level of friendly rapport in the classroom (Berryman et al., 2018). Expert teaching requires more than objective learning, it requires that the teacher bring their whole selves into the interactions, drawing on all their understandings and senses, including tairongo – the use of all senses including perception to support the learning (Day, 2005; Ministry of Education, 2014). It also requires a degree of sensitivity: in each case study the students showed some reluctance to

open themselves fully to teachers or visitors, needing to be confident that they could trust the relationship and the relational partner, and that the trust would be reciprocated and not rejected.

Students and parents also bring their expertise and cultural toolkits into learning interactions. The value of this expertise can only inform the interactions when the culture of the classroom is one in which multiple contributions are valued and recognised (Bull, 2008; Cummins, 2001; Timperley & Robinson, 2002). Teachers have a major influence on the classroom culture – their views of the learner and of how learning should occur sets the tone for how the contributions to learning will be enacted and has ongoing implications for student learning. Regardless of the classroom culture, students will turn to each other for learning support (Boud, 2001; D. W Johnson & Johnson, 2009). When the classroom culture encourages that all learning and knowledge must pass through the teacher, students learning from each other will be covert, and the benefits may be minimised or misconstrued. Likewise, the understandings, learning and cultural richness from students' homes can also be either celebrated or ignored in classrooms. When these are recognised and built upon, learning for all is enriched.

The implications of how distributed expertise across the range of factors is viewed in the classroom is clear – the wider the range of factors and the wider the base of expertise, the richer the opportunities for learning. Building this base requires a deep understanding across the six factors, particularly those of understanding the learner and understanding the learner's cultural context. This learning needs to build in mana ōrite relationships (Berryman et al., 2018; Ministry of Education, 2014). Classroom relationships and practices are enhanced when teachers are able to draw from their understandings of the individual learners rather than generalised understanding of a culture and associated stereotypes. Students report they experience racism in New Zealand schools: "many rangatahi and tamariki told us they experience racism at school" (Office of the Commissioner for Children & New Zealand School Trustees Association, 2018, p. 19). This research finding was most frequent for Māori students with racism having been identified as a significant problem in schools over decades of research

with students (for example, Berryman & Eley, 2017a; Bishop & Berryman, 2006). When there is overt racism or ongoing microaggressions in classrooms, the expertise of the child, the richness of their social and cultural context and the contribution that they and their whānau can make is lost to the learning interactions.

Addressing racism requires a society-wide acknowledgement of the pervasive influence of historical and ongoing colonial injustices including: the conveniently forgotten or subverted influence of the Doctrines of Discovery and its relationship to social Darwinism; the formalisation of a Native schooling system to assimilate and train Māori for menial labour; the enduring failure of the Crown's systems to work effectively for Māori; our ongoing deficit theorising of Māori and failure to honour the Treaty of Waitangi or any other documents that attempt to place Māori as worthy of greater respect or consideration such as Ka Hikitia and Tātaiako. A view of teaching as fanning the divine spark will only be realised when the child is valued within their cultural context and cultural contexts of all are celebrated. When we can do this for Māori learners and their whānau we will be more likely to do this for other students for whom the system is not working, particularly students of other minority cultures and those with special learning needs.

Informing minds and changing hearts

This thesis presents the need for a radical repositioning of the beliefs and practices of educators. At a system-level, I argue the need for clarity about the ontologies inherent in the heritages of both the Western and te ao Māori worldviews and how these should, through the requirement to honour the Treaty of Waitangi, be implemented in the education system. I have also called for explicit guidance on the epistemological positionings and theoretical frameworks that should underpin pedagogical practices. At the micro-level, this thesis argues for the expertise within the cultural toolkits of all participants in classroom interactions, teachers, students, whānau and visitors, to be recognised and developed. Classroom micro-

interactions occur in the relational space: it is essential that these are relationships of mana ōrite and that this concept is understood and implemented by all participants.

It would be possible for each of these calls for action to be responded to in a purely academic manner. That is, that educators are provided with extensive information about ontologies, epistemologies, theoretical frameworks, learning interactions and relationships. However, providing more information is only part of the solution.

Classroom level change

One of the teachers in the case studies was an expert in his field and his expertise was drawn on nationally and internationally. This case was deliberately chosen to exemplify the application of teacher expertise in a setting where the teacher did not know the children in the class. His expertise assisted teachers to be better at achieving the goals and standards considered desirable within the State education system. The other two teachers in the case studies had embarked on a journey of personal conscientisation and change where, in addition to their commitment to being expert teachers, they examined and then embraced ontologies and pedagogical practices outside those inherent in a factory model of schooling. This change involved ongoing learning about New Zealand's educational history, the dominant and pervasive cultural views that permeate educational provision today and their role in resisting the status quo. A change also required a heartfelt commitment to change. Both these teachers were adamant that they had not been able to undertake this journey without the professional development that had introduced them to this learning and provided ongoing support. While some of this professional development was around new and different learning, a key focus was on developing their critical consciousness. This level of change, involving both hearts and minds, takes time and commitment. It also requires specific and tailored professional development that addresses teachers' perceptions and attitudes (Glynn, 2015) and draws from both Kaupapa Māori and critical theories.

System level change

That Māori students are not achieving as well within New Zealand's education system has been of concern for many years. System-level responses to this concern "has resulted in many measures, some well-intentioned and others not, to 'fix the Māori problem" (Berryman et al., 2017, p.476). However, as the Ministry of Education (2015a) acknowledge, effective responses have "only been achieved in small pockets of success to date" (p.1). Other students have remained 'priority students', those for whom special attention is needed, such as students from other minority cultures and those with special learning needs. However, "despite these groups of students being clearly identified both nationally and within schools and being the focus and concern of educational leaders, little has effectively disrupted this trend or promoted significant positive change" (Berryman et al., 2016, p.56). This history shows that good intentions and ongoing rhetoric are insufficient to bring the changes that are required. For change to come, all educators, including those charged with developing and implementing educational policy, must place the ontologies and epistemologies that reflect the views of the child and of learning inherent in the heritages of the Treaty partners at the centre of the policy.

Education policies must be evaluated against these ontologies, not just against the policy intentions or effectiveness in measures that only focus on behaviours, competencies or indicators that reinforce a factory model of schooling. As a review of the Ka Hikitia policy highlighted, this is a particular challenge for the Ministry of Education, the key policy agency; Goren (2009) saying "the challenge in an organisation like the Ministry is to engage in processes that change attitudes, thinking, and behaviours rather than forcing compliance, while adhering to timelines that meet urgent priorities" (p.vi). Changing attitudes, beliefs and behaviours comes over time and there are few mechanisms available through our state system to provide policy makers and those in educational agencies with the type of professional development experienced by the teachers in case studies 2 and 3. Just as with teachers, informed minds and changed hearts of policymakers can only come when their perceptions and attitudes are identified and examined through learning that draws from both Kaupapa Māori and critical theories.

Conscientisation, resistance and transformative praxis

Challenging dominant hegemonies, and one's own actions, responses and micro-interactions located within those hegemonies, requires a commitment to learning, unlearning and relearning (Wink, 2011). From this learning, new ways of acting and being can follow: "denunciation is impossible without a commitment to transform, and there is no transformation without action" (Freire, 1972, p. 60). Specific to New Zealand is the need for participants to go beyond a surface level of understanding, to challenge the dominant discourses and to "critically analyze and deconstruct existing hegemonies and practices which entrench Pākehā-dominant social, economic, gender, cultural and political privilege" (G. H. Smith, 1997, p. 47).

Freire (1996) said that all change for social justice required a process of conscientisation, resistance and transformative action. Through conscientisation those who wish to review their own positioning in classroom micro-interactions are open to becoming aware of what they have been thinking, what they have held as true and the part they have played in perpetuating the status quo of the factory model of schooling. A process of conscientisation means that participants put the problem and their part in the problem at the centre, rather than an over-simplification of the issues (G. H. Smith, 2003). Resistance requires that, having determined that there is a need for reform, to dissent with or resist the accepted status quo and to stand against prevailing ontological and epistemological positions. Transformative praxis is the ongoing practice that ensues from the conscientisation and resistance – transformative because a new status quo is being enacted, praxis because educative practice is rooted in sound theoretical research and iterative reflection. The outworking of this critical process of self-review is, according to Freire, radical hope – the belief that we can, as individuals, make life better for others, this belief "leading the incessant pursuit of humanity" (Freire, 1996, p. 64).

Section 2: Using the ako: critical contexts for change model for reviewing micro-interactions

The *ako: critical contexts for change* model draws from both Kaupapa Māori and critical theories in order to challenge and change the theoretical and pedagogical status quo inherent in New Zealand's education system and practices. When a school embarks on a process of school reform, this model may be considered by strategic teams, with multiple opportunities for determining how the model will be applied for reflecting, reviewing and responding to the ongoing change. In this research, the *ako: critical contexts for change* model has been applied in an examination of classroom micro-interactions where the goal of disrupting the theoretical and pedagogical status quo within the classroom is consistent. This research, therefore, recommends that the *ako: critical contexts for change* is applied in a different context to that of its current application in whole school reform.

There are three main reasons for a different response when the *ako: critical contexts for change* model is applied to micro-interactions. First, micro-interactions are fleeting and spontaneous. They arise in the moment and are unplanned. Many of these are outside of the teacher's control and separate to their planning. Responses in the micro-interaction need to be made on the spot (Cordingley, 2008; Pere, 1994). Second, micro-interactions are numerous. Thousands of micro-interactions can occur in the course of school day. Thirdly, micro-interactions are dispersed. Some of them occur between the teacher and students, but they are also simultaneously occurring between and among students, with parents and with visitors in the classroom. The sheer volume and prevalence of micro-interactions also supports ongoing reflection, and a reflexive practitioner can isolate some instances and use the *ako: critical contexts for change* model to support this reflection.

The *ako: critical contexts for change* model draws from a strong theoretical base. My research has argued that New Zealand educators are not provided with theoretical frameworks to underpin pedagogical practices and that this absence leaves a significant gap. The requirement

for all children to meet the standards and expectations embedded in the mass schooling model perpetuates beliefs and discourses in education that some children are deficient and must be "fixed". Application of the *ako: critical contexts for change* model in reviewing micro-interactions can assist educators to examine the theoretical and pedagogical beliefs that underpin their practice.

Questions to support critical self-review in classroom practice

The self-review questions provided below are designed for considerations within a cycle of conscientisation – resistance - transformative praxis. The questions are tied to the different components of the *ako: critical contexts for change* model. These questions were developed to support teachers to review their own classroom practices or those of a close colleague. The teacher focus is because teachers are the most frequent interface between the macro and micro-contexts for students. However, these reference questions may also be useful for students, whānau and classroom visitors as they engage in classroom interactions.

Table 12: Self-review questions for critically examining classroom micro-interactions

The *ako: critical contexts for change* model	**Questions for critical self-review**
Mauri ora	• what norms and assumptions were underpinning my interactions with tamariki and whānau? • how did this child know that I saw them as tamariki – the carrier of the divine spark and created in the image of God? • how did I fan the divine spark in this child?
The poutama	• how did I draw from appropriate theoretical frameworks in this interaction? • what new learning, unlearning, relearning do I need to do?
Cultural identity strong and secure	• how did I draw from this child's social, cultural and historical context in this interaction? • how might I respond differently in future interactions
Learning and achieving for the future	• how did I support a broad sense of the purpose of education, beyond requiring the learner to achieve narrow curriculum goals?

Equity, excellence and belonging	• what do I need to know or understand in order to build equity, excellence and belonging? • did I strengthen student equity, excellence and belonging through this interaction? • in order to achieve my purpose for this interaction, did I compromise equity, excellence or belonging?
Adaptive expertise driving deliberate professional acts	• how was the expertise of all participants recognised and included? • what factors in my cultural toolkit were drawn on and what were omitted? • are there factors I have a professional responsibility to grow? • what ongoing theorising and actions will nurture mauri ora as this learning progresses?
Powerful home-school and community collaborations	• how were the cultural toolkits of whānau drawn on, even if not physically present? • how did I, and how might I further, demonstrate and act on my commitment to learning from and with whānau?
Cultural relationships for responsive pedagogy	• how was this pedagogy responsive, flexible, context-sensitive and intelligent? • how did this interaction nurture the inherent dignity of all participants? • how effectively were the relationships and pedagogy infused with a belief in the divine spark in all participants?

Questions to support critical self-review in policy practice

While teachers are the key interface for the child and the education system, their actions and responses are located in the wider context of the systems, processes and requirements of educational policy. The following table presents a series of self-review questions developed for policy-makers and officials to consider as education policies, at both state and school level, are being designed and implemented.

These questions are drawn from both Kaupapa Māori and critical theoretical perspectives. As is appropriate in settings that are required to honour the Treaty of Waitangi, both of these theoretical perspectives require that Māori voice and Māori perspectives are brought to the forefront of all educational policy considerations. Kaupapa Māori theory calls for tino

rangatiratanga, or Māori self-determination within education (see, for example, Smith, 2003, p. 8). This requires that, within the education system, Māori should "manage their own affairs as autonomously as possible" and that the "state has a duty to ensure that Indigenous peoples are equipped to fulfil that responsibility" (O'Sullivan, 2001, p. 159). Critical theories are one way of reinforcing that we must share power in this way for, without power-sharing educational policy risks perpetuating the "crisis of equity [where] policy settings of the past few decades have made little impact on how schools contribute to reproduction of inequality" (Hattam et al., 2009, p. 305).

Table 13: Self-review questions for policy-makers in critically examining the potential impact of policy on classroom practices

Critical Theories	**Questions for critical self review**
Conscientisation	• what norms and assumptions underpin this policy, process or communication? • how will this policy, process or communication contribute to an ontological positioning of the child as tamariki - the carrier of the divine spark and created in the image of God? • how is Māori self-determination enacted and supported in this policy, process or communication? • how does this policy, process or communication challenge current realities of power and privilege?
Resistance	• what further knowledge and understandings are needed in order to better enact New Zealand's bicultural partnership? • what theoretical frameworks underpin this policy, process or communication and how will practitioners be supported to understand these theories? • how are the cultural toolkits of teachers, students and whānau prioritised in this policy, process or communication?

Transformative praxis	• how does this policy, process or communication privilege:
	  ○ a focus on the child as tamariki?
	  ○ the aspirations of our learners and their whānau?
	  ○ bioecological models, sociocultural theory, kaupapa Māori and critical theories?
	  ○ research / best practice models relevant to New Zealand?
	  ○ mauri ora?
	• what commitments are there to critique the impact of our policy, process or communication (intended and unintended),

	and when, how and with whom will these commitments be undertaken? • what further research is required to support the critical examination and future planning of the education of New Zealand's tamariki?

Section 3: Recommendations

Classroom practices should fan that divine spark and nurture and bring forward the greatness that is in all tamariki. However, there is substantial evidence, across New Zealand's schooling system, that this is not the case for every child and has not been the case across generations of children. For some children, schooling is less than it should be, the divine spark within them being quenched, rather than mauri ora their mauri is in a state of noho. While for the child, their experience of schooling is through their daily classroom interactions, these interactions occur within the context of their school, the education system and the society in which these institutions are located. A centripetal look at how classroom micro-interactions can be effective and mana-enhancing is essential if the schooling experience of tamariki is to improve. However, this centripetal view is insufficient in itself, a centrifugal view to the macro-context of interconnecting relationships across the system is also required.

This thesis has outlined some of the challenges in New Zealand's education system, examining some of the ontological positioning, epistemological frameworks and pedagogical practices, demonstrated through the literature and policy documents, that have impacted upon the classroom practices in these three case studies. This research has also learned from effective practices found through the case studies in exemplary classrooms. The two key concluding messages are:

1. the current system does not suit all students
2. there is considerable hope and foundation for change in the existing legislative framework, school documentation and classroom practices to enable this transformative change to be supported.

Freire said “there is no transformation without action” (1972, p. 60). Some recommendations of actions that could bring transformation are provided below for consideration by policy-makers and educators across New Zealand’s education system. Some of the recommendations require a structural change – that is, some systems, processes or structures need to be reconsidered or re-aligned. Others require a cultural change, that is a critical examination of the hearts, minds and ontological positions of those working at all levels within our schooling system. Some require both a structural and cultural change.

Implement the heritages of New Zealand’s bicultural partnership as promised in the Education Act

Ontological positionings that see the child as born of greatness and carrying the divine spark need to be foregrounded in all New Zealand schooling documentation. The Education Act requires that the Treaty of Waitangi be honoured in all State educational institutions in New Zealand. To honour the Treaty, the heritages from both signatories – iwi and the Crown – need to be valued and prevalent in our education system. This requirement is already present in the Act, therefore the structural framework for this change is in place. However, a cultural change is needed for an equitable honouring of the Treaty promises. This may mean a privileging of te ao Māori world views; goals, visions and processes within the system as determined by Māori; and, the means by which Māori voices are heard and respected made clear.

Undertake a national consideration of the factory model as a preferred method of schooling

The factory model of schooling was legislated as the preferred method of schooling in 1877. It has remained in place and the ensuing belief that all children should be educated through schooling that replicates a factory model has been unchallenged. It is time for a national conversation where the ongoing implications are fully examined for all students and other more equitable and effective options are explored.

Make the theoretical frameworks that underpin relationships and learning explicit in school curriculum and support documents

The same theoretical frameworks that are explicit in Te Whāriki should be made explicit in the documentation that supports teaching and learning in the compulsory schooling sector. Teachers and educators would need to be supported in gaining comprehensive understandings about these theories and how they apply in the specific contexts of their communities and their practice. Pedagogical practices in classrooms grow from educator's epistemological positioning and ontological beliefs. If these are made explicit in guidance for schooling, there would be greater transparency in the beliefs and positionings that sit behind policies, school practices and classroom micro-interactions.

A stronger focus on relationships calls for greater scrutiny and accountability for micro-interactions within classrooms and an acknowledgment of the considerable and ongoing impact on a child when these are negative experiences. There also needs to be a determined effort, through initial teacher education and ongoing professional development, to grow teacher expertise in the factors in their cultural toolkits that can inform micro-interactions. For these factors to be embedded in practice, structural changes may be required. In addition, cultural changes in how these are applied are required. While knowledge in each factor is important, so are understandings about how to apply this knowledge with adaptive expertise and responsive to context, with a deep discernment about the personal ontologies and epistemologies that are informing the responses in that interaction.

Recognise distributed expertise within the classroom

Many micro-interactions occur amongst students who bring their own expertise into these interactions. As the case studies showed, for student expertise to contribute to the learning of all, the classroom culture had to enable and promote student leadership of learning. In some schools, a cultural change is required, with some of the power and authority invested in the teacher being shared with the students. Whānau and community members are also significant contributors to micro-interactions and their expertise can significantly support classroom

learning. Classroom practices and micro-interactions would be enriched when their relationships were strengthened and the expertise of all parties was further developed.

Increase whānau and community involvement in the education system

As the Nikau School case study showed, despite the good intentions and commitment of whānau, community and the school, there were significant structural and cultural barriers to full parental involvement in the classroom programmes and decision-making. Many of the structural barriers were outside the influence of whānau and the influence of the school. They had not been overcome by greater involvement of officials from education agencies. Addressing these barriers requires significant structural change in educational settings but also in wider society. Nikau School had taken significant steps to address the cultural barriers, and realised there was still some progress to be made. Cultural changes are needed in every school to ensure increased parental and community involvement in the schools.

Provide ongoing and sustained professional development to educators and policy makers that will inform minds and change hearts

Embedded, sustained and widespread change to our education system will only result from a critical mass of educators and policy makers embracing the conscientisation, resistance and transformative praxis required to disrupt the current pedagogical and theoretical status quo. Even more compelling is the need to ensure that every child's educational experience is a positive one and that we do not have another generation of children where, for some, their education is endured rather than enjoyed or, even worse, subject to the ongoing and debilitating impacts of a racist system. Changing the educational experiences of tamariki cannot occur without a changing of the hearts and minds of educators. Changing hearts and minds is not a quick fix– rather it requires in-depth, ongoing and, often, personally challenging critical professional development.

Further research

This doctoral research has examined some significant questions located in both the macro and micro-contexts of New Zealand education. This examination has investigated many factors, across both these contexts, that impact significantly on the daily lives of tamariki as they attend school. Further research is required to examine these factors, acknowledging and examining the small component parts in the wider contexts of their interdependence and the relationships, social, cultural and historical contexts in which they occur.

The two tables of critical self-review questions require testing with leaders, teachers and policy-makers. The critical self or peer review process should lead to deeper understanding of what is happening and what needs to happen in order to improve the educational experiences and outcomes for all tamariki, prioritising the experiences and outcomes for Māori tamariki. I provided the two tables of critical self or peer review questions with some caution. Review and ongoing inquiry are practices that are both well-embedded and required in schooling. However, in the absence of explicitly requiring that self or peer review, or spirals of inquiry, are based in critical considerations and Kaupapa Māori theory, there is a risk that much of this review leads to an ongoing perpetuation of the status quo. The theories that underpin review processes, teacher inquiry and the effectiveness of current practices is also worthy of further research and investigation.

Case studies are an effective research method, allowing a rich understanding of "a contemporary phenomenon (the 'case') within its real-world context" (Yin, 2014, p. 2). However, cases are always bounded (Stake, 2005), that is, the phenomenon itself is both the source of richness and its confinement. Further research that replicates these case studies in other classrooms and in other educational sectors will continue to build a wider view of the impacts of the macro and micro-contexts on classroom interactions. Furthermore, a means of ensuring that the interdependencies and connections between the various, atomised research initiatives is, in itself, an area of further research.

Fanning the divine spark

I believe all children are tamariki - born of greatness, created in the image of God and are carriers of the divine spark. If this is true, then all children deserve an education system where their spark can burn brightly. While these statements may appear to be lofty rhetoric, the groundwork for implementing this rhetoric is well-laid. The Education Act calls for an honouring of the Treaty of Waitangi and, through that, a recognition of the ontological positioning of the child in both te ao Māori and Western heritages. A sound theoretical framework that could underpin positive, mana ōrite relationships and responsive pedagogy is presented in Te Whāriki and could be transferred into school policies and practices. Professional development that extends and enhances current theoretical and pedagogical status quo, such as that that supports the implementation of the *ako: critical contexts for change* model, is successfully operating in some New Zealand schools. There is, therefore, reason for radical hope for a system-wide fanning of the divine spark in every child.

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Glossary

Āhuatanga	Aspects, circumstance, characteristic, feature, function or attribute.
Ako	As a verb, ako refers to both learning and teaching. It also can mean studying, instructing, and advising. As a noun, ako incorporates the concept of the ability to learn, to promote learning and to know what to learn or to teach.
Ākonga	Learner – including student, pupil, protégé.
Aorangi	The universe or planetary system. The Māori name for the sun, moon, planets, stars and constellations and stars is the 'whānau mārama' (family of light).
Aro	To take heed of, take notice of, to face or turn towards, to consider
Aromatawai	Assessment
Atua (ātua)	Ancestor(s) with continuing influence or deities - often translated as 'god' and now also used for the Christian God. (Note - Te Aka Māori dictionary says this is a misconception of the real meaning.
Awa	River, stream or creek.
Hapū	Kinship group, clan, or subtribe - section of a large kinship group and the primary political unit in traditional Māori society.
Hautau	Fractions.
Hīkoi	A hike or journey.
Iwi	Extended kinship group, tribe, nation, people - often refers to a large group of people descended from a common ancestor and associated with a distinct territory.
Kai	Noun = food or meal. Verb = to eat, or to feed oneself.
Kaiako/kaiwhakaako	Teacher, lecturer or instructor.
Kaitiaki	Guardian, trustee, custodian or caregiver.
Kaitiakitanga	Guardianship, stewardship, or trusteeship.

Kaiwhakaako	Teacher, lecturer, coach, trainer, instructor.
Kākano	Seed, kernel or grain
Kapa haka	Group performances of Māori performance arts; concert party, cultural group or performance group for Māori performing arts.
Karakia	Noun – prayer, ritual chant, chant, intoned incantation - a set form of words to state or make effective a ritual activity.
Kaumātua	An adult, elder, elderly man, elderly woman - a person of status within the whānau.
Kaupapa	Topic, policy, matter for discussion, plan, agenda, or initiative.
Kaupapa Māori theory	A theoretical framework in which te reo Māori, mātauranga Māori, tikanga Māori and ahuatanga Māori are actively legitimated and validated.
Kōrero tawhito	History – particularly oral history from a Te Ao Māori worldview.
Mā te wā	An idiom referring to the right time and space.
Mana ōrite	A term for interdependent relationships, highlighting the responsibilities to maintain the mana of the other, and understand the mana of both as ōrite
Manaakitanga	Hospitality, kindness, generosity, support - the process of showing respect, generosity and care for others.
Mārau-ā-kura	School-based curriculum.
Marautanga	Curriculum or syllabus.
Matapuna	Literal - The source of a river. Figurative – The source of culture
Matariki	An open cluster of many stars in Te Kāhui o Matariki (Pleiades), the term for the Māori new year.
Mātauranga Māori	Māori knowledge - the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.
Matawai	To look closely, scrutinize, inspect, scan
Mau rākau	Māori weaponry.

Mauri	The life force, integrity, uniqueness and energy within every person
Mauri noho	A weakened or diminished life force
Mauri ora	A healthy and flourishing life force
Miharo	As a noun – wonder, amazement. As a verb – to wonder at. Miharo is the name of a student inquiry programme at Nikau School.
Mirimiri	Massage
Ora	Health, holistic wellbeing
Oriori	Lullabies
Ōrite	alike, similar, identical or equal
Pānagarau	Mathematics
Pākehā	New Zealander of European descent - originally applied to English-speaking Europeans living in Aotearoa/New Zealand.
Pānui	Public notice, announcement, poster, proclamation
Pukapuka kāinga	Literally - home book. Book for sharing information between school and home.
Pūrākau	Myth, ancient legend or story
Reo	Language, dialect or speech.
Tairongo	The part of the human body that is able to sense something, either by listening, looking, touching, tasting, smelling, or feeling, or through a sixth sense. The sixth sense is a feeling sense, sometimes referred to as intuition.
Tākaro	Sport, game or recreational activity
Tangata Whenua	Literally people of the land, and can refer to either a specific group of people with historical claims to a district, or the Māori people as a whole
Taonga	A treasure
Tauiwi	A foreigner, European, non-Māori, colonist or recent arrival to New Zealand
Te ao Māori	The Māori world – used in this document for a Māori worldview

Te Kotahitanga	A Ministry of Education funded research and professional development programme for teachers and school leaders that aimed to improve Māori students' learning and achievement. Funding for this initiative stopped at the end of 2013.
Teina/tēina	Younger brother (of a male), younger sister (of a female), junior relative. Plural = tēina.
Tikanga	The correct procedures, customs, habits, or protocol. The customary system of values and practices that have developed over time and are deeply embedded in the social context
Tohunga	A skilled person, chosen expert, priest or healer. A person chosen by as a leader in a particular field because of signs indicating talent for a particular vocation.
Tuakana/tuākana	Elder brother (of a male), elder sister (of a female), cousin (of the same gender from a more senior branch of the family). Plural = tuākana.
Waiata	Noun = song, chant or psalm. Verb = to sing.
Whakapapa	Genealogy, genealogical table, lineage or descent. Reciting whakapapa is an important skill, reflecting the importance of genealogies in Māori society in terms of leadership, land and fishing rights, kinship and status.
Whakatauakī	A proverb, significant saying or aphorism.
Whakatauākī	A proverb, significant saying or aphorism - particularly those urging a type of behavior.
Whānau	Extended family, family group, a familiar term of address to a number of people - the primary economic unit of traditional Māori society. In the modern context the term is sometimes used to include friends who may not have any kinship ties to other members.
Whanaungatanga	A close connection between people, the development of close relationships through shared experiences and working together which

	provides people with a sense of belonging. The whanaungatanga circle is a deliberate strategy to support the development of these close relationships.
Whare wānanga	University or place of higher learning - traditionally, places where tohunga taught history, genealogy and religious practices.
Whāriki	Floor covering, ground cover, carpet or mat.

Appendix 1: Interview Schedules

Interviews with teachers

Teacher: Initial interview

Interview conducted prior to commencement of unit of work.

Time required – an hour to an hour and a half.

Introduction:

- Welcome
- Recap on purpose of study and confirmation commitment required by teacher.
- Provide copy of overview
- Discuss the purpose of the interview
- Discuss terms of confidentiality
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Point 1: Context for learning

- Can you tell me about the unit of work that I will be observing?
    - How does it fit within departmental scheme?
    - How does it fit with assessment requirements?
    - How does it fit in to your year's plan for this class?
- What pre-learning has occurred?
- What will follow?
- How was this unit of work chosen?
- How do you think your class will find this unit?
    - Enjoyment?

- Achievement?
- Learning challenges?

Discussion Point 2: Students selected for observed interaction

Student 1

- How do you think Student 1 will go with this unit?
  - Enjoyment?
  - Achievement?
  - Challenges?
  - Can you tell me about prior learning experiences or interests with this topic?
  - What will you be particularly keeping an eye on throughout the unit with this student?
  - Have you adapted your planning in any way (so far) with this student in mind?

  - Repeat for Student 2 and Student 3

Discussion Point 3: Drawing from participants' cultural toolkits.

Reminder to teacher that we will be looking at critical incidents throughout the unit to explore classroom micro-interactions. We will also be considering what aspects of participants' cultural toolkits support those interactions.

- **For student 1:**
  1. How confident are you that you have the **subject content knowledge** to support this student with their next learning steps in this unit?
  2. How confident are you that you have the **curriculum content knowledge** to support this student in this learning?
  3. How confident are you that you have the **assessment requirements knowledge** to support this student to achieve this standard?

4. How confident are you that you have the **pedagogical knowledge** on the best ways for this student to learn within this topic in order to achieve well within this unit?
5. How confident are you that you have the **relational knowledge** about this student to know enough about their personal responses/preference in regards to prior knowledge, aspirations, interests in this unit?
6. How confident are you that you have the **culturally responsive knowledge** for this student in order to draw on their cultural toolkit to enhance their learning in this unit?

- Repeat for student 2 and 3

Close with thanks

Any feedback on how research could be improved

Any further questions

Teacher: Interview following observations

Time required – 45 minutes to an hour.

Critical incidents from observations cued for viewing

Any written responses to students or other non-class based feedback

Introduction:

- Welcome
- Discuss the purpose of this interview
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Point 1: Progress of learning

- How is the unit going?
    - Are you happy with student progress?
    - Have there been any surprises for you in how this is going?
- Have you changed anything in the direction this is going in response to student feedback – explicit or implicit?
    - What did you change?
    - How did you get the feedback?
- In general, how do you think your class is finding this unit?
    - Enjoyment?
    - Achievement?
    - Learning challenges?

Discussion Point 2: Students selected for observed interaction

- For each student
    - How is Student 1 going with this unit?
    - Enjoyment?

- Achievement?
- Challenges?
- Since the unit started, have you identified any further prior learning experiences or interests with this topic? How did you do that?
- What are you particularly keeping an eye on in regards to this the unit with this student?
- Have you adapted your planning in any way (so far) with this student in mind – for the class? For this student?

Discussion Point 3: Response to critical incidents/other feedback to individual student

I am going to play 3-4 very short video-recordings of some interactions or opportunities for interactions with Student 1, either individually or as part of a group or class setting.

For each one, can you tell me:

- What you were thinking at the point of the interaction. What knowledge/ understanding/ perceptions/ thoughts were in your head that led you to this?
- What do you wish you knew in order to enhance this learning opportunity for the student?
- In regards to our 6 factors within participant' cultural toolkits, which ones assisted you the most in this interaction? Which ones do you wish you knew more about for this student in this interaction?
- In retrospect, is there anything you would do differently?
- In response, is there anything you have seen (either from video or from interaction) that will influence how you will work with the student in this unit?

Repeat above discussion starters for any written feedback to student collected during the lesson.

Discussion point 4: Response to Likert-type Scales (provided as cards)

How much did you draw on these aspects of your cultural toolkit today (in the interactions we have just viewed) in order to make your 'on-the-fly' decisions in the learning process.. And to explain why they have said that.

Place all cards on the table.

On a scale of 1 – 5, how much have you:

1. Drawn on your understanding of **subject content** to support this student with their learning in this unit?
2. Drawn on your understanding of **curriculum content** to support this student with their learning in this unit?
3. Drawn on your understanding of **assessment requirements** to support this student with their learning in this unit?
4. Drawn on your understanding of **learning strategies** to support this student with their learning in this unit?
5. Drawn on your understanding of **this learner** to support this student with their learning in this unit?
6. Drawn on your understanding of **the learner's cultural context** to support this student with their learning in this unit?

Repeat Discussion points 3 and 4 for students 2 and 3

Close with thanks

Any feedback on how questions or scales could be improved

Any further questions

Teacher: Final Interview

After completion of unit.

Time required – 30 minutes.

Introduction:

- Welcome
- Discuss the purpose of this interview
- Discuss the recording of answers for ongoing analysis

Discussion Point 1: Progress of learning

- How did the unit go?
    - Are you happy with student progress?
    - Were there any surprises on how it went
- In general, how do you think your class is found this unit?
    - Enjoyment?
    - Achievement?
    - Learning challenges?
    - If you were to repeat this unit of work, is there anything you would differently? Why? How did you come to that realisation?

Discussion Point 2: Response to factors in cultural toolkits

- Do you think anything changed in how you were teaching this unit because of involvement in this research?For each student:
- Do you think you did/responded any differently to your class because of the questions raised by this research?
- For each student:
    - Were there any ways you acted differently/responded differently to Student 1 because of your involvement with this research? Can you isolate what made a difference?

- Do you think your involvement or their involvement in this research impacted on the learning outcomes for this student in this unit?
- At this point, do you think it will it impact on how you respond to this class in the future? Why do you say that?

Discussion point 3: Response to Likert-type Scales (provided as cards)

- After your considerations about these different areas over the past few weeks on a scale of 1 – 5, how confident are you of:
  - your understanding of **subject content** to support this student with their learning in this unit?
  - your understanding of **curriculum content** to support this student with their learning in this unit?
  - your understanding of **assessment requirements** to support this student with their learning in this unit?
  - your understanding of **learning strategies** to support this student with their learning in this unit?
  - your understanding of **this learner** to support this student with their learning in this unit?
  - your understanding of **the learner's cultural context** to support this student with their learning in this unit?

- Which of these understandings are important for supporting student learning?
- How do you think you can acquire the knowledge/skills/expertise you need to support your development of these understandings?
- How do you think others can aquire the understandings?

Discussion point 4: Open-ended

Thinking about the wider topic for this research – classroom micro-interactions:

- What things help effective classroom micro-interactions?
- What hinders?

- How do you think we can improve classroom interactions for all students?

Close with thanks

Interview with visiting expert

Time required – 90 minutes to two hours.

Critical incidents from observations cued for viewing

Introduction:

- Welcome
- Discuss the purpose of this interview
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Point 1: Your role in classroom programme and ongoing learning

- Tell me about your role in the learning programme in this school?
- How was the unit selected?
- Why was the unit selected?

Discussion Point 2: Response to critical incidents

I am going to play 7 short video-recordings of some interactions or opportunities for interactions with students, either individually or as part of a group or class setting.

For each one, can you tell me:

- What you were thinking at the point of the interaction. What knowledge/ understanding/ perceptions/ thoughts were in your head that led you to this?
- What do you wish you knew in order to enhance this learning opportunity for the student?
- In regards to our 6 factors within participant' cultural toolkits, which ones assisted you the most in this interaction? Which ones do you wish you knew more about for this student in this interaction?
- In retrospect, is there anything you would do differently?

- In response, is there anything you have seen (either from video or from interaction) that will influence how you will work with the student in this unit?

Discussion point 3: Response to Likert-type Scales (provided as cards)

How much did you draw on these aspects of your cultural toolkit in the interactions we have viewed in order to make your 'on-the-fly' decisions in the learning process.. And to explain why they have said that.

Repeat with How much would you have liked to have drawn on each factor.

Place all cards on the table.

On a scale of 1 – 5, how much have you:

7. Drawn on your understanding of **subject content** to support this student with their learning in this unit?
8. Drawn on your understanding of **curriculum content** to support this student with their learning in this unit?
9. Drawn on your understanding of **assessment requirements** to support this student with their learning in this unit?
10. Drawn on your understanding of **learning strategies** to support this student with their learning in this unit?
11. Drawn on your understanding of **this learner** to support this student with their learning in this unit?
12. Drawn on your understanding of **the learner's cultural context** to support this student with their learning in this unit?

Discussion Point 4: Progress of learning

- How did the unit go?
    - Were you happy with student progress?

    - How did you know?
    - Were there any surprises on how it went?
- In general, how do you think the class found this unit?
    - Enjoyment?
    - Achievement?
    - Learning challenges?
    - If you were to repeat this unit of work, is there anything you would differently? Why? How did you come to that realisation?

- Which of these understandings are important for supporting student learning?
- How do you think you can acquire the knowledge/skills/expertise you need to support your development of these understandings?
- How do you think others can aquire the understandings?

Discussion point 5: Open-ended

Thinking about the wider topic for this research – classroom micro-interactions:

- How useful or important are the undersstandings within the cultural toolkits for supporting student learning?
- How do you think teachers can acquire the knowledge/skills/expertise needed to support development of these understandings?
- How do you think others can aquire the understandings?
- What things help effective classroom micro-interactions?
- What hinders?
- How do you think we can improve classroom interactions for all students?

Close with thanks

Interviews with students

Student: Initial interview

Interview conducted prior to commencement of unit of work.

Time required – 30 minutes – 45 minutes.

Introduction:

- Welcome
- Recap on purpose of study and commitment required by student. Confirm this is still OK.
- Provide copy of overview
- Discuss the purpose of the interview
- Discuss terms of confidentiality
- Discuss the format of the interview;
- Discuss recording of answers for later analysis
- Ask if they have any questions

Discussion Point 1: Context for learning

- Can you tell me a little about why you are studying this subject? How and why did you choose to take it?
- Can you tell me about the unit of work that I will be observing?
- How was this unit of work chosen?
    - What part have you played in choosing the contexts for learning
- How do you think your class will find this unit?
    - Enjoyment?
    - Achievement?
    - Learning challenges?

- How do you feel about this unit?
    - What are your expectations about how much you will learn?
    - How well you will do?
    - How much you will enjoy it?

Discussion Point 2: Response to Likert-type Scales (provided as cards)

Student asked to rate how much they think their teacher knows relating to them personally, about each of the 6 aspects. Explain that purpose is not to rate their teacher but to explore what aspects of learning support are most useful for them as a learner as the teacher provides them with 'on-the-spot' feedback. Explain students will be asked to give a rating out of 5, and to explain why they said that.

Reminder to student that we will be looking at video clips of interactions throughout the unit to see which dimensions are being used and to explore what, if anything, the student thinks could have helped more in the learning process.

- For each student, how confident are you of your teacher's understanding of:
    1. **subject content** to support you with your learning in this unit?
    2. **curriculum content** to support you with your learning in this unit?
    3. **assessment requirements** to support you with your learning in this unit?
    4. **learning strategies** to support you with your learning in this unit?
    5. **you** (as **this learner)** to support you with your learning in this unit?
    6. your **cultural context** to support you with your learning in this unit?

- Are there any of these dimensions that you wish your teacher knew more about for you? Why do you say that?

Close with thanks

Any feedback on how questions or scales could be improved

Any further questions

Student: Interview following observations

Time required – 30 - 45 minutes r.

Videoclips of critical incidents cued and ready on computer (3-4 per student – individual interactions, some whole class settings)

Any written responses to students or other non-class based feedback

Introduction:

- Welcome
- Recap on purpose of the interview
- Discuss the format of the interview;
- Discuss recording of answers for later analysis
- Ask if they have any questions

Discussion Point 1: Progress of learning

- How is the unit going for you?
    - Are you happy with your progress?
    - Have there been any surprises for you in how this is going?
- (For second and subsequent interviews) Have you noticed anything change in the direction this is going in response to student feedback – given to the teacher directly or indirectly?
- What changed?
- How did the teacher get the feedback?
- Since the unit started, have you told your teacher of any further prior learning experiences or interests with this topic? How did you do that?
- Since the unit started, have you told your teacher of anything you do at home or out of school that supports your learning in this unit? How did you do that?
- Since the unit started, have you told your teacher of any future learning or work/career possiblities you would like to pursue based on this subject learning? How did you do that?
- In general, how are you finding this unit?

- Enjoyment?
- Achievement?
- Learning challenges?

Discussion Point 2: Response to video clips/other feedback to individual student

I am going to play 3-4 very short videorecordings of some interactions or opportunities for interactions that happened in today's session. For each one, can you tell me:

- What you were thinking at the point of the interaction. What knowledge/ understanding/ perceptions/ thoughts were in your head that you wanted to tell the teacher? Did you tell the teacher? Why/Why not?
- What do you wish the teacher knew about you or how you learn in order to enhance this learning opportunity for you?
- In regards to our 6 factors particpants bring to learning interctions, which ones do you think the teacher is is using most to help you?
- Which ones do you think would help you most?
- From what you have seen today (either from video or from interaction) is there anything you will do or say to your teacher in order to work better in this unit?

Repeat above discussion starters for any written feedback to student collected during the lesson.

Discussion point 3: Response to Likert-type Scales (provided as cards)

Place cards on the table.

From the interactions seen in the videos, on a scale of 1 – 5, how much do you think your teacher has (and explain why you gave that response):

1. Drawn on their understanding of **subject content** to support you in this unit?
2. Drawn on their understanding of **curriculum content** to support you in this unit?
3. Drawn on their understanding of **assessment requirements** to support you in this unit?
4. Drawn on their understanding of **learning strategies** to support you in this unit?

5. Drawn on their understanding of **you** to support you in this unit?
6. Drawn on their understanding of **your cultural context** to support you in this unit?

Using the same cards and the same scale, how much do you wish your teacher had drawn on (and why):

1. understandings of **subject content** to support you in this unit?
2. understandings of **curriculum conten**t to support you in this unit?
3. understandings of **assessment requirements** to support you in this unit?
4. understandings of **learning strategies** to support you in this unit?
5. understandings of **you** to support you in this unit?
6. understandings of **your cultural context** to support you in this unit?

Close with thanks

Any feedback on how questions or scales could be improved

Any further questions

Student: Final Interview

After completion of unit.

Time required – 30 minutes.

Introduction:

- Welcome
- Discuss the purpose of the this interview
- Discuss recording of answers for later analysis

Discussion Point 1: Progress of learning

- How did the unit go?
    - Are you happy with your progress?
    - Were there any surprises on how it went?
    - Did you enjoy it?
    - Did you achieve as you expected?

Discussion Point 2: Response to factors informing micro-interactions

- Do you think anything changed for you as this unit progressed because of involvement in this research?
- Do you think your teacher did anything differently/responded any differently to your class because of the questions raised by this research?
- Do you think you asked different questions/did anything differently because of the questions raised?
- Do you think you will ask different questions/do anything differently in the future because of the questions raised?

Discussion point 3: Response to Likert-type Scales (provided as cards)

Remind student that they were asked to rate how much they think their teacher knew, relating

to them personally, about each of the 6 aspects. Remind that purpose is to explore what aspects of learning support are most useful for them in classroom micro-interactions.

For each student. Show the 6 factors for cultural toolkit.

- From all of these - which of these facors do you think are important for supporting student learning?
- Have you any advice on how teachers or others could get that knowledge?

Discussion point 4: Open-ended

Thinking about the wider topic for this research – classroom micro-interactions:

- What things help your teachers to do that well?
- What hinders?
- How do you think we can improve preparation for this requirement for all our teachers?

Close with thanks

Interview with Parents

Interview during conducted after on-site observation visit.

Time required – an hour to an hour and a half.

Introduction:

- Welcome
- Recap on purpose of study.
- Provide copy of overview
- Discuss the purpose of the interview
- Discuss terms of confidentiality
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Points 1:

- Can you tell me a little bit about your relationship with this school?
    - What are the best things about this school?

- Can you tell me a little bit about your child's learning?
    - Do you think they are growing and thriving in their learning here?
    - What is working well for them?
    - What is less positive?

- How do you, as a parent, contribute to learning in the school now?
    - How do you, as a parent, contribute to learning in pāngarau?

- How would you like to contribute to learning in this school?
    - Pangarau?

Discussion point 2: Response to Likert-type Scales (provided as cards)

Place cards on the table.

On a scale of 1 – 5, how much is your understanding of . . . (and explain why you gave that response):

1. **subject content** drawn on to support your child's learning in pāngarau?
2. **curriculum content** drawn on to support your child's learning in pāngarau??
3. **assessment requirements** drawn on to support your child's learning in pāngarau?
4. **learning strategies** drawn on to support your child's learning in pāngarau?
5. **your child** drawn on to support your child's learning in pāngarau?
6. **your child's cultural context** drawn on to support your child's learning in pāngarau?

Using the same cards and the same scale, how much do you wish understandings were drawn on (and why):

1. **subject content** to support your child in pāngarau?
2. **curriculum conten**t to support your child in pāngarau?
3. **assessment requirements** to support your child in pāngarau?
4. **learning strategies** to support your child in pāngarau?
5. **your child** to support your child in pāngarau?
6. **your child's cultural context** to support your child in pāngarau?

Interview with Principal

Interview conducted after on-site observations.

Time required – an hour to an hour and a half.

Introduction:

- Welcome
- Recap on purpose of study.
- Provide copy of overview
- Discuss the purpose of the interview
- Discuss terms of confidentiality
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Points

- Parent/whānau connections with the school
- How do parents contribute to learning in the school now?
    - How did the school get to this place?
    - What steps were taken?
    - Who were key 'players' in getting this going?
- What is your role in improving whānau-school collaborations now?
- What is working particularly well in terms of whānau-school connections now?
    - What could do with strengthening?
- What is your process of self review for parent-community-school partnerships?
    - What do you think are the next steps?
- What works well in the relationship between the community centre and the school?
    - What is your role?
    - Teachers role?

- Are children growing and thriving in their learning here?
    - What is working well for them?
    - What is less positive?

Interview with Chair of Board of Trustees and Community Centre Board

Interview conducted after on-site observations.

Time required – an hour to an hour and a half.

Introduction:

- Welcome
- Recap on purpose of study.
- Provide copy of overview
- Discuss the purpose of the interview
- Discuss terms of confidentiality
- Discuss the format of the interview;
- Discuss recording of answers for ongoing analysis
- Check if any questions

Discussion Points

- Tell me about parent/whānau connections with the school
- How do parents contribute to learning in the school now?
    - How did you get to this place?
    - What steps were taken?
    - Who were key 'players' in getting this going?
- What is working particularly well in terms of whānau-school connections?
    - What could do with strengthening?
- What is your process of self review for this?
    - What do you think are the next steps?
- What works well in the relationship between the community centre and the school?
- Are children growing and thriving in their learning here?
    - What is working well for them?
    - What is less positive?

Appendix 2: Definitions of factors within participants' cultural toolkits

The following definitions were provided as flashcards and were discussed and diplayed in every interview.

Definitions – Teacher version

Cultural Toolkit:

The understandings that may sit behind the on-the-spot decision-making within learning interactions. These understandings may come from formal or informal learning and involve both knowledge and perception.

Understanding subject content

- understanding the concept being taught

Understanding curriculum content

- understanding what has been learnt before concerning the focus of the learning interaction, is being learnt in other learning experiences, and will be learnt in the future

Understanding assessment requirements

- understanding the assessment requirements in this area of learning.

Understanding learning strategies

- understanding ways of teaching and learning that will support best support the learner

Understanding the learner

- understanding the learner, their preferences, prior knowledge, hopes and interests

Understanding the learner's cultural context

- understanding how to draw from students' language, identity and culture

Definitions – Student version

Cultural Toolkit:

The understandings that may sit behind the on-the-spot decision-making within learning interactions. These understandings may come from formal or informal learning and involve both knowledge and perception.

Understanding subject content

- understanding the concept being taught

Understanding curriculum content

- understanding what has been learnt before concerning the focus of the learning interaction, is being learnt in other learning experiences, and will be learnt in the future

Understanding assessment requirements

- understanding the assessment requirements in this area of learning.

Understanding learning strategies

- understanding ways of teaching and learning that will support best support the learner

Understanding the learner

- understanding me, my preferences, prior knowledge, hopes and interests

Understanding the learner's cultural context

- understanding how to draw from my language, identity and culture

Definitions – Parent version

Cultural Toolkit:

The understandings that may sit behind the on-the-spot decision-making within learning interactions. These understandings may come from formal or informal learning and involve both knowledge and perception.

Understanding subject content

- understanding the concept being taught

Understanding curriculum content

- understanding what has been learnt before concerning the focus of the learning interaction, is being learnt in other learning experiences, and will be learnt in the future

Understanding assessment requirements

- understanding the assessment requirements in this area of learning.

Understanding learning strategies

- understanding ways of teaching and learning that will support best support the learner

Understanding the learner

- understanding my child, their preferences, prior knowledge, hopes and interests

Understanding the learner's cultural context

- understanding how to draw from my child's language, identity and culture

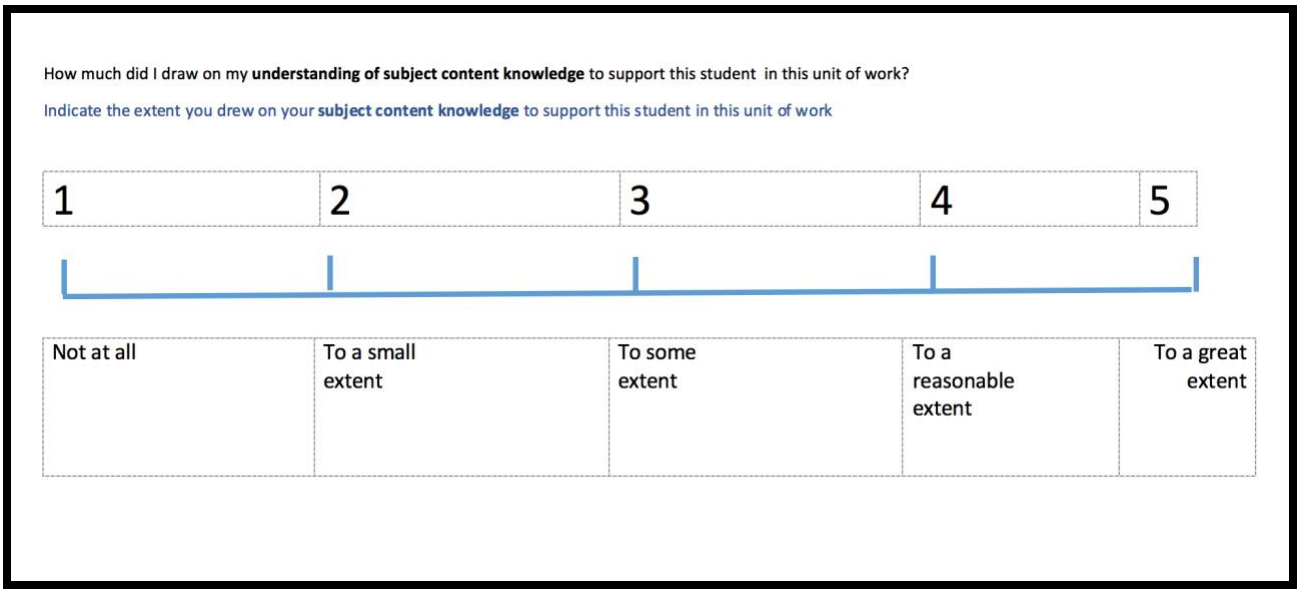
Appendix 3: Likert-type Scales

The following six Likert-type scales were used across this research.

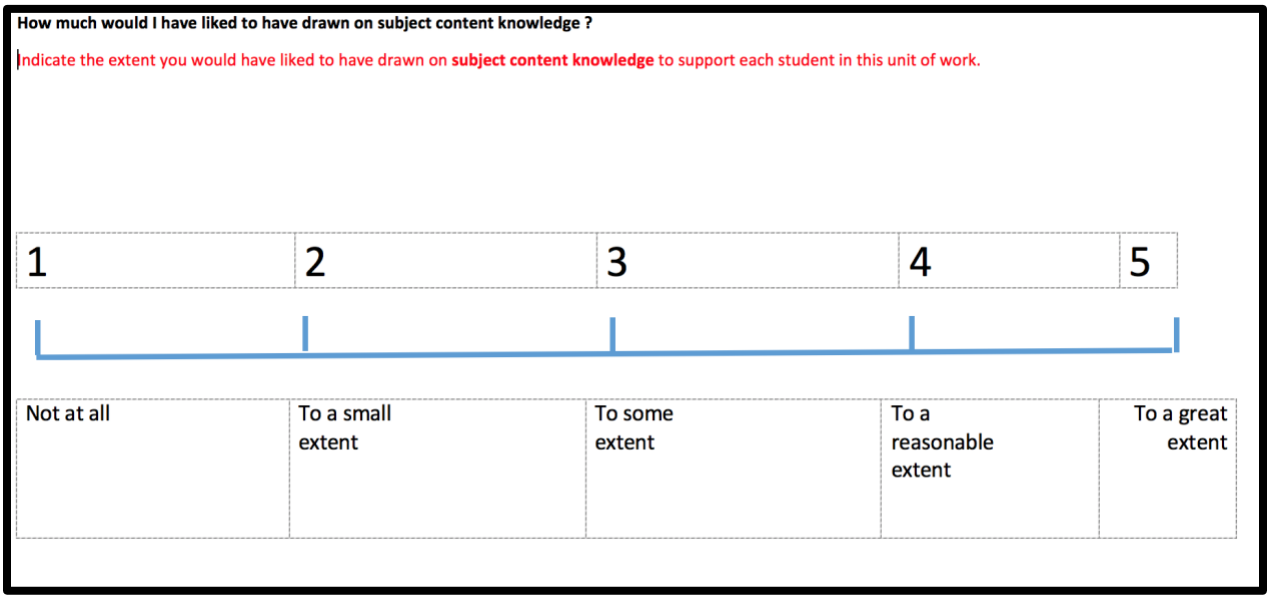
- Teachers' perceptions of the extent to which they had used each of the factors with the individual students in classroom micro-interactions
- The extent to which teachers would have liked to have drawn on each factor
- Students' perceptions of the extent to which their teacher had drawn on each of the factors to support their learning in classroom micro-interactions
- The extent to which students would have liked each factor to be drawn on
- Parents' perceptions of the extent to which the understandings in their cultural toolkits were drawn on to support their child's learning
- The extent to which parents would have liked to have their cultural toolkits drawn on.

These are presented below – note, the models shown are reproduced at a reduced size for this document. Each of the models had six pages – one for each factor. Only the first page is shown below.

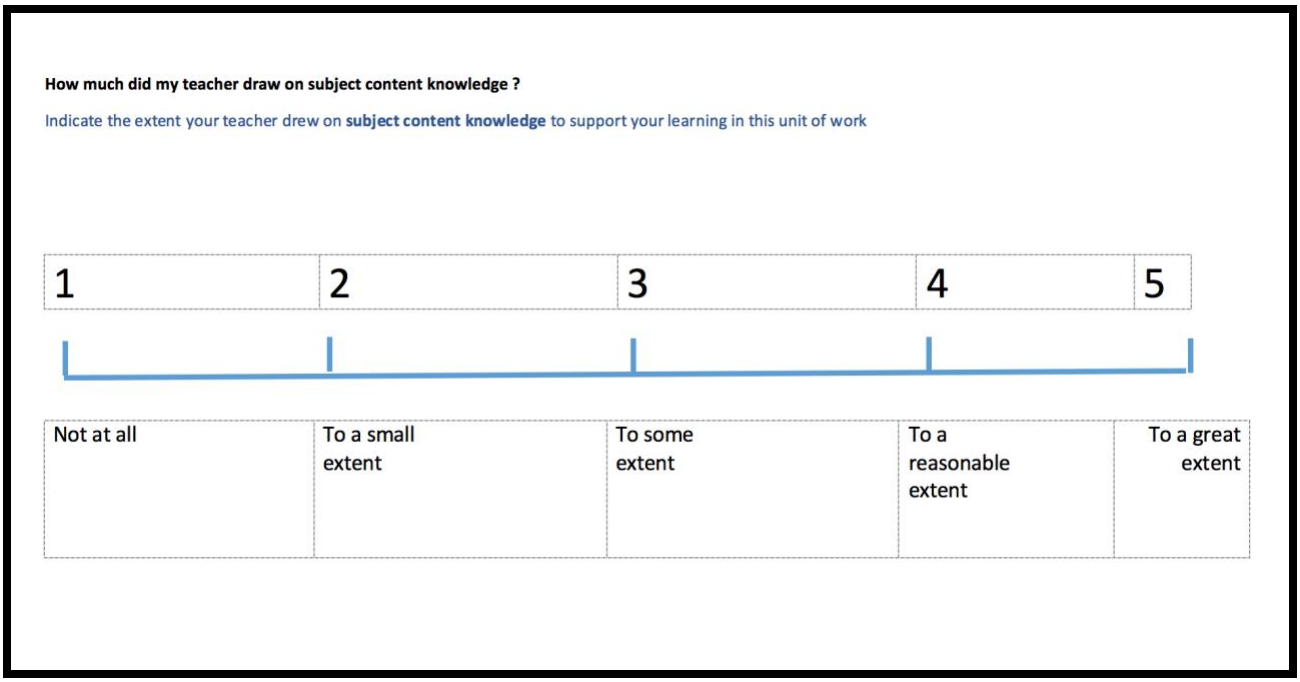
Teachers' perceptions of the extent to which they had used each of the factors with the individual students in classroom micro-interactions



The extent to which teachers would have liked to have drawn on each factor



Students' perceptions of the extent to which their teacher had drawn on each of the factors to support their learning in classroom micro-interactions

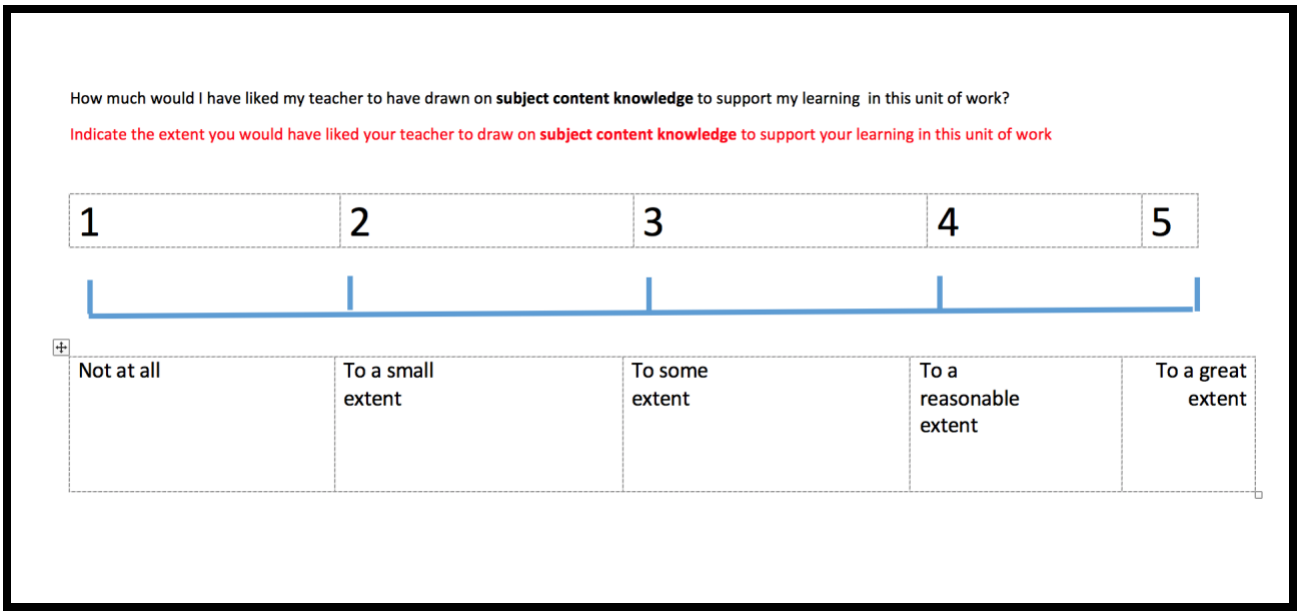


How much did my teacher draw on subject content knowledge ?

Indicate the extent your teacher drew on **subject content knowledge** to support your learning in this unit of work

1	2	3	4	5
Not at all	To a small extent	To some extent	To a reasonable extent	To a great extent

The extent to which students would have liked each factor to be drawn on

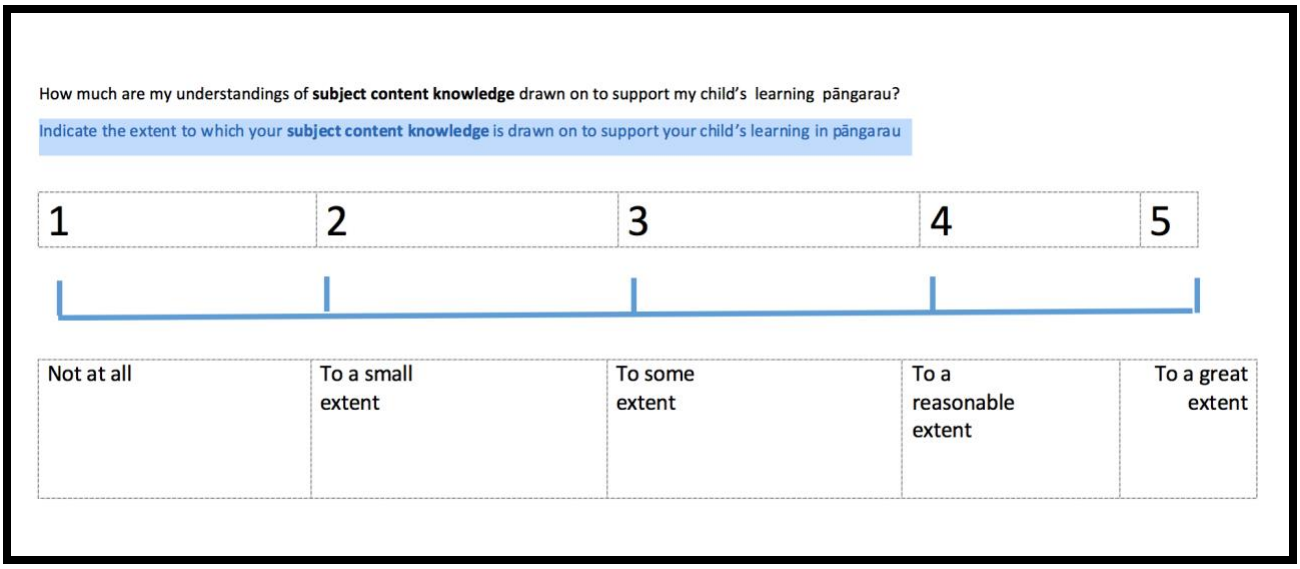
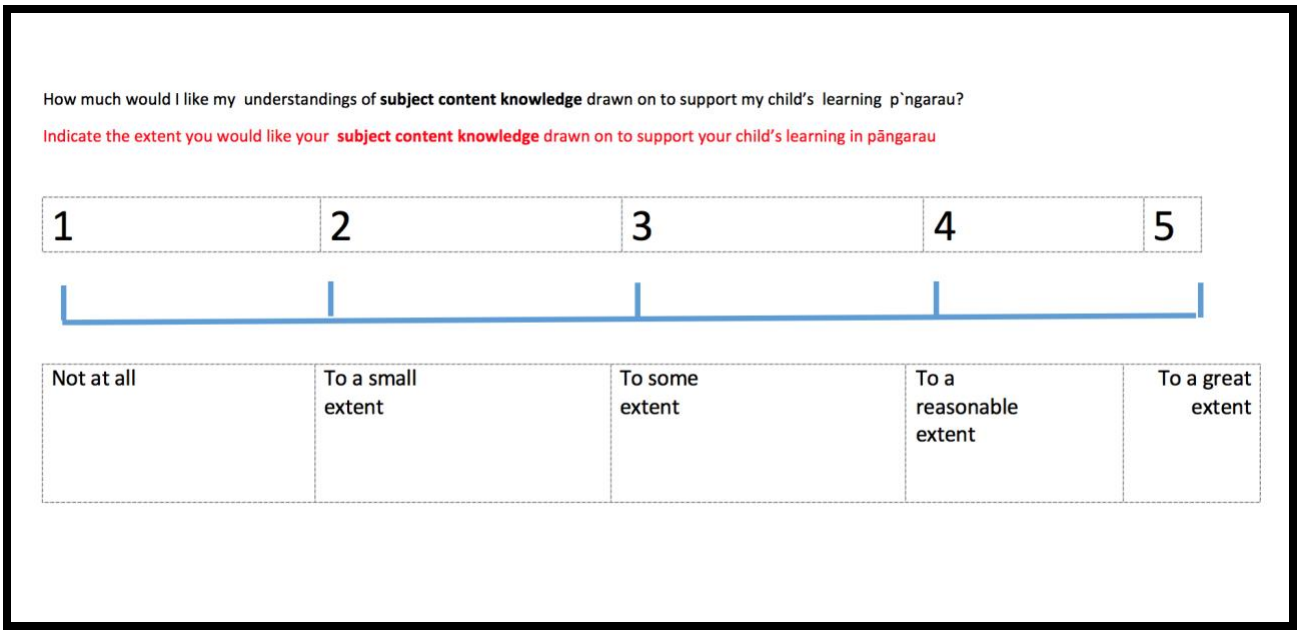


How much would I have liked my teacher to have drawn on **subject content knowledge** to support my learning in this unit of work?

Indicate the extent you would have liked your teacher to draw on **subject content knowledge** to support your learning in this unit of work

1	2	3	4	5
Not at all	To a small extent	To some extent	To a reasonable extent	To a great extent

Parents' perceptions of the extent to which the understandings in their cultural toolkits were drawn on to support their child's learning



The extent to which parents would have liked to have their cultural toolkits drawn on.