Crafting Belonging: Exploring the Role of Steiner Handcrafts and Mahi Raranga in Connecting Children to Culture and Place

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Opening Karakia

Te aho mutunga kore

He taurahere tāngata

He muku e takea mai nei Hawaiki nui nei

I Hawaiki roa, Hawaiki pāmamao

He aho tapu, I matuawhiritia nei

Mai I te ahurewa I Rangiātea

Te takapau whaenui e hora nei

Hei kaitaka, hei whakapaepae

Iringa korero ki te ao whanau

The eternal thread

Linking humankind

The fibre that derives from Hawaiki

The sacred thread chosen

Form the shrine of Rangiātea

That bonds

Giving a place, a voice

And belonging

Ranui Ngarimu from Te Puna Waiora, The distinguished weavers of Te Kāhui Whiritoi

Abstract

This thesis examines how craft education— specifically, Steiner handwork and mahi raranga— can cultivate a connection to culture and place which fosters a sense of belonging. Semi-structured interviews with two tohunga raranga and three experienced Steiner handwork teachers were conducted. This research conceptualises making as a culturally situated, embodied activity that mediates individual development, is a transmission of cultural knowledge and fosters belonging with a learning group and broader communities. Four theoretical lenses: Experiential Learning, Cultural-Historical Activity Theory, Embodied Cognition and Māori pedagogical principles inform the theoretical foundation upon which I examine the effect craft education has on the learner in terms of their engagement in the task, and outcomes seen in their well-being and engagement with other areas of learning.

Identified gaps that this study intended to address were the lack of peer-reviewed literature in the realm of mahi raranga and Steiner craft education within a New Zealand context in relation to their impact on a child's developing sense of belonging and self-efficacy. Avenues for further research were discussed in the final chapter, such as, quantitative, longitudinal studies mapping the correlation between ongoing handcraft instruction and its effect on academic achievement and overall well-being.

Key findings outlined in Chapter Four are based on five participants' observations of their students' academic and social development, as influenced through the craft making process. Elements such as natural materials, progression of tools, and embedded tikanga or ritual were seen to have an effect on the students' will, or capacity to focus on a task at hand and see it through to completion. Participants noted that craft lessons helped to foster kaitiakitanga (environmental stewardship) and a connection to the classroom group and wider community. Participants reported these factors to have contributed to students' developing sense of belonging, as well as improving their manual dexterity, mindfulness, resilience, positive self-concept and confidence to contribute to their communities. These findings illustrated the many factors that contribute to a sense of belonging which positively impacts a child. This work is intended to contribute to the ongoing discourse among educators, policy makers and craftspeople about the relevance of hands-on, practical, creative learning experiences within the New Zealand child's education.

Contents

Attestation of Authorship

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

Signature:

Date: 7 January 2025

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To my tupuna, both from my Māori, Scottish and unknown heritage, I honour and thank you. This work exists because of all that has come before. I hope this research will contribute to the legacy we leave for future generations.

My greatest thanks go to three people. My father, Douglas, whose deep love for people and for teaching sparked, and continues to inspire, my passion for education. My mother, Veronika, who has always encouraged me to begin hard things when a dream is at stake. And my partner, Paul, who lifted me up throughout this process and encouraged me to finish what I started.

Chapter One: Introduction

Introducing the author

Ko Ngongotahā nā Pirongia-te-aroaro-o kahu na, Mauao tōku maunga

Ko Rotoruanui-a-kahumatamomoe na, Kāwhia, Te Awanui tōku moana

Ko Te Arawa na, Tainui na, Takitimu tōku waka

Ko Ngāti Whakaue na, Ngāti Ranginui na, Ngāti Hikairo tōku iwi

Ko Ngāti Ngararanuina, Ngāti te Ahi tōku hapu

Ko Waitēti na, Waipapa na, Hairini tōku marae

Ko Tamatekapua na, Whakamarurani na, Tamatea Arikinui tōku tupuna.

Nō Rotorua na Whanganui a Tara

Kei Pito-one ahau

Ko Amanda Bradley tōku ingoa

I was born in Rotorua and grew up between two households in Te Whanganui-a-Tara (Wellington) and Rotorua in Aotearoa New Zealand. I specialised in Steiner education within my Bachelor of Education studies. I have been fortunate to teach in different sectors, from ECE in New Zealand and in China, to primary and high school as a Steiner handwork teacher and, most recently, as a campus manager and lecturer in tertiary education at Whitecliffe School of Fashion and Sustainability. I have observed how different pedagogies impact individual students at all stages of their education which has influenced my current understanding of human development. During my journey as a teacher and a mother, I have concluded that creative exploration and expression, in any form, is fundamental to academic success and overall well-being. Giving children a wide variety of creative learning opportunities is something I will continue to advocate for.

Education is complex and, I believe, should strive to develop a child in a holistic way, rather than finding fiscally efficient ways to embed as much knowledge into them as possible. Primary influences on my view of education are Rudolf Steiner's anthroposophical view of the human being, the educational theorists bell hooks (2019), John Dewey (2017), Paulo Freire (2018) and Māori learning models such as Whare Tapa Wha (Durie, 1985) and the Mana Model (Webber & Macfarlane, 2018). For me, the role of education is to prepare our

children for an unpredictable future in order to give them the tools they need to thrive, to problem solve and to help them uncover their true potential, while advocating for social justice.

I want to acknowledge the significant impact Linda Tuhiwai Smith's work on decolonisation methodologies has had on me and its influence on the way I approach Mātauranga Māori. I am on a journey to reconnect links to my own whakapapa (Ngāti Whakaue, Ngāti Ranginui, and Ngāti Hikairo). I read her work while working as a Steiner handwork teacher and participating in te Pumaomao decolonisation workshops (run by Takawai and Chris Murphy). This combination of factors profoundly shaped my understanding of the ongoing and historical harms of colonisation for indigenous peoples. My personal decolonisation process while reconnecting with my whakapapa is an ongoing journey and my approach to this research has been done with reverence, respect, and a willingness to learn.

Background of the Study

This study explored how materiality and tikanga were woven together within the craft education environment for primary school aged children and how that experience contributed to a sense of belonging. This thesis frames *Craft* as an embodied, culturally situated activity that mediates individual development, transmission of culture, and builds belonging through tikanga, ritual and materiality. In New Zealand Steiner schools, soft crafts are referred to as *Handwork*. *Handcraft and Craft* are used to refer to all manner of crafts that are created using one's hand and hand tools beyond the Steiner school setting. *Belonging* refers to a child's sense of feeling connected to their whānau and wider community. As well as feeling empowered to contribute to their communities in ways that are valuable and nurture their own positive self-worth. Understanding whanaungatanga, in terms of nurturing meaningful relationships, feeling a sense of collective responsibility and developing a shared identity adds depth to this understanding of belonging.

This study is intended as a starting point for a more in-depth conversation between Steiner handcraft, mahi toi and mahi raranga in particular. The kaupapa of both practices have much in common, yet they are formed within unique cultural contexts. If the notion of embodied cognition is being considered, then the act of making becomes a form of thinking (Groth & Nimkulrat, 2024). Therefore, one could consider that the skills and narrative being taught during a craft session will be informing the world view of the child engaged in that practice. Steiner and Māori craft practices and traditions appear to be a vehicle for embodied learning,

and the transmission of cultural knowledge. While it is beyond scope to analyse the inherent differences between the two in depth, this thesis aims to introduce the reader to how each practice enables embodied learning even though the cultural knowledge and ways of knowing in each context differ. Before more in-depth work can happen in this area, it is important to look at them side by side and consider their impacts on a learner's sense of belonging. Steiner handwork and mahi raranga contain pedagogical elements that can cultivate connections a child has to culture and place. There have been few peer-reviewed studies to isolate this specific occurrence within a Steiner handwork classroom, or wānanga raranga, yet teachers and crafts people have anecdotally referred to these experiences.

The impact of belonging on a child's well-being and academic outcomes will be examined throughout the literature review and explored during my research. Handwork and raranga are often taught under the New Zealand curriculum areas of *The Arts* and *Technology*. However, *The Arts* and *Technology* are often put to the side of a child's education due to teachers being under trained, under-resourced and time poor as other curriculum areas are prioritised (Chumko, 2022; Wood, 2021). Curriculum priority shifts such as this, are not uncommon in many nations, yet there are researchers such as Mommo et al., (2025) who advocate for the introduction (or reintroduction) of craft education rooted in local cultural traditions. However, it can be difficult for Governments to understand the value of craft in education. For this reason, I felt this research needed to include links to well-being and academic success. I hoped to contribute to the body of work that shows in Aotearoa New Zealand, we can have mainstream education that is physically practical while simultaneously academically rigorous. This will ensure students leave schools with positive self-worth, the capacity to create and fix their own belongings, and to contribute to the economy in a multitude of ways.

Context and Rationale

Pressures on the current education system are multifaceted, which have resulted in the narrowing of curriculum content and a focus influenced by neoliberal policies (Desierto & Maio, 2020; Raaper & Olssen, 2016). This narrowing of content sidelined the arts, crafts and humanities in the state primary school classroom (Wood, 2021). This has happened despite findings from academics such as Dewey (2017), Sennett (2008), and the global working groups from the OECD (2020a) that emphasised the importance and long-term benefits of hands-on, integrated learning experiences. The rhetoric of lifting achievement outcomes for students is commonplace in Aotearoa New Zealand (Penetito, 2012; Mahuika, Berryman & Bishop, 2011; Marriot & Alinaghi 2021), especially in terms of closing the attainment gap

between Māori and non-Māori learners. Māori and Pacific peoples are still being overrepresented in suspension rates, lower educational achievement and leave school with fewer qualifications (Ministry of Education, 2006). The current government aimed to tackle this through a specific approach to Math and Literacy learning (Stanford, 2024). Despite the prevalence of standardised testing, and increasing government control over curriculum content, Brayboy and Castagno (2009) found that these are two key factors that can perpetuate the colonisation of indigenous people. According to McLachlan, et al. (2025), the New Zealand Government has failed to address some of the root causes of this achievement gap which can be attributed to poverty, generational trauma, historical and current systemic racism, and other social issues that affect a student's capacity to embed the knowledge being delivered to them during school hours. What I am interested in is not a surface-level approach to solving issues in the failing rates of academic achievement and well-being for both Māori and non-Māori but looking at some longer-term solutions where educators and policy makers build an education system that values not only positive Math and Literacy outcomes but provides nurturing environments that enable children to thrive as individuals and build a sense of belonging.

The findings of the Inocenti Report Card (2025) suggested four following healing and preventative interventions which connect the individual to the wider world; *community and the greater good* (cultural/spiritual connection), *encouraging physical activities and mindfulnes*s (supporting connection to self) *promote social and emotional learning* (building connection to others), and *to provide an environment which nurtures a child's sense of agency and purpose within a social group* (connection to society and a greater good). These suggestions reminded me of what I observed in students as a teacher of Steiner handwork, and what I saw when facilitating workshops involving making by hand. These four connection points are all part of building a child's sense of belonging.

Nanyoung Kim emphasises the importance of craft education in this way " … tactility may be the most valuable for children, as children of this generation severely lack this most important experience of being fully human." (p 76, 2014). This thesis, therefore, explored the educational experiences of tohunga raranga and Steiner handwork teachers as a way to build a picture of a holistic education where students are engaged intellectually, physically, socially and spiritually.

Research Aims

This thesis aims to explore how mahi raranga and Steiner handwork practices connect children to cultural traditions and place, and how those connections contribute to belonging and shape learning experiences in a primary classroom setting and wānanga raranga. As seen in the Inocenti Report Card (2025) and UNICEF Innocenti Research Centre (2025), to meaningfully engage in learning students need to feel well in themselves, to feel they are valued, to feel comfortable and content in themselves, for them to build resilience, reverence and respect for those around them and their environment, and for their work to be purposeful and connected to other areas of their lives. Research undertaken for this thesis will contribute to the discourse surrounding holistic education and the importance of aesthetic and hands-on learning experiences.

This thesis addresses three primary questions.

1. In what ways do mahi raranga and Steiner handwork practices connect the maker to cultural traditions of place?
2. How does this connection to culture and place contribute to a sense of belonging?
3. How does a sense of belonging, fostered through craft practices, shape children's learning experiences and knowledge acquisition in the classroom?

While all the participants shared a common commitment to craft-based education they came from and represented two distinct philosophical and cultural traditions. Kairaranga participants drew primarily on mātauranga Māori, whakapapa, and tikanga as the foundations of their teach and meaning-making. Whereas the Steiner educators drew on anthroposophical understandings of human development and pedagogy. This study recognises these as distinct knowledge traditions that occasionally converge around shared concerns such as embodied learning, the importance of living life connected to nature, the value of community participation and cultural continuity. Including participants from both traditions enabled a richer and more in-depth exploration of belonging while remaining attentive to important contextual and philosophical differences.

Interview participants were asked about their past experience as both an educator and craftsperson as well as the cultural context they have grown up in. The reason for this was twofold. I wanted to establish their level of expertise in terms of their training and experience with their craft, and it laid the foundation for the rest of the discussion in terms of getting to

know the participant and learning more about them as a person. Questions about the participant's upbringing served to warm the participant up and establish a trust between them and I. The intention was to gauge and place their expertise level, while helping them to feel relaxed enough to open up to me about their knowledge and experience. Participants consented to their iwi affiliations being shared. Gina Solomon (Ngāti Toa Rangatira, Ngāti Raukawa, Te Atiawa) is a kairaranga and raranga practitioner. Linda Lee (Ngāti Raukawa ki te Tonga, Ngāti Huia, Ngāti Kurī, Te Rarawa, Ngāi Tākoto, Te Aupōuri) is an artist and raranga practitioner. Tana Lyons, Michelle Mullany and Jutta Howell Kress are all Steiner educators who have extensive experience as handwork teachers in the primary years. To address the research questions, the participants discussed the following themes.

- The role of the natural world and raw materials within the learning context of handcraft.
- What routines and tikanga are practiced within the lesson and why.
- Identify specific moments where the handcraft lesson and learnings contributed to enhancing well-being in students and facilitating belonging within the group.
- Whether the physical and social skills/knowledge gained within the handwork lesson contributed to other areas of the child's education and general overall development.

Significance and Contribution

There is a notable gap in peer-reviewed research on the impacts that Steiner handwork and mahi raranga have on a child's well-being, identity formation, sense of belonging, and academic achievement. By looking at Steiner handwork and mahi raranga side by side, I hope to stimulate a robust conversation among education academics, and policy makers about the positive impacts craft education has on children, which could impact the qualitative social and quantitative academic outcomes for future generations of New Zealanders.

While it is not within the scope of this research, nor is it the field of my expertise, it is important to acknowledge the relationship between the rise of neoliberal political influence and an increased technology use paired with reduced in-person interactions and child well-being impacts. Giroux (2006) claimed the current education system " … is rendered defunct within the corporate drive for efficiency, downsizing, profits, and an utterly instrumentalist notion of excellence" (pp. 76-77). Public education has become outcome driven and relies on

numerical data to prove student success. Ball (2016) argues this provides an incomplete picture of a child's achievement and potential while also turning the teacher into a mere technician, rather than a reflective and responsive academic. These desired outcomes decided on a national level, are often economically and politically motivated which results in the goal posts being moved every few years, not allowing time for these initiatives to embed into the fabric of the curriculum and general teaching practice.

On the flip side, education theorists such as bell hooks (2019) and Paulo Freire (2018), consider educations' purpose is to nurture citizens who can participate in society who develop critical thinking skills with the capacity to contribute meaningfully to their communities - regardless of the economic outcomes. For any ecosystem or community to thrive it requires diversity, yet there also have to be universal foundational requirements. Light, oxygen, water - these are the building blocks of life. What are the building blocks of a human being who reaches their full potential? Maslow (1954) famously created the model of the *Hierarchy of Needs*, which indicated that physiological and emotional needs are required to be met before optimum learning and self-actualisation can take place. In the context of this thesis, it is important to note the significant influence the Blackfoot people in Alberta, Canada had on Maslow developing this construct and that their view of self-actualisation is at odds with his. (Bear et al, 2022). These contradictions are noteworthy when endeavouring to enact research using frameworks informed by both western and Māori paradigms and will be explored further in the Findings and Discussions chapter. If it is true that some of our children are coming to school with these needs not met for the reasons described above, surely educators need to create educational experiences that assist in these basic needs being met. I would argue that craft education can support optimum learning and I will explore this in the Literature Review and Discussion sections.

Structure of the Thesis

The structure of this thesis reflects the interwoven nature of the research undertaken. Each chapter contributes to the overall understanding of how creativity, cultural knowledge, intellectual development and belonging intersect within the field of craft education. *Chapter Two* contains a literature review with four main sections: *Belonging*, which reviewed its impacts on well-being and an individual's learning; *Craft,* which explored connections between human creativity and the natural world; *Mahi Raranga*, which positioned raranga as a form of cultural continuity and preservation; and *Steiner Craft Education*, which briefly unpacks Steiner pedagogy and the emphasis on will development. *Chapter Three* contains the

outline of the methodology used, as well as a description of the research design, interview protocols, data collection and analysis processes and ethical considerations. Theoretical frameworks which informed the research were: Experiential Learning Theory, Cultural Historical Activity Theory, Embodiment Theory, and kaupapa Māori/the Mana model. In *Chapter Four*, I present the findings and discussion together which is supported by Braun, Clarke, Hayfield, and Terry (2018) as it allows for coherent storytelling, the linking of themes and interpretation directly with data in which I identify key patterns and insights. *Chapter Five* contains the conclusions, implications and recommendations for future research. Findings are distilled in the conclusion to acknowledge the major insights identified, while also suggesting longitudinal and mix-method approaches that could add to the body of academic work looking at the value and impact of craft education which could strengthen the evidence base to influence policy and curriculum change in Aotearoa, New Zealand.

Chapter Two: Literature Review

Belonging: *Its effect on an individual's educational outcomes, personal well-being, and collective well-being.*

This section defines belonging and examines its impact on learning. The literature indicates that a connection to community and identity formation influence academic performance and the development of a positive self-concept. Due to *belonging* being a rather broad concept, this section of the literature review is divided into three sections examining particular aspects of belonging which relate to education – by examining its relationship to performance in *Belonging and Performance,* the importance of belonging in terms of maintaining positive well-being in *Belonging and Well-Being*, and then a focus on why nurturing belonging within a learning environment matters in *Belonging and its Effect on the Individual Within the Learning Environment.* The findings within the existing literature helped to guide my research questions in regard to how craft practices specifically contribute to an overall sense of belonging.

Belonging and Performance

John Dewey (2017) emphasised the importance of children's connection to local communities and society. His definition of society "... is a number of people held together because they are working along common lines, in a common spirit, and with reference to common aims." (p. 28). Through participation in society, he claimed that a sense of belonging develops. Eastwood (2020) used his understanding of what it is to belong when working with high performance athletes, acknowledging that when individuals feel part of a group and legacy, they perform at a higher capacity. Whakapapa brought groups together with common stories, their present values, and future goals. Within this process the individual situated themselves within the group and found ways where their whakapapa connected to others and where their values aligned. Eastwood used examples of elite athletes' performance and their sense of belonging within the team. In many cases, the more they felt part of a group, the better their performance. Both Walker (2020) and Eastwood (2020) explored the strong relationship to artifacts had on a sense of belonging. In Eastwood's case the artifacts were a team uniform or trophy. In Walker's case, she spoke of craft tools that once belonged to her grandmother. The sense of Walker's belonging comes not only through the process of creating, or her final work but it also developed through the tools she uses (2020).

Belonging and Well-being

Eastwood (2020) explained the importance of "us" in that creating a shared story that united each member of the group. Hannah Arendt (2018) states "No human life, not even the life of the hermit in natures wilderness, is possible without a world which directly or indirectly testifies to the presence of other human beings" (p. 22). This shared story or physical presence provides a 'why' and facilitates space for the 'us' story to evolve as new members join. This 'us-ness' or whanaungatanga (Bishop et al., 2014) creates a group ethos of transparency, honesty, and contributions to the group. The following whakatauke from Dr Hinemoa Elder's (2020) book illustrates the notion of *us,* "Hara taku toa I te toa takitahi, engari he toa takitini – My success is not mine alone, it is the success of the collective" (p. 145).

There is an element of selflessness that came from groups who fostered whanaungatanga, yet it was important the group allowed individual thought and inspiration (Eastwood, 2020). Rose Pere (2006) acknowledges that Māori should strive for perfection in all they do because this lays a strong foundation for their descendants and their community. It also shows gratitude to those who have come before and blazed the trail that we now walk. Eastwood (2020) posits that the danger of the 'cult of personality' is lessened in these kinds of group settings, due to individual actions being done for the benefit of the group, rather than for one person's gain. Every act of the individual should benefit the collective. Belonging is not only important for an individual to reach their full potential, but it supports others to do the same and creates a community of resilience and well-being (Pere, 2006).

Kimmerer (2013) unpacked the importance of a connection to physical place and its impact on a person's sense of belonging. When analysing an aspect of the world we need to separate it from everything else to scrutinise and understand its individual physicality and behaviour. However, when we do that, we also need observe it within its physical and social environment so we can see it as it truly exists. While we have to position ourselves as separate from nature in order to describe how we relate to it, we are part of a whole ecosystem. As Kimmerer describes, though poetry and cultural stories in her seminal work, *Braiding Sweetgrass*, nothing in our world survives and thrives in isolation. Yet appreciating the uniqueness of creatures and plants brings the human into a relationship with these beings. Whether we live in an apartment or in a forest, we connect to our environment through movement, touch, sound, and relationship. bell hooks (2019) writes about belonging to community and place and how it brought to her a sense of comfort and surety.

> What we had learned in the hills was how to care for ourselves by growing crops, raising animals, living deep in the earth. What we had learned in the hills was how to be self-reliant. Nature was the foundation of our counterhegemonic black sub-culture. Nature was the place of victory. In the natural environment, everything had its place including humans (hooks, 2019, p. 8).

Disconnection from our natural world and physical distance from others has had an impact on young people. In his book *The Anxious Generation* Jonathan Haidt (2024) discussed the correlation between anxiety and depression, and the impact physical disconnection has on an individuals' well-being. He outlined multiple studies conducted over the past few years which showed a marked increase in anxiety and depression among young people. Much of that, he stated, had to do with the increased use of personal devices and the lack of real-life social connection, interaction with nature, and time for real world play as the child's brain developed. He explored the dramatic rise in mental illnesses in children who became anxious or depressed between 2010 and 2015. This period he called 'The Great Rewiring.' The importance of social relationships was emphasised throughout this book, with his case resting on the need for children to be given less access to screen time, more access to play, and more experiences with others in physical space. This, he claimed, can nurture a sense of belonging which mitigates the feelings of anxiety and depression.

The Impact of Belonging in a Learning Environment

The sense of belonging to a team, group or family through story and artifacts is something Smith (2012) encouraged researchers and educators to think about when working with individuals who live in ways not fully aligned with modern western values. OECD (2020b) discussed the importance of teachers being aware of the 'hidden curriculum' within a learning environment, of how artifacts, materials, physical spaces, and chosen content encouraged or discouraged members of the classroom to feel they belong. Smith warned that "… the organisation of school knowledge, the hidden curriculum, and the representation of difference in texts and school practices all contain discourses which have serious implications for indigenous students, as well as for other minority ethnic groups" (Smith, 2012, p. 12). Eastwood (2020) claimed that if the individual cannot see themselves represented, or find common values within the group, they will remain an outsider.

In a 2023 article by Leonard, he explored the concept of 'belonging uncertainty' which arose when an individual is unsure about their place within a social group. He claimed this can lead

to higher vigilance, which is linked to stress and caused the individual to use excessive energy by remaining in a state of mental defence or anxiety. He explained that often, by default, members of marginalized groups will assume that they don't belong for a myriad of reasons. Much of the time this is due to past experiences where their cultural values or traditions are not reflected or even respected. Walton and Cohen (2011) found that belonging uncertainty leads the individual to have lower resilience and will blame common feelings that arise from everyone adjusting to a new experience (such as starting a new school), as evidence that they don't belong. In a study conducted by Walton and Cohen (2011), they found that when applying a simple social-belonging intervention to a group of African-American college students, the feelings of discomfort in relation to being new college students was not attributed to belonging uncertainty instead they understood it was universal experience that their peers were going through as well. The intervention saw benefits to the treatment group compared to the control group in terms of raised GPA (the gap between the treatment group and European American students shrunk by 70%) and higher scores in health and happiness surveys over time.

Brown et al. (2020) discussed the role relationships had in creating a sense of belonging, in that students were more willing to participate and engage in learning when they felt a part of the group and respected by their teacher. In a study conducted by Nicholson and Putwain (2015) they found that within an AP learning environment student's behaviour, cognitive engagement, and relationships with each other improved, in part because of the positive relationships formed with the teachers. Feldman (2015) found that hormones triggered by positive social experiences increased the plasticity of the brain which contributes to the effectiveness of learning. In another study by Redmond et al. (2016) researchers found a significant link between an individual's well-being and their support network. "Family and social networks provide support to young people. Young people with smaller support networks have lower average levels of well-being than those with larger networks." (Redmond et al., 2016, pp. 1-2). Lunkenheimer et al. (2015) found that the more positive the social experiences and personal relationships an individual has, the greater the health of the individual's physiology. These findings support Eastwood's (2020) suggestion that feeling connected and having a sense of belonging within a group helps the individual thrive in all facets of their life. Brown et al. (2020) and Elder (2020) both claim that if belonging isn't established in a healthy way, the need to belong contributes to an individual's negative behaviour in order to seek approval from their peers and to find a space to belong.

Immordino-Yang et al. (2019) explored the possibility that the effectiveness of academic learning was dependent on "culturally situated social relationships and emotional experiences" (p, 186). They specifically set out to discover what makes Social-Emotional Learning (SEL) possible. According to them, it played an integral part in physical brain development and learning in general. "For our genes to grow a fully functioning human we must have adequate opportunity to meaningfully interact with others and to learn" (Immordino-Yang et al., 2019, p, 187). They went on to state that "… the motivations, sense of agency, social interactions, and emotions that form the core of SEL are likely enabling, in the most basic way, the brain development that supports learning" (Immordino-Yang et al., 2019, p, 187). In Pound's work (2005), he unpacks how negative emotions affect the learner. "Emotions play a critical part in teaching and learning … if learners are exposed to emotionally negative stressors then the reptilian brain dominates and the fight or flight response locks in. No learning takes place. Survival is the key objective" (p. 80).

Craft

A bridge between the natural world and human creativity.

This section followed the evolution of the meaning and purpose of craft through major historical and social changes. The reader will see that many authors arise at similar definitions of craft. The word *Craft* encapsulated processes, a finished artifact, and can include an aesthetic cultural knowledge or narrative which became embedded in an object. I begin by exploring the how the function and meaning of craft relate to the human condition in *Understanding Craft and* examine very briefly craft *Pre Industrial Revolution.* From there I looked at the shift that occurred during the industrial revolution and the response to the rapid industrialisation in *The Industrial Revolution and the Arts and Crafts Response*. The rise of the amateur craftsperson and the place of crafts in the modern era and its diminishing role within a New Zealand primary school education are explored in the subsections *The Rise of the Amateur Craftsperson*, *The Modern Era (1960s-today),* and *The Place of Primary School Craft Education*. Findings from this section of the literature review provided foundational evidence which guided the development of my research questions by highlighting the connection to craft and physical skill development and well-being. As well as illustrating how creative experiences can contribute to the development of 21st century skills and encourage the reader to imagine the possibilities of cross-curricular learning.

Understanding Craft

Craft making enables the manufacturing of tools or objects which become extensions of the human body, and imagination (Weida, 2014). Godelier (1999) defined an *artifact* as the meeting point, where a mental reality (a design or an imagined object) is imposed on a material reality. Wagner (1960) used the example of spoons to illustrate the variation that arises when the maker considers functionality; spoons are moulded to suit their purpose. For example, a measuring spoon, skimmer spoon and soup spoon all serve different purposes therefore need different forms. Albers (2018) discussed the aesthetic quality of crafted artifacts when describing our relationship to clothing. We require clothing for protection against the elements, yet a plain woollen sack will not do. We craft forms, patterns, and create a whole aesthetic that is both comfortable and attractive. Wood, (2021) and Bekkom (2019) described the impact that craft making had on humanity throughout history. They are not only talking about an end product, but the culture, materials, and ritual that goes into the creation of an artifact. "The properties of materials, then, are not fixed attributes of matter but are processual and relational. To describe these properties means telling their stories" (Ingold, 2007, p. 1).

Anna Kouhia (2012), in her work *Categorizing the meanings of craft: A multi-perspectival framework for eight interrelated meaning categories* acknowledged that defining craft is difficult "... because the word 'craft' has changed meaning over the many centuries." (p. 26). In this article she created eight categories to define Craft. These categories are, *Functional, Material, Aesthetic, Expressive, Experiential, Multi-Sensory, Collaborative*, and *Narrative.* She and others (Owens, 2005; Shiner, 2012) acknowledge that craft making and craft meaning are diverse, culturally responsive and change as human need and desire evolves. Bateson (1987) described how crafting is an unspoken way to communicate the unspeakable. A kind of 'coding' language through which knowledge, beauty and cultural identity can be expressed. The un-rational, the emotional and intuitive can be difficult to express in spoken language and Bateson argues that craft and art are a way humanity is able to express these more unconscious concepts.

While Kouhia (2012) created seven categories of craft meanings, Hannah Arendt (2018) divided the definition of craft into two categories, each of which can contain any combination of Kouhia's categories. Arendt (2018) and Sennett (2008) take a broader approach to what craft entails, going beyond a handmade item and relating it to a way in which people work. The definitions of craft (or people at work) developed by Arendt (1998) in her seminal text

The Human Condition first published in 1958 and explored by Sennett (2008) are *animal laborans* and *homo faber***.** *Animal laborans* she equates, to a beast of burden. She explains that *animal laborans* is menial manual labour that lacks any room for the person to exert creativity and the final product is all that is valued, such as factory line workers. Whereas *Homo faber* is her image of men and women undertaking work where they can exercise creativity, problem solving, aesthetic expression and joy, resulting in a life in common. This takes place not only through the finished product but through the act of working together. Thus, in her view, human beings live in two dimensions. In in the condition of *animal laborans* humans are amoral in the work and absorbed purely in production. When in the other condition of *homo faber*, humans harbour a higher way of life in which they stop merely producing and problem solve, innovate and make collective creative judgments. "*Animal laborans* is fixated in the question "How?" while *Homo faber* asks "Why?" (Sennett, 2008, p. 6). Sennett posited the reason materialism has become a bad word is because we lack the understanding of how items are made. We don't value or understand what is being created. Pollanen and Weissmann-Hanski (2020) explored Plato's concept of eudaimonic happiness (as opposed to hedonistic) which developed as a maker participates in experiences that have meaning and purpose. They state that the need to do, to belong and become, is enhanced by purposeful craft experiences. The *collaborative, expressive* and *functional* categories of meaning from Kouhia's (2012) work, supported the suggestion that these reasons to craft, resulted in a sense of community and belonging.

Sennett goes on to argue that "…people can learn about themselves through the things they make, that material culture matters" (p. 8). Rudolf Steiner shared a similar sentiment around eighty years earlier. In a book of his published lectures entitled *The Modern Art of Education* (2004) he is quoted as saying "One of the main faults of present social conditions is that people have so little understanding of what others do. We must really stop isolating ourselves as individuals and groups and face one another with complete understanding" (p. 216). He uses this reasoning to justify practical lessons in handwork, woodwork, the arts, and physical movement.

Pre Industrial Revolution.

Albers (2018) acknowledged that weaving is one of the most ancient of crafts. She outlined the evolution of crafts, and states that despite many of the tools used to weave at an industrial level to mass produce textiles, the technique has remained as it would in those ancient times. As time progressed and groups of people shifted from nomadic lifestyles and created

permanent villages and cities. Crafting guilds arose – the oldest known guilds to be found in Europe, China, and Japan (Lucassen, Moor Zanden, 2008). Adamson (2013) discussed the influence of the guilds on the development of craft making. To be part of a guild meant that the maker must adhere to a standardisation of work so customers could be sure of the quality and fairness of the cost. It also created opportunity for craftspeople to work collectively in developing new technologies. Designs were often kept within guilds, and the elaboration of design and kinds of materials often reflected the status and wealth of the customer. These guilds were recognised by the central governments of the time (Lucassen et al., 2008). Despite the collective benefits Adamson (2013) and Lucassen et al. (2003) described, Knot (2015) points out that standardization of the craft guilds was thought to stifle creativity and individual innovation.

All over the world, design and technique reflected the culture and the relationship people had to their environment (Hemmings, 2015). Materials available influenced the craft techniques that developed. Materials were most often harvested and processed within the region, so the object embodied the natural place of the maker. Designs and motifs reflected the stories and history of the local peoples. Celebrated Greek heroes and heroines featured on ancient ceramics. Creation myths were woven into South American textiles and stonework (Mattil, 1965). The artistic, narrative elements we see in modern art, were woven, carved, and whittled into utilitarian objects (Adamson, 2007).

The Industrial Revolutions and the Arts and Crafts Response

The first industrial revolution is dated between 1750CE-1850CE, and the second industrial revolution occurred between 1870CE and 1914CE. Knot (2015) examined how the process of 'making' drastically changed. John Dewey (2017) described how the speed of these revolutions shook the foundations of society. The following quote reads as though the swiftness of the industrial revolution caused a kind of social whiplash.

> One can hardly believe there has been a revolution in all history so rapid, so extensive, so complete. Through it the face of the earth is making over, even as to its physical forms; political boundaries are wiped out and moved about, as if they were indeed only lines on a paper map; population is hurriedly gathered into cities from the ends of the earth; habits of living are altered with startling abruptness and thoroughness; the search for the truths of nature is infinitely stimulated and facilitated

> and their application to life made not only practicable, but commercially necessary. Even our moral and religious ideas and interests, the most conservative because the deepest-lying things in our nature, are profoundly affected. That this revolution should not affect education in other than formal and superficial fashion is inconceivable (Dewey, 2017, p. 22).

Peksan (2021) explored the ways in which the mechanisation of tools created a large number of uniform artifacts at the fraction of the time and cost of human labour. One person could oversee the operation of one machine, replacing the labour of hundred or even thousands of people. The workers hands became disconnected from the head in that workers were given patterns to reproduce and often had no input into the final design. He claimed that during this time it was a rare occurrence for the draftsman to also be a skilled craftsman. The production process was divided between workers and machines to maximise efficiency. Adamson (2013) described the impact of the division of labour and how this was a critical element to the success of the industrial age. He states that the values of order, regulation, control, efficiency, specialisation, and productivity, were held in higher regard than the individual creativity and the craftsmanship of a singular worker. He wrote of a French spy who investigated the English factories and observed highly trained, specialised workers who knew nothing of the chain of operations. They could not tell you the next step in the production process and rarely made mistakes as they did the same thing day in and day out. Adamson goes on to describe illustrations of workers at the time resembling puppets on strings. The aesthetic and functional decisions were made by someone who wouldn't make the item, and the act of creation was overseen and managed by a manager who had no part in the hands-on creation of the object.

In response to the industrialisation of crafts, the Arts and Crafts movement arose. It was an aesthetic movement which occurred in England between the mid-1800s and early 1900s, during the beginning of the second industrial revolution (Lovell-Triggs, 2009). There was a push to re-establish the value of handmade, well crafted, beautiful objects or buildings within a person's life (Thomas, 2020). Crawford explains:

> Once one accepts that the primary focus of Arts and Crafts ideas was not so much objects as personal experience, a lot of things fall into place. The Unity of Art (artist and craftsman working together), Joy in Labour (the creative satisfaction of ordinary work), Design Reform (making manufactured objects better), all three can be seen as

> facets of a single idea which I take to be at the heart of the Arts and Crafts Movement (Crawford, 1997, p. 20).

The competition of trade, and de-personalisation of beautifully made, necessary items was a major influence in the development of the arts and crafts movement. Walter Crane explained the reasoning behind bringing together the two worlds of 'Art' and 'Craft. The Arts and Crafts society linked beauty to moral good (Evans, 2020). They argued that part of building and maintaining a just and good society required all individuals, regardless of class or status, to be surrounded by beauty.

Rise of the Amateur Craftsperson

Knot (2015) described the rise of the amateur craftsperson, which did not denote the skill level, merely that there is no financial remuneration. This took place during the second industrial revolution. Patterns, instructions, and tools became widely available to amateur craftspeople, so while there was an increase in industrial level manufacturing, the amateur craftsperson was able to set up their own workspace and benefit from the increase in affordable materials and tools. While industrial manufacturing further separated the worker from a holistic creative process, the amateur craftsperson was able to innovate with sophisticated, affordable materials and tools in their own time.

While Adamson (2013) discussed crafts as a commodity and in relation to the economy, Knot (2015) wrote a commentary on the place of amateur crafts, in that they are performed without any expectation of selling their work, rather, items are crafted for the joy of it and for personal necessity. A question asked by both Knot (2015) and Wood (2021) was what value have we placed or do we place on crafted artifacts made without the intention of being sold? Do they hold worth more worth to the maker and receiver than a mass-produced item? These questions can be seen to sit along-side the values within the arts and crafts movement. In that beauty of the object and joy of the making process were seen as more important than profit margins (Crawford, 1997).

Knot (2015) argued that the amateur has been integral to the evolution and survival of crafts in general. The amount of time, materials and resources that went into amateur craft making had a great influence on the future of that craft in general. Within the economic limitations of industrial manufacturing, craft innovation is restricted by the patron's expectations as well as the financial viability of labour costs and materials. The amateur is free from the shackles of expectation and deadlines, which allows for infinite experimentation and progression of craft.

There seems to be a consensus among writers of the craft movement that both traditional methods and innovative ways of creating utilitarian objects are of importance (Chatterjee & Alvelos, 2020; Weida, 2014; Knot, 2015). While beginners benefit from learning traditional methods, the creativity and ingenuity of the individual are of equal value.

Modern Era (1960s -Today)

Knot (2015) discussed the impact of technological advancement in that we have created tools and machines which remove the need for human labour in every aspect of our lives. Machines wash our dishes, we don't need to make our own clothes, electronic light prolongs our working hours, libraries are on our digital devices, and we can order groceries to be delivered to our door. Adamson (2007) explores how the use of our hands has changed. While the creative and artistic impulse we have was once imprinted into the utilitarian objects we made out of necessity for our survival, now our hands can create purely for the joy of creating (Knot, 2015). Weida explains the value of craft below:

> And as craft becomes less and less a part of increasingly mechanized, computer-controlled production, it becomes clearer to us that the value of a crafted object has never been measurable in dollars or even just in terms of its utility. Humans make things beautifully, interestingly, expressively because that is what it means to be human (p. 3, Weida, 2014).

Arts and crafts have much in common, such as their aesthetic requirement and their capacity for containing a cultural narrative. Yet Adamson (2007) described a defined separation between the arts and crafts in the modern era. He suggested that crafted objects are utilitarian and fulfil practical, everyday use. Through art, we transcend material to express increasingly complex and nuanced concepts in a form that serves no purpose but to provoke thought and evoke an aesthetic experience.

During the industrial revolutions, a 'consumer culture' emerged (Knot, 2015). Artefacts became easily available and increasingly affordable. Albers (2018) posits that due to the nature of industry and consumerism, we live in a society that longs for more and more objects to fill their house with. The low cost of mass-produced items results in people having more, but she asked, does our quality of life expand as we gather more and more items into our home? In his book *A Whole New Mind,* Pink (2016) examined the impact of living in an age of material abundance. "The paradox of prosperity is that while living standards have risen steadily decade after decade, personal, family and life satisfaction haven't budged." (p. 35).

He explained that the value we give our artifacts can be reflected in the following observation: the self-storage business is a growing multimillion dollar industry, we have so much, we can't fit it all in our homes! In an age of material abundance, he and Albers (2018) suggested that we may be valuing quantity over quality when it comes to the artifacts in our lives. Wood (2021) asked whether the disconnection from the 'making process' has resulted in a lack of consideration for the environmental and human cost of producing an item. As well as our lack of emotional connection to the vast number of objects we have, which we are happy to buy then promptly throw away.

Vivan Andrews (2022) also discussed the predominance of piecemealed industry since the industrial revolution. Humans serve the same function as a machine, in that they are not involved in the problem solving and judgment aspects of making. Individual humans in factories have one specific job, they do exactly the same way every time. There is no room for the creative spark or to contribute to ongoing improvement of the item. She states that

> … as the factory owners focussed on speed and efficiency, work lost its poetry and its rhythm …we began looking down on those who were dextrous, often to the point of genius, insisting that they forfeit their humanity and behave more like machines. Suddenly we had little respect for makers of any kind - for millers and mineworkers, seamstresses and spinners, potters and printers, weavers, and joiners - and for any occupation in which we rely upon our hands" (p, 13).

In contrast, Sennett (2008) discussed how Japan was able to build a thriving postwar economy through their capacity to create well-made objects for the global market. He posited that part of this economic success can be attributed to the fact that workers within the factory, regardless of their status could contribute to the ongoing development of a product, with multiple voices, ideas and points of view being considered. These voices were considered due to the fact that they work so closely with the development of the item. They knew the process, they knew the form, so they could find solutions to a design problem. In a Fordian factory environment, this collective creativity is not considered. Relying on the designer or engineer to individually (or with a small group of peers) to come up with the best design while being removed from the manual labour aspect.

Wood (2021) claimed that keeping traditional craft making methods alive is a way to maintain particular cultural values and epistemologies within an age of globalisation. The value in a handmade item comes not only from its function and aesthetic appeal, but the love

and time that went into it. The narrative of who made it, where the materials came from and how it was made increases its value. In the modern era when individuals were asked why they choose to learn traditional craft making methods a common response was, to preserve and learn more about the culture it stems from (Chatterjee & Alvelos, 2020). Andrews follows this line of thinking and claimed that "each craft contains a whole philosophy and gives us some insight as well into the arch of human history." (Andrews, 2022, p. 6)

The Place of Primary School Craft Education.

Weida (2014) and Wood (2021) both explain how craft education has largely disappeared from primary schools in both the US and New Zealand. These observations lead both to the wider question of whether crafts education should be brought back, and if so, how could this be done? With limited financial resources, the skill level of the teachers, and curriculum overload to consider (OECD, 2020a), does craft education have the relevance to demand attention and time dedicated to it as it may have in the past? Wood (2021) outlined the demise of the place crafts education had in Aotearoa New Zealand. Funding was cut to craft programmes and redirected to computer studies in primary and high schools. Justification of this was given by looking at future forecasts of export figures which lead to the decision that individuals educated in the area of IT would benefit our export economy more than those with manual craft skills (Wood, 2021). Yet, as Pink (2016) described the knowledge worker – such as computer programmers and software developers - of the 80s and 90s is now having their roles taken up by cheaper labour in non-western countries, or Artificial Intelligence. Pink raises questions about the purpose of education; are we educating purely for the benefit of an individual's contribution to our global economy? Or are we educating individuals with faculties and skills that will allow them to not only contribute to the economy, but take care of their well-being and give them skills for chosen creative pursuits?

Various working groups have developed a set of 21st century skills that can help guide the content and delivery of school curriculum such as the Partnership for 21st Century Learning, (Battelle for Kids, 2019) and the OECD (2019) Within these frameworks there is an emphasis on students developing the capacity for critical thinking and learning how to communicate effectively through a wide variety of media and methods. These skills are not tied to specific knowledge areas, rather they are to be taught through learning experiences within the classroom. Sennett (2008) argued that the human being at work, engaged in the process of crafting will by default develop the many of the 21st century skills that can result in the positive development of a child. He explained that the practice of crafting as an individual or

within a group encourages artistic thinking, judgement, problem solving, consideration of the user of this service or item and in many cases scientific thought. He contended that a doctor or lawyer can be just as much a craftsman in their field as a weaver or carpenter. The process of craft is not exclusive to physical items but a holistic way of performing one's work. Imagination, problem solving and the Will (or commitment) to create the solution to a problem is required to craft. To Sennett this

> … focuses on the intimate connection between the hand and the head. Every good craftsman conducts a dialogue between concrete practices and thinking, this dialogue evolves into sustaining habits, and these habits establish a rhythm between problem solving and problem finding" (Sennett, 2008, p. 9).

John Dewey (2017) wrote about this in 1899, long before the OECD (2020b) emphasised the need for these skills. Dewey discussed how these are embedded when learning craft skills and working with natural materials.

> ... we cannot overlook the importance for educational purposes of the close and intimate acquaintance got with nature at first hand, with real things and materials, with the actual processes of their manipulation, and the knowledge of their social necessities and uses. In all this there was continual training of observation, of ingenuity, constructive imagination, of logical thought, and of the sense of reality acquired through first-hand contact with actualities. The educative forces of the domestic spinning and weaving, of the sawmill, the gristmill, the cooper shop, and the blacksmith forge, were continuously operative (p 27, Dewey, 2017).

Gauntlett (2018) simply states in the title of his book, *Making is Connecting*. All children should be provided with experiences that allow them to develop as contributing members of their communities and have the skills required to see them thrive as individuals (Dewey, 2017; Webber & Macfarlane, 2018; OECD, 2022). While a knowledge-based education is important, many academics and educational theorists support the development of children's physical and social capacities within a public-school education.

Mahi Raranga

The kaupapa of Māori crafts, cultural preservation, and Te Ao Māori

Within this section I examined literature which introduced mahi raranga as a traditional Māori craft which makers and researchers acknowledge transmits mātauranga, whakapapa and tikanga. The colonisation of Aotearoa New Zealand had an impact on raranga's development and how widespread it was which was discussed throughout the section. Three elements are examined: *Mātauranga Māori*, or Māori knowledge systems and the importance of understanding this kaupapa in relation to Māori learning frameworks. *Learning through Innovation and Tradition* examined how knowledge is passed on and how the preservation of traditional values and cultural narrative were preserved while also making space for younger generations to innovate and evolve ways of working and knowing the world. The section entitled *Mahi Raranga* provided an explanation of how raranga is seen by Māori to be a vehicle for aesthetic education, transmission of cultural knowledge, identity formation and a practical skill required for everyday life.

Due to limitations of scope for this thesis, I was unable to go into the depth required to discuss the many forms of mahi toi such as whakairo and tukutuku. I chose to focus on raranga for its practical and spiritual dimensions. It is an accessible craft in that harakeke is plentiful in Aotearoa New Zealand and it caters to a wide range of skill levels making it ideal for teaching in primary schools. In terms of its symbolic and spiritual dimensions, raranga embodies the metaphor of uniting individual strands or people to create wholeness (Kirkwood, 2015). This overarching metaphor of connection and wholeness relates to my examination of children developing a sense of connection through craft.

Mātauranga Māori

Various authors in *Conversations on Mātauranga Māori* (2012) discussed the importance of understanding and reclaiming mātauranga Māori – which provided insight into kaupapa Māori and Te Ao Māori. Professor Sir Hirini Moko Mead (Ngāti Awa) explained that knowledge and culture can be communicated through ritual surrounding the making of an object or the passing on of skills and stories (2012). According to him, mātauranga Māori is intrinsically linked to identity and to place.

> The philosophical underpinnings of traditional mātauranga Māori were provided by the religious system and was the basis of ethical rules about the notions of tapu and noa. Some of those rules still hold today and are regarded as being part of mātauranga Māori in today's world" (Mead, 2012, p. 11).

Knowledge was and still is, captured in many ways such as, proverbs, story, songs, place names etc. This system of knowledge was intricately woven into all aspects of life (Ka'ai & Higgins, 2004).

Professor Wiremu Doherty (Ngāi Tūhoe), states that within kaupapa Māori there is an understanding of "… tribal identity rather than Māori identity" (Doherty, 2012, p. 16). It is important to reference which iwi knowledge came from. Each iwi has their own stories, knowledge and tikanga around materials depending on the climate and whakapapa. Doherty (2012) warns that myths and legends are often de-contextualised "from the people and landscape they were intended for" (p. 17). Areas of mātauranga Māori were traditionally taught in a very structured way.

> Whare wānanga, is where individuals would specialize in an area of knowledge. They would then emerge as tohunga. They were taught the practical skills, as well as the protocols and rituals that would help them 'navigate between the spirit world and the human world (Chitham, Māhina & Skinner, 2019, p. 34).

They go on to say that tikanga surrounding the passing on knowledge was strict. Crafted objects and structures visually contained stories and symbology tapu to iwi (Chitham et al., 2019). McRae-Tarei (2013) wrote that toi Māori, such as raranga were mediums which carried the iwi narratives from one generation to the next.

Learning Through Tradition and Innovation

Petetito (2010) explains that prior to the arrival of non-Māori peoples, Māori had a differentiated system of education, where they prioritised whakapapa, mātauranga and rites of passage which helped individuals shift into adulthood. Identity and intergenerational knowledge were a fundamental part of a child's education, as well as skills required for survival. While there was no written language, Māori were great orators and also preserved story, narrative and history into the visual patterns and images represented in their crafted objects. This was disrupted through colonisation. "The complexity of modern living has meant we have also grown away from nature and understanding its deeper meaning." (Puketapu-Hetet, 2004, p. 3). Of note were the impacts of the implementation of the first *Mission Schools,* the *Education Ordinance Act of 1847*, and the *Native Schools Act of 1867.* Mead (2012) claimed that due to colonisation, raranga and other aspects of Māori culture almost disappeared during the nineteenth and twentieth century. Traditional knowledge and traditional manufacturing techniques were not being passed on to enough people (Smith et

al., 2011). “Dependence on colonial, Western economics and incorporation into the colonial economic system accelerated the loss of the pre-colonial knowledge of reading and understanding tohu. This loss of knowledge corresponded with socially and economically marginalised Māori communities who had lost tūrangawaewae through the colonial government’s agenda of colonisation” (Smith, 2012, p. 268).

Traditional utilitarian objects such as kete and clothing were replaced by objects brought over from Europe. European textile making techniques were used materials imported or newly introduced. Pendergrast (1987) examined the effects the changing economic landscape of the early 20th century had on the state of raranga. The environmental effects of transforming forest into farmland were devastating on the bird and wildlife, meaning that food sources and weaving materials traditionally used were scarce. Men were shipped off to war and women had to fill their roles in the labour market dominated by western industry and production methods which resulted in Māori urbanising, leaving their tūrangawaewae With limited time and access to resources which were previously devoted to traditional crafts, the techniques and knowledge weren’t as widely practiced or openly discussed. The economic and environmental shift, married with the *Tohunga Suppression Act* of 1907 and policies such as the *Native Schools Act*, meant it was even more difficult to pass on traditional knowledge and skills (Williams, 2013).

However, thanks to the movement to restore te reo Māori’s mana, Smith et al. (2011) discuss the revival of traditional Māori arts and crafts. Māori have been working hard to restore tikanga and skills which were almost lost. Mead (2016) describes the importance of being taught by a tohunga, because although self-taught artists may end up with a similar looking artifact, they will not have been educated in the tikanga surrounding the process, which is how one becomes a tohunga themselves.

> Tribal uniqueness in patterns, styles, customs, and traditions are in danger of being lost. Weavers and tribal authorities need to strengthen their links so that they can be supportive of each other. Te ao hurihuri (the changing world) may once again see tribal authorities protecting the art of weaving (Puketapu-Hetet, 2004, p. 7).

They also explain that the creation of an artifact, the tapu and tikanga surrounding the process is just as important as the final product, particularly when passing on culture and developing a relationship to both the natural and spiritual worlds. “The observance of the tikanga of

creative work actually enhances the activity, gives significance to the work and elevates the activity as something special and highly valued." (Mead, 2016, p. 206).

Mahi Raranga

Mahi raranga translates to the act (mahi or work) of weaving (raranga) a utilitarian item. Mckendry (2020) explained that the popular plants chosen to work with were able to be used in multiple ways. This required Māori to understand the whenua, plant life cycles and how to use as much of the plant as possible. McRae-Tarei (2013) states that "whāriki weaving is distinctly Māori and is the legacy of an evolving traditional knowledge that spans the Pacific and the people-ing of this vast region" (p. 1). All raranga products served a purpose, and materials used were locally available (McKendry, 2020). Popular plants used were abundant in Aotearoa New Zealand, such as harakeke and tī kōuka as they were strong, pliable, and durable. Other plants used were nikau, pīngao, and houī.

> Māori arrived in Aotearoa with the necessary skills to manufacture a full suite of textiles specific to their requirements. The importance of the textile-related plants to Māori is demonstrated by the tapu that surrounds all aspects of their lifecycle; planting, harvesting, processing and weaving (McKendry, 2020, p. 21).

Puketapu-Hetet, (2004) discusses the traditional practice of beginning and end of every weaving session with karakia. They explain that it is important for the tauira to understand what is being said so their mind and body are ready for the process ahead. The closing karakia provides an opportunity for the weaver to reflect on the work done and be thankful for the materials utilised and progress achieved. They described the wairua that imbues an object and that wairua is as valuable as the functionality of the artifact. They wrote that

> … the weaver normally experiences feelings of being linked with something greater than herself and the present. Māori people call this a link with ngā tūpuna. Feelings of achievement and tiredness resulting from all the creative energy that has been expended add to the weavers 'giving of herself' when gifting that first piece away. The tauira begins to understand why weaving is more than learning manual skills (Puketapu-Hetet, 2004, p. 5).

The word 'rangatira' is often explained metaphorically as ranga (to weave) and tira (a group of people), highlighting the leadership role of bringing people together. To unpack this further, one can see how the role of weaving people together, or *ka raranga i te tara*, is a fundamental aspect of Māori leadership and underpins the ethos of bringing various groups of

people together, all of whom have differences, and weaving them together to form a social tapestry. This does not assume that people who are different need to change in order to 'fit in' to society. This metaphor suggested that diverse value systems, spiritual beliefs and social norms, can be woven together to create a richer social fabric.

The Whakapapa of Mahi Raranga

The whakapapa of mahi raranga and mahi toi is considered more than just a material exercise. Mahi raranga connects the practitioner to tikanga and spirituality. Puketapu-Hetet (2020) claims it "…is held in this world as a living taonga, passed from generation to generation in the same way as an heirloom." (p. 12). Wilson (2017) states that "fundamentally, all mahi-toi hinge on wairua." (p. 120). Looking at the act of weaving in a broader context for Māori, Smith et al. (2011) explained how raranga is a metaphor for whakapapa, and they provided a picture of how Māori view the spiritual and social realms.

The whakapapa of raranga is an important context to understand in terms of the spiritual nature underpinning raranga. It is necessary to acknowledge that creation myths vary from between iwi and hapu (Doherty, 2012). However, it is widely accepted that Hine-te-iwaiwa is the Atua (or goddess/spiritual guardian) of childbirth, the cycles of the moon and raranga. In Witi Ihimaera's work, *Navigating the Stars* (2020), the whakapapa of Atua are written about in detail. It is beyond the scope of this thesis to go into detail regarding the whakapapa of the Atua, however it should be known that after Te Kore (the void), Te Pō (the night) and Te Ao Marama (the world of light), emerged the masculine Rangi-nui-e-tū-iho-nei (the sky father) and feminine Papa-tū-a-nuku-e-takoto-nei (the earth mother). Through their union they birthed Ngā Ira Atua, or the God Brothers who would become the ancestors of humankind. Ihimaera (2020) stated that 70 brothers were birthed and due to the cramped conditions Tānemahuta decided to separate them with the help from a number of his brothers after a time of debating and disagreements. Once the sky was separated from the earth a new era began.

Tānemahuta produced offspring with feminine deities of the earth, which became our great and abundant forest. He then searched for the feminine in the skies. There he found the smallest of stars, Hine-rau-moa and she gave birth to Hine-te-iwaiwa. Hine-te-iwaiwa gifted the art of raranga to humankind as well as being the guardian of the feminine aspects of childbirth and menstrual cycles (Ihimaera, 2020). There are many stories about how mahi toi, and specifically mahi raranga were gifted to humankind. While they are not mentioned in this thesis, they all provide a cultural context and describe cultural values for those who hear

them. By acknowledging the whakapapa of mahi raranga, the maker engages with the mauri of Hene-te-iwaiwa through the learned skills and techniques, and Tānemahuta through the harakeke and other physical resources used. Wilson (2017) states that this is why we can understand mahi raranga as a spiritual paradigm, as well as a utilitarian act.

Steiner Craft Education

From the hands, through the heart, to the head and into the world

This section outlined Steiner craft pedagogy; how the developmental progression of the human being informed the timing of projects taught, the influence of the anthroposophical concept of the threefold human being (Thinking, Feeling and Willing) and Steiner classroom rituals. The first sub section, *Steiner Education*, gave a brief overview of the history of its development and the importance placed on practical learning experiences by Steiner educators. The second sub section, *The Foundation of Steiner Education*, described the anthroposophical understanding of the human being. Both these sections were included to give readers not familiar with this pedagogy an introductory framework to understand the findings and discussion section. The following section *The Will and its Relationship to Thinking*, shows how practical learning experiences - or engaging the Will - can have a positive impact on academic development. What Steiner Handwork is and why it is taught is explained in *Steiner Handwork; the What and the Why.* Finally, a brief overview of what handwork looks like is presented in *Handwork in the Kindergarten and Primary School*. Although Steiner schools in Aotearoa New Zealand operate with a degree of independence, they share common curriculum documents and follow similar project progressions.

Steiner Education: A Brief History

The first Steiner school opened in Stuttgart, Germany for the children of workers in the Waldorf Astoria cigarette factory (Rawson, 2024). While Steiner did not act as a regular classroom teacher, he worked with the group of teachers to advise them on what and how to teach their students in order to develop the students' inner sense of freedom, Will and creativity. There are now Steiner schools in over seventy countries around the world. Rawson wrote about their ongoing evolution to respond to the children of the time. Oberman (1997) wrote about the inspiration for the first Steiner school. Rudolf Steiner and the teachers of the first Steiner school had just come through the horrors of World War One. Societal structures that had been the norm for hundreds of years were shattered, and while European country

borders shifted often, nothing at this scale including the numbers of lives lost had occurred for hundreds of years, if ever. Regarding education, Oberman explained that the school systems of the time relied on rote learning and draconian teaching methods which he claims, was to an individual's detriment. He described the opinion of the first teachers, in that they viewed their current education system as one that produces people who were able to be cogs in an existing economic machine. They were not educated citizens who could heal the social wounds from the war years and contribute to a healthy cultural, economic, and religious life. Steiner educators of the time felt that if the human spirit was to recover after the war, and actually thrive, they needed to create an education focused on the healthy development of the whole human being.

Rudolf Steiner (1996a) suggested that we needed an education that teaches individuals to think critically and clearly, to have an inner sense of beauty and empathy, and to gain practical skills that would ensure common sense and self-sufficiency. In *A Modern Art of Education* (2004) he stated that in order to create an education of true worth, there needed to be a system that understood the human being and responded to the spiritual and social factors of the time. In particular he was interested in educators uniting the intellectual being of the child with the physical being, rather than treating these as two opposing and separate parts of the individual requiring isolated lessons or educational experiences.

> Whoever has to deal with theoretical work ought to stand in practical life even more firmly than people who happen to be tailors, cobblers, or engineers. In my opinion, any passing on of theoretical knowledge is acceptable only if the person concerned is also well versed in all practical matters of life, for otherwise his ideas will remain alienated from life (Steiner, 1986, p. 129).

In this statement Steiner emphasised the importance of intellectual or theoretical knowledge needing to be situated within the context of practical life. Otherwise the concepts developed and taught would remain disconnected from the reality of the human experience. Here lies one of the essential motivators of the Steiner Education movement.

Foundations of Steiner Education: An Anthroposophical Understanding of the Human Being

The anthroposophical view of human being is the foundation upon which Steiner education is built. In *Foundations of Human Experience* (1996a), Steiner discusses the early twentieth century academic disconnect between psychology and the soul. He states that although we had learned much from psychology, twentieth century psychology had become an incomplete system and had "no true content" (p. 49). Steiner responded to this disconnect by explaining the concept of the threefold human being – connecting sections of the body to three psychological or spiritual processes; the head (Thinking), the chest (Feeling), and the limbs (Willing). He explained that it is of upmost importance for educators to understand this in order to meet the needs of their students.

As well as taking the threefold nature of the human being into account, Steiner school teachers acknowledge the supersensible bodies of the individual that extend beyond the physical body; the etheric body, the astral body and the 'I' or ego body (Lievegoed, 2009). The physical body is born, then around the seventh year the etheric body is born, the astral body is born around fourteenth year and the 'I' around twenty-one. The unfolding, or birth of these bodies are important events that inform the method of teaching. For example, after the change of teeth in the seventh year, the etheric forces which effected the growth of the physical body and its rhythmic processes, are free to work in the realm of the child's soul. The teacher meets the developing rhythm of the soul through the rhythm of lessons, the days, through movement, story, and music (Steiner, 1986).

When educators work with the phases of development and respond to the individuality of each child, they bring harmony to the child (McAllen, 1999). Acknowledgment of these phases within Steiner school allows for the gradual unfolding of the individual within the classroom and wider community. Nobel (1997) and Rawson (2024) explained that teaching through the arts is a way to educate the whole soul life of the human being; the Thinking, Feeling and Willing. Steiner (1996c) placed great emphasis on relating the curriculum areas to each other, while also ensuring the content and delivery is appropriate for the age and cultural context of the students. In other forms of education, teaching through the arts is seen as a way to create an integrated curriculum, which teaches multiple subject areas at the same time, while catering for the different learning needs of the child (Snook, 2021). Eisner (2002) discussed multiple cognitive skills that are exercised within an arts lesson, as well as the potential opportunities for students to collaborate, form relationships with one another, and to connect with the wider cultural zeitgeist they are in.

Steiner pedagogy is aligned with much of today's integrated learning theories (Snook, 2021). Many papers written about the benefits of integrated curriculum fall back on justifying these programs through academic achievement, such as those written by Graham and Brouillette (2016) and Cunnington et al. (2014). While academic achievement is valued in a Steiner school, Steiner educators also acknowledge the value in providing the child with artistic and physical experiences in order to nourish not only their intellect (Thinking), but their artistic (Feeling) and practical (Will) lives as well. Artistic and practical experiences are seen to have their own merit, regardless of the impact on their standardised test scores.

The Will and its Relationship to Thinking

Steiner (2020) described the Will in great detail within the lecture series called *Anthropological Foundations* (commonly known as the *Study of Man*). He does so because as he states "… the education of the Will and Feeling are increasingly left to chance because the nature of Will is not understood" (Steiner, 2020, p. 89). An understanding of the whole human being is imperative when designing a curriculum and engaging with ako (Pere, 2006). Steiner (2020) argued that during his time, two opposing education methods were dominant. One was an increasingly cognitive, compartmentalised, highly structured education. The other, or its 'socialist' counterpart, gave the children excessive freedom without grounding them in the realities of human life. In regard to the later suggested that this left aspects of the child undeveloped, particularly the Will. If education is about preparing the child to participate in society, then Steiner argued that educators need to understand the unfolding nature of the human being, whatever experiences educators provide for the child will impact their adult lives. The Will, Feeling and Thinking activities are intrinsically linked and he states "… the whole person lives in the Will" (Steiner, 2020, p. 97). He claimed that this Will force influences all aspects of the persons being, and how they relate to the world.

When talking about the importance of the handwork lesson and aesthetics in education, Steiner explained how the intellectual and physical nature of the human being unites. He emphasised the importance of students learning about how items are made, and how the raw material is transformed into a tool or an artifact (1986). In doing so they build a relationship with the world where they see the human being as a creator and learn to become master of their environment. A quote from another lecture in the series *The Child's Changing Consciousness* (1996a) boils this point down to "Knowledge of philosophy carries little weight, unless one can also lend a hand to whatever needs doing" (p. 154). He stated that educating children towards inner freedom was the ultimate goal of this group of teachers.

Steiner Handwork; The What and the Why.

One of the first authoritative Steiner education handwork curriculum documents was *Handwork and Handcrafts: Indications by Rudolf Steiner* by Hedwig Hauck which was first written in 1938 and translated into English in 1968. This is a collection of statements made by Rudolf Steiner in which Hauck provided commentary, complementary advice and insights. It is important to note, that Rudolf Steiner's insights and the evolution of the 'traditional' handwork curriculum was one influenced by traditional European crafts. In Aotearoa New Zealand we inherited this European framework. Increasingly complex forms of craft work throughout the school years, reflect the physical, and cognitive development of the child. In a study undertaken by Fuelscher, Efron and Silk (2021), they found that there was an improvement in fine motor skill capacity in females (between ages 9-13) and this correlated with the typical chronological structural development of the corticospinal tract. This can be seen to support the assumption that content and skills taught are more effective if brought to the child at appropriate times determined by an understanding of their physical development.

Rudolf Steiner (2004) spoke about the importance of crafts within a child's education, not in order for them to be weavers, potters, or builders when they leave school, but to give them an education in the practicalities of life. He claimed that the hands-on, in-depth experiences in crafting utilitarian objects, gives a child an understanding of how the world works, and what their world is composed of. "Skills learned in the crafts become the development of practical consciousness. This practical consciousness has its genesis in an increased power of observation" (Livingston & Mitchell, 2007, p. 200). Bekkum (2019) discussed his observations as an occupational therapist which are very much in line with what Steiner educators observed when engaging the students in a practical task. It was clear to Bekkum "... that during artifact making, mind body (and heart) were not separated but on the contrary 'integrated'" (p. 102). Understanding how the natural world works and how human beings are able to transform raw materials in order to create something of practical use and beauty, connected the individual to their environment (Steiner, 2004). Although John Dewey (2017) and Rudolf Steiner were separated by time and place, Dewey also saw the value in children learning practical skills as a way to deepen their understanding of the world around them. Dewey (2017) wrote about manual skills being a medium to deliver curriculum, rather than being subjects unto themselves. The Steiner school does this through crafts and art (Rawson,

2024). Mathematics, technology, science, language are all woven into various learning activities within a handwork classroom.

Craft lessons provided an opportunity to educate capacities that develop freedom in thinking. Children are able to evaluate their own craft making, and apply general analytical thinking to a particular problem, while relying on their physical senses. Including one physical sense that has particular bearing on cognitive development, touch.

> Many forms of thinking (analytical, synthetic, teleological, casual, and so forth) need to be learned in today's complex society. It is our task as teachers to apply various ways of thinking to the subject matter we are teaching. In nurturing the cognitive development of their students, Steiner schools aim to include training in judgment, in the sense of discretion – through handwork and practical arts (Livingston & Mitchell, 2007, p, 199).

According to Wilson (1999), the brain learns new cognitive skills from the hand. In a study conducted by Van der Fels et al. (2015) a significant relationship was found between cognitive skills and some fine motor skills. They found this to be the case in pre-pubescent children and suggested more research be undertaken to further explore the potential links in depth. In a study undertaken by Winter et al. (2016) the authors found a significant relationship between the fine motor skill capacities of a child and the child's lexical development. These recent studies indicated that there is evidence to support Steiner school educators' hypothesis that the fine motor skill activity of handwork contributes to the development of cognitive capacities (Livingston & Mitchell, 2007).

Handwork in the Kindergarten and Primary Years

The progression of handwork projects and the intention behind them were outlined in Hauck's book (1968). During the kindergarten years, handwork is brought to the child by adults performing tasks around the child. The child observes the adult, and their handwork occurs through playful imitation (Baldwin, 1989). Oppenheimer (2006) suggests that if the adult brings the task to the children with love and joy, most children will want to imitate it. The intention is to create an environment where children are outwardly motivated to participate in work (wanting to do what the parent or teacher is doing), and play comes from this inner drive (Hauck, 1968). Simple projects with needle and thread, finger knitting, wet felting and weaving are often seen in Steiner kindergartens (Oppenheimer, 2006).

Auer (2011) describes the love of knitting taken up by her Class One students, a favourite among most of her children. Steiner (2020) states that arts and crafts should be joyful experiences, and this love for the process and outcome is important to foster in a child's education. Hauck (1968) discusses the importance of knitting, and that Rudolf Steiner himself knitted as a small boy (rare for a boy in the late nineteenth century). During childhood it was emphasised by Steiner (1996b) that children should be making practical items. Artefacts that they can use in their daily lives. This purpose and meaning behind the objects are of great importance (Graves, 2005).

Handwork curricula vary from school to school. However, most Steiner schools follow are very similar progression of projects and material use. Within the Te Rā Waldorf School Handwork Curriculum (2015**)** the progression handwork projects are as follows; Children traditionally learn to knit first, making their own knitting needles and handwork bags using basic stitching techniques. They move on to crochet at the end of Class Two/beginning of Class Three, in Class Four they begin fine, decorative embroidery such as cross stitch. In Class Five, children knit on four needles and are offered increasingly complex embroidery projects. In Class Six they make a 3D animal from their own design. Finishing off their primary school years, in Class Seven they make a doll and dolls clothing.

Michael Howard (2004) describes the progression from manipulating soft mineral substances to the material becoming increasingly harder as the children get older. Form modelling begins with form drawing progressing to creating patterns with seeds and sand. The 3D element is introduced with form modelling with sand then to clay. Clay work continues and they begin to create animal and human forms, pulling the form out of a singular piece of clay, as opposed to creating separate parts and putting them together. During Class Five, the students begin to have formal woodwork classes, carving simple objects such as an egg or spoon. This gives them experience with new materials and the tools. Tools and artefacts become increasingly complex as they come to puberty and the last years of primary school. Throughout the primary school years, depending on the schools' resources they are also able to engage in outdoor craft programs where they tend to work with raw plant material and animal products (Howard, 2004).

Identified Gaps

There is a lack of peer reviewed literature on the subject of Steiner handwork or mahi raranga and their impact on a child's well-being or academic success. This is interesting considering

how much literature there is out there about the value of kinaesthetic (or embodied) learning experiences examined through Experiential Learning Theory (Kolb, 1984) and Embodied Cognition Theories (Borghi & Caruana, 2015). Rudolf Steiner and Steiner educators have spoken about the benefits of Steiner education, yet there is limited research and academic literature delving deep into the psychological and physical impacts of Steiner handwork specifically. I found no longitudinal research examining the effects of raranga or Steiner craft education on the well-being and academic outcomes on primary aged children.

Beyond the Steiner education context there is evidence that working with one's hands and having kinaesthetic learning experiences is beneficial and a child's sense of belonging helps them thrive in an intentional learning context. However, there is an apparent gap which explores whether there is evidence these two factors work together to nurture a beneficial holistic developmental experience for the child. There are spiritual and cultural dimensions to these which aren't often explored when looking at general arts and crafts within an educational/learning context.

In the following chapter I have explained and justified the methodology and learning frameworks used in this study.

Chapter Three: Methodology

Research Design

I chose to design my research based on qualitative narrative inquiry methods and the reflective school of thematic analysis as described by Braun, Clarke, Hayfield and Terry (2018). I wanted to capture the knowledge and lived experiences of the participants to bring light to the impact craft work had on the children they have taught. Due to my own experience as a handwork teacher, I wanted to create a conversational tone during the research, so participants felt like there were talking to a colleague and didn't have to over explain the fundamentals of their pedagogy. Braun et al, (2018) claimed it is valuable to "... emphasise the active role of the researcher in the knowledge production process." (p. 6). They noted that findings which arise during thematic analysis are contextualised and situated within a specific paradigm, world view and context. My findings and discussion were combined into one section because Braun and Clarke (2006) state that "extracts need to be embedded within an analytic narrative that illustrates the story you are telling about your data." (p. 93). Hayfield and Terry (2018) explain that reflective thematic analysis supports the combining of the findings and discussion because they view the writer as one constructing meaning from the interviews rather than merely uncovering raw data. The narrative and meaning of the findings, from the perspective of the above authors were intertwined, hence my decision to combine the two sections.

Sampling and Recruitment

The qualitative research method of narrative inquiry using semi-structured interviews with experts in their field (Roulston and Choi, 2018) was used in this study. Marshall and Rossman (2006) defined an expert as someone who is "… considered to be influential, prominent, and/or well informed in an organisation or community" (p. 105). Clough and Nutbrown (2012) explained how expert interviewees possess decades of experience and are often inheritors of extended verbal traditions who speak from a particular context while having a degree of insight which is often passed down through generations.

Raranga tohunga were sought through connections with my own iwi (Ngāti Whakaue), by contacting tohunga in local iwi (Te Āti Awa and Ngāti Toa), as well as those from Massey School of Design and Te Wanganga o Raukawa. Limited availability of tohunga in those institutions required widening recruitment. A colleague at Whitecliffe College recommended

a past colleague of his affiliated with the local iwi, Ngāti Toa, and while organising workshops for my own students I came to know and work with another tohunga. Both of these participants were asked to participate via an email sent by another colleague at Whitecliffe.

In regard to defining the criteria of an expert in Steiner Handwork education, they required tertiary training in the area of Steiner education and three years of experience as a handwork teacher OR have been a Steiner Handwork teacher for longer than ten years. They needed to have been involved in Steiner education professional development during their teaching career. Experts in the field of Steiner handwork were contacted via email by the same colleague I referenced above, after first checking with their employer (school principal) for permission for them to participate.

All of the participants were aged 40 years or older and represent diverse cultural backgrounds. Both raranga tohunga whakapapa Māori. Gina grew up as tangata whenua and still lives on her iwi land. Linda grew up physically and socially removed from her Māori whānau yet came to reconnect with her whenua and whakapapa later in life. Michelle was born in South Africa, lived rurally, and has taught in South Africa, the UK and Aotearoa New Zealand. Jutta (now retired) was born in Germany, taught in Germany, the United States and worked in Aotearoa New Zealand in both Early Childhood and Primary settings. Tana was born in Kenya, grew up in Aotearoa New Zealand, and has a background in learning support and working with disabled people prior to becoming a handwork teacher and then a class teacher. It is of note that the three Steiner handwork practitioners were not born in Aotearoa New Zealand and only one of them spent part of their childhood here. While it is beyond the scope of this thesis to explore their views of the world in depth, this research is situated in Aotearoa New Zealand and uses aspects of kaupapa Māori research. It is therefore important to acknowledge that the lived experience of each participant has shaped their view the world in a particular way.

Reference Table of Participants

Participant	Role	Experience	Cultural Background
Tana Lyons	Steiner Primary Teacher (current)	Handwork Teacher and Class Teacher in Aotearoa New Zealand and Kenya. Background in learning support.	Born in Kenya, educated in both Kenya and Aotearoa New Zealand.
Linda Lee	Tohunga raranga (current)	Artist Tohunga raranga – runs raranga wananga in Whanganui a Tara, Wellington	Tangata Whenua Born in Aotearoa New Zealand.
Jutta Howell Kress	Steiner Primary Handwork Teacher (retired)	Early childhood teacher Principal of Steiner School Handwork teacher	Born in Germany. Lived in the USA and Aotearoa New Zealand.
Michelle Mullany	Steiner Primary Handwork Teacher (current)	Primary school teacher Class Teacher Handwork teacher Taught in the UK, South Africa and Aotearoa New Zealand.	Born in South Africa. Lives in Aotearoa New Zealand currently.
Gina Solomon	Kairaranga and raranga practitioner	Kairaranga Artist Has run wananga raranga in schools, for community groups and whānau. IT Educator	Tangata Whenua Continues to live on their Iwi land.

Interview Protocols/Data Gathering Methods

Interview Protocols

Participants were given the interview questions and talking points a few weeks before our interview, giving them time to prepare. I wrote these with two learning contexts in mind: the Steiner handwork classroom, and wānanga raranga, or weaving class. This required the creation of two sets of interview questions contextualised to suit either Steiner pedagogy or the pedagogy of the tohunga (see appendix 2). I intended to carry out this research in a way that empowered the participants and allowed for a reciprocal relationship, honouring Ti Tiriti o Waitangi (Smith, 2012). Beyond the prepared questions I left space for an open-ended discussion (Roulston and Choi, 2018; Heck, 2011; Creswell and Pith, 2024) giving participants the chance to contribute anything they felt was relevant. This was important as it created a co-constructed conversation, allowing me to honour the wisdom and mana that they carry (Smith, 2012a). Although I used specific questions, I remained open to emergent themes due to the nature of thematic analysis (Braun and Clarke, 2006, Seidman, 2006 and Hayfield and Terry, 2018) and the kaupapa Māori research method (Smith, 2012a).

The interview data gathered focused on tohunga raranga and Steiner handwork teachers' experience of delivering a learning program and their perception of how that impacted their students' connection to geographical place and their sense of belonging. The interview questions were drawn from the four sections of my literature review. While I was able to explore literature relating to these areas, I sought narratives about how these domains impacted learners and teachers in Aotearoa New Zealand.

Data Gathering Tools

Data collection included notetaking and audio recording. With participants permission, interviews were recorded audibly using Otter.ai on my phone, which was transferred onto a secure USB drive. These recordings were transcribed by otter AI, which required me to listen back to the interviews multiple times to create the final accurate edits. The interviews have been transcribed in a clean verbatim form, with filler words and non-meaningful repetitions being removed for clarity. All important and substantive language have been preserved.

Data Analysis

When analysing the data I used the process described by Gall et al. (2007) as 'Interpretational Analysis', which goes through the following steps: *Segmenting the Database*, *developing*

categories, Coding Segments, Grouping Category Segments and then *Drawing Conclusions.* In regard to developing the categories and coding segments, I used thematic analysis techniques (Braun and Clarke, 2006, Seidman, 2006 and Hayfield and Terry, 2018) to identify patterns and construct themes that emerge across the different data sets, or interview content.

During the *Segmenting, the Database* process I transcribed the interviews from audio to written text using Otter AI with permission from participants. I then *Developed Categories* which related to the initial participant responses to the interview questions. When coming up with my own categories I was able to "define the category, give it a label, and specify guidelines that [can be used] to determine whether each segment in the database is or is not an instance of the category" (Gall et al., 2007, p. 467). The initial categories were inspired by the four sections of my literature review. Additional read throughs of the interview documents were made to identify further or unexpected themes that emerged and are pertinent to the research question (Rubin & Rubin, 2005).

After the categories were developed, I was able to *Code Segments*, where I decided whether "the phenomena described fits into one of the categories in the category system" (Gall et al., 2007, p. 468). Each transcribed interview was analysed, as I looked for patterns and emerging themes. Relevant data was tagged with a numerical code and highlighted in a particular colour which related to particular categories that inspired my interview questions and another colour for emerging themes. From there I photocopied the coded transcripts, cut out the coded data and organized these into *Category Segments* by grouping them together on a pin board, creating a thematic map. While I was looking for patterns and information related to my categories, unexpected - but related - information emerged which gave a fuller picture of the impacts on individuals who engage in handwork/mahi toi education. The emerging themes required me to rethink the initial coded data, the titles and placement of the categories they were in. As new category segments emerged, the names of the overarching categories and the layout of the thematic map changed. A number of code segments moved to another better suited category which gave me my final thematic map. These final categories were named and became the sections in the *Findings and Results* chapter of this thesis.

Ethical Considerations, Kaupapa Māori research, and Te Tiriti o Waitangi Considerations

Research has been undertaken while adhering to the AUTEC guidelines and procedures. The AUT Ethics Committee approval letter is attached as Appendix 1, ethics number 23/347.

Tuhiwai Smith (2012) highlighted that research with Māori should be guided by principles of respect, reciprocity, and self-determination. There is ethical value placed on indigenous knowledge systems, following cultural protocols, obtaining genuine consent, and prioritising research that benefits the community participating within the research. Following Smith's guidelines, maintaining relationships built on trust and respect was a key priority when engaging with participants. Building trusting relationships between researcher and participant is necessary when applying a kaupapa Māori approach to research (Hudson et al., 2021). This quote by Pihama (2016) sums kaupapa Māori well:

> The naming of kaupapa Māori theory indicates an explicit acknowledgement of the theoretical approach being undertaken. The multiple layers of meaning within Te Ao Māori means that the term ‘kaupapa’ has many possibilities. Kaupapa relates to notions of foundation, plan, philosophy, and strategies. Kaupapa Māori, therefore, indicates a Māori view of things. (p. 105)

Due to the emphasis of collaboration and deconstructing power dynamics, I chose to use semi-structured interviews and Smith (2012) advocates for its use in qualitative research. Conversations were held in partnership, minimizing the traditionally hierarchal nature of the researcher-participant relationship. This differs from traditional western research methods, in which the researcher and the participant relationship is supposed to remain as objective and disconnected as possible. This is not in line with mātauranga Māori research methods (Mead, 2016) or kaupapa Māori (Pihama, 2016). I was mindful of the generational suspicion among Māori (Smith, 2012b) that may be directed to research tied to a tertiary institution. Gina, one of the participants in this study told me the only reason she agreed to speak with me in the first place.

> …. you spoke with [anonymous] you know and because I trusted his judgment I thought yeah, I’ll talk to you and have a go. Because there’s a lot of people who want to ask questions, but don’t listen, you know, which is why I wanted to suss you out first.

Using kaupapa Māori research practices means building professional yet personable relationships, which are essential, and participants must feel empowered and comfortable within the interview space (Hudson et al., 2020). Sharing the whakapapa between myself and

the participants is a way to establish this kind of relationship (Mikaere, 2016) and will be a central point of the pre-interview discussion. Their whakapapa and any personal information they wish to share with me was not included in this thesis unless relevant to the research question and they had given me permission to include it.

During the pre-interview conversations, participants were able to ask me any questions they have about the research and upcoming interview or could find out more about me. For the interview I offered to go meet them where they are most comfortable, whether it was at their marae, their classroom/teaching space, or a community centre. I will deliver a copy of final thesis to participants and offer to present the findings to their community (school, marae, or communities). I will also maintain contact with them, regarding subsequent dissemination, for example, if I use this research in further presentations or study, they will know the knowledge they have shared is influencing my other work.

Participants were assured their knowledge and intellectual property is credited to them and they have been credited in this work. They were asked for permission to use their names and consented. Their stories and insights have formed the basis of my research findings which could not be done without them. The conclusions I have reached are my own, but this couldn't have occurred without their input (Smith, 2012b). I consider this research collaborative and aim for participants to feel they can use the research in ways they find useful.

I want to acknowledge that this research is weighted more heavily in the western theoretical paradigm due to time and knowledge limitations on my part. While I have used three western frameworks to inform and guide my research, I chose a fourth framework which is kaupapa Māori informed and developed by members of my iwi. It was beyond the scope of this thesis to deeply explore the differences in ways of knowing from both perspectives (western and Māori), however when partnering with Tangata Whenua and Pakeha, it is crucial to acknowledge the differing ways in which participants view and experience the world (Bear et al, 2022). Incorporating western and Māori frameworks into this thesis enabled this to a limited degree.

Theoretical Frameworks

I used four theoretical frameworks to form the theoretical basis of my research. These are, *Experiential Learning Theory* (Kolb, 1984), *Cultural-Historical Activity Theory* (Engeström, 1987), *Embodiment Cognition Theory* (Borghi & Caruana, 2015) and *The Mana Model*

(2024). The reason I chose these frameworks, is because they share similarities in terms of understanding how human development, yet they approach learning from a slightly different perspective. Kolb's *Experiential Learning Theory* emerged from his understating of the work done by John Dewey and Jean Piaget, in terms of tactile experiences and their effect on cognition. The *Cultural-Historical Activity Theory* lens was particularly important due to the concepts of cultural literacy, indigenous wisdom, connection to culture and cultural evolution being a major theme woven into much of the literature surrounding both craft and education. The *Embodiment Theory* outlined by Borghi and Caruana (2015) added a valuable dimension by examining how the physiology and physicality of the human body is intrinsically connected with the learning process, considering my chosen focus on learning through the hands. *The Mana Model* is included as a Māori approach to education and continues to inform my personal philosophy on education. To use the metaphor of weaving, each of these theoretical frameworks are composed of a similar fibre, yet each has its own texture and colour to create a more complete and balanced theoretical fabric (or framework) to work with.

Experiential Learning: *David Kolb (1984)*

In David Kolb's (1984) Experiential Leaning Theory, learning is positioned as a holistic and cyclical process which incorporates four modes of learning: *Concrete experience, reflective observation, abstract conceptualization abilities* and *active experimentation.* Kolb's research built on the earlier work of Lewin (1951), Dewey (2017) and Piaget and Inhelder (1969). It examined the symbiosis between the maker, the physical environment and how both the maker and environment are altered by the experience. This framework helped to explain how a holistic learning experience involving the body and a physical material have an effect on the students' cognitive development. The central premise of Kolb's work is that knowledge is transactional and emerges from the tactile or social experience that occurs between an individual and their environment. This builds on Dewey's (2017) belief that learning is directed and contextualised by the immediate social, physical and spiritual surroundings. Identity and values are formed within a specific context, and the actions of the individual contribute to the development or evolution of that sociocultural context.

This is relevant to craftwork due to assumptions which inspired my research; that craft is an enabler of holistic and embodied learning. This can be reinforced by Kolb's assertion that learning is grounded in experience and that adaption to the world is not segmented, but a holistic process requiring the involvement of the whole human being. Kolb considers learning

to be a lived transformation. By using this as a framework for my research I was able to analyse how the hands, the senses, and the emotions are fundamental to students' making meaning during a craft activity. Kolb's experiential cycle offers a useful structure to understand how well-being, identity and cognitive capacities are developed through the act of creating a useful object. The *concrete engagement* mode relates to materials and tools. *Reflective noticing* relates to the capacity to problem solve, learn from mistakes and form judgments. *Abstract interpretation* relates to the following or written instruction, comprehension of symbolism and aesthetics as well as embodying skills and techniques. The opportunities to engage in the last mode, *active experimentation*, are endless in a craft lesson. Once students' use basic skills and techniques, these can be applied in a multitude of ways.

Cultural-Historical Activity Theory: ***Yrjö Engeström (1987)***

The Cultural Historical Activity Theory (CHAT), developed by Yrjö Engeström (1987) provides a lens to analyse how learning, identity and culture develop during social activity. A major theme that emerged from both the literature and my own findings was how the activity of making, is not only important for skill development, but is central to all learning and an individual's developing a sense of belonging and their participation in cultural preservation and evolution. CHAT situates human action within a dynamic system that is formed by tools, community, social norms, cultural rules (or tikanga), and cultural history (Cole, 1996). It explores the relationship between consciousness and activity - how you "are what you do" and how the creation of artifacts contributes to human development.

Engeström (1987) expanded upon Vygotsky's *Mind in Society* (1978) and Leontiev's *Activity, Consciousness, and Personality* (1978) by creating a framework that examined the symbiosis between the maker and the cultural-historical context. Leontiev (1978) and Cong-Lem, (2022) claim that purposeful, socially grounded activity gives rise to consciousness and the development of the individual, guided by cultural context. This framework helped me examine the concept of belonging and the how a child can contribute to their social spaces, while learning more about who they are as individuals. As well as observing how the activity of craft affects the individual in ways beyond skill development and impacts their sense of belonging.

From a CHAT framework, the craftsperson not only makes a physical object, but they participate in cultural transmission and transformation. According to Vygotsky (1978) and Engeström (1987) through the activity of creating, the mind is developing. But to Engeström

(1987), the social and cultural realm was just as pertinent to understand. Cultural Historical Activity Theory builds upon Vygotsky's concept of mediated action (subject-object-tools) by adding in four more categories related to the cultural and social realms (rules-community-division of labour-outcomes) I have related these seven aspects to my research as follows.

- **Subject:** craftsperson or student
- **Object:** the goal of making an artifact and/or learning a skill
- **Tools:** Physical – tools and materials. Symbolic - Patterns, techniques, traditions
- **Rules:** tikanga, cultural norms, health and safety
- **Community:** class groups, mentors, tohunga, cultural groups, school groups
- **Division of Labour:** teaching, producing, selling, resource sourcing and organisation.
- **Outcome:** completed artifact, skill development, expression of culture, gift giving

Embodied Cognition Theory: ***Anna Borghi and Fausto Caruana (2015)***

Embodied Cognition Theory is a framework that is physiologically centred, which I felt was needed to analyse the statements made by participants and past researchers in terms of the hand-body and brain connection. There are different streams of Embodied Cognition Theory (ECT), and it is still considered a new approach to understanding the mind body connection (Borghi & Caruana, 2015). This framework posits that the movement of the body, in addition to environmental factors, influence learning in nuanced and subtle ways. Rather than the mind taking in binary set of data to be memorised, everything occurs within the context of place and space. This in turn has an impact on how learning is embedded into the individual neurologically. Bonini et al, (2022) related these motor processes to a newly discovered mechanism in the brain and that there are "…a variety of cell types distributed among multiple motor, sensory, and emotional brain areas form a 'mirror mechanism' more complex and flexible than originally thought, which has an evolutionarily conserved role in social interaction." (p. 770). This supports the theory that the social and physical learning environment has an important impact on the child's capacity to learn.

The 'mirror mechanism' of human brain function is important to factor into any study looking at the design of a learning experience and environment. I kept this in mind when discussing optimal learning conditions with my participants. These neurons respond not only

when the individual executes a particular behaviour or skill, but also when watching another do the skill in question. This reminds me of how many Steiner teachers introduce literacy through the alphabet. They use physical gesture before it has any contextual meaning (like drawing a letter A in the sand before the individual understands the sound of 'A' and how to use it in a word). This brings a bodily understanding of the letter 'A' when their teacher uses it in the context of a literacy lesson. The same with skip counting stitches or following knitting patterns that contain elements of algebra. "The mirror neuron system represents the neural underpinnings of ideomotor theories: our brain resonates more when observing actions we can reproduce than unknown action." (Borghi & Caruana, 2015, p. 2). Here is neurological evidence to justify the pedagogic concept of scaffolding, as well as a justification for delivering curriculum content in a multitude of ways. It's also related to developing one's sense of empathy which is an important capacity in terms of positive social behaviour and nurtures a sense of belonging and community.

The Mana Model: ***Melinda Webber (2024)***

The Mana Model "proposes that student thinking, behaviour and well-being in school are motivated by the desire to achieve mana." (p. 2, Webber, 2024). While *Whare Tapa Wha* is a Māori informed framework often cited in educational research, I chose to look at the values focused Mana Model framework. The values centred approach aligns with the research undertaken and was developed within the world view of the people of Te Arawa, whom I whakapapa to. Using the framework of the Mana Model during the findings and discussion chapter became a way to relate the benefits of both Steiner Handwork and raranga to the possible positive outcomes for Māori students.

What is mana and why is there a framework centred on it? For Māori, mana it is a fundamental aspect of every human being. Webber describes mana as "... a sense of authority, influence, self-efficacy, pride and belonging" (2024, p. 2). Hirini Moko Mead (2016) wrote that there is high value placed on mana which he sees it as a force, both creative and dynamic, which motivates the individual to reach their ultimate potential. Reverend Māori Marsden (2003) aligns mana with human wisdom and acts of generosity, which are fuelled by a greater consciousness. Mana is, therefore, a personal force but intrinsicality linked to others and greater universal energies.

Webber (2024) explains that from a Māori perspective children develop individual mana, but elements of it are inherited through whakapapa and it is connected to their innate tapu (or

sacredness). There is a symbiosis between self-image and how others perceive them – both of which affect each other. Mana is relational and hinges on how the group perceives the individual. Those with high mana work to dignify others and positively change the world around them. This can create and endless upwards vortex of positivity in which everyone brings everyone else up with them.

The Mana Model, developed by Webber (2024) proposes that there are five elements essential to developing the Mana of each child; *Mana Whānau* (connected to others), *Mana Ūkaipō* (belonging and relationship to place), *Mana Tū* (Social and psychological competence, such as resilience, self-disciple, reflectiveness etc.), *Mana Tangatarua* (diverse knowledge base and skill set), and *Mana Motuhake* (positive self-concept and embedded achievement). Due to the exploration of connectedness and belonging within the context of craft education, the elements of Mana Whānau and Mana Ūkaipō are explicitly relevant, yet all five areas rely on each other in terms of maximum mana development.

Chapter Four: Findings and Discussion

This chapter synthesised participant narratives in parallel with the discussion. By structuring this section in this way, the reader can observe how mahi raranga and Steiner handwork have commonalities and differences, while addressing each theme. The underlying aim of this research was to unpack what participants did within their lesson, both from a content and tikanga perspective, and the impacts on a student's developing sense of belonging and well-being. Data gathered and discussed addressed the key questions around how craft connects the maker to culture and place, how the tikanga, routines and relationships within the classroom nurture belonging, and how these factors contribute to the individuals learning and well-being. Six emergent themes indicated that belonging is multi-dimensional and rooted in material engagement, ritual, environmental stewardship, Will development, aesthetic judgment and well-being. These factors mediate the learner's connection to culture and place. These themes have been divided into the following sections.

- Belonging Requiring Connection
- Tikanga and Ritual
- Kaitiakitanga
- Developing the Will to Learn
- Aesthetic Education
- The impact of Craft Beyond the Craft Lesson

Belonging Requiring Connection

Physical World Connection, Purpose Drives Will

Participants discussed the role of the resources and materials used in combination with performing a task that contributed to the making of a useful object, and how it affected their students' skill development and nurtured their Will. The purpose and value children felt towards the final object stimulated internal motivation to complete their work and stay focused throughout a long-term project.

Tana discussed the diversity in her class and how the practical nature of crafts, and the purposeful nature of a collaborative project contributed to the social dynamic.

> We had very bright children…We had two funded students on ORS (Ongoing resourcing scheme) and many others. So, holding ourselves together as a social group was something we worked hard at together, and anything involving challenge, practical challenge brought us together on the same level, despite different abilities." She went on to talk about the chair project in Class Seven and that they "…had to work together. It was a fantastic experience socially.

Linda observed that working creatively with the natural world formed a connection point or a relationship between the person and resources available. "You know, it [raranga] talks to a relationship with people, with tangata, but also with the land, the resource, the region, the whakapapa. You know, how do you whakapapa to whenua?" Linda developed her practice as a weaver through the practical aspect "I love practical kete, I have no interest in kete whakairo, other than understanding the patterns and meanings." She was involved with making " ... wahakura, which are woven flax baby sleeping baskets used by Ngāi Tahu, and I think I was bored in town, so I was hanging out with her [a friend] and I decided to have a go at making one."

She embodied practicality and resourcefulness as a creator, "I don't want to just be buying the things. [There is an] element of, you need to build from scratch". When it comes to raranga she said, "it's quite an accessible medium to learn some practical skills to connect to Te Taio and Te Ao Māori…because it [harakeke] grows quite rampantly."

Tana discussed the relationships she observed between the students and materiality "I think seeing the students collecting materials, collecting flax and clay from the banks and cutting down the trees…in order to get materials for the chairs, it seems like it offered a connection to the land that they are part of." She went on link this connective process to relationship building "It offered a new level of relationship." Tana was an advocate for younger children using natural fibres and materials as much as possible. When asked about preferred use between synthetic fibres or natural fibres, she responded…

> I think for young people who are still definitely building knowledge of themselves and the world through being in touch with materials, I would hope, natural materials. I think there is a clear reason for why that's a good idea. They are connected to the whole process. The narrative is that meaning, there's a meaningfulness to it.

When reviewing the statements from Tana and Linda through the lens of Cultural-Historical Activity Theory (CHAT) described by Engeström (1987), one can see seven elements of that

system in what is described. The craft process and item being made are the *subject* and *object*, the tools becoming the *mediating artifacts* for material transformation, tikanga dictated the *rules*, the *community* is that of the learning group, *labour is divided* so that all students are able to work on a central object, and the *outcome* is either the chair, as described by Tana, or a piece of weaving as described by Linda. Experiencing the effort that goes into making an object was profound, as well as understanding what is required from natural materials, and the support from peers and teachers who pass on skills and knowledge. This combination of tactile engagement with tools increasing in complexity, illustrates scaffolded skill development and links embodied practice with cognitive development and learning.

Tana, Jutta and Michelle all spoke of the progression of working with the hands using simple materials, to complex tools and varied materials. The pedagogical basis of this lineal progression from simple to complex comes from an anthroposophical, physiological and psychological understanding of child development (Lievegoed, 2009). Children start with a strong connection the physicality of the earth through their body, so projects using the hands as the main tool is primary in the kindergarten years. Tools, materials and increasingly complex methods of crafting evolve throughout the primary and high school. Tana said

> I think definitely our curriculum is cleverly designed around, you know, supporting the children's different developments and things. I like the way it then really comes back when your older … like in class five with more complex knitting, five needles in a round … it calls on them to be more awake."

Tana said that "... relating the picture of child development seemed full of common sense. Think about the child, what they are going through, what it's like to do the project and just get busy." Jutta said that "In the kindergarten you work out of imitation." She discussed emulating the home environment in kindergarten to create a nurturing and warm environment which is reflected in the materials and projects available to the children "I would want to use items that I would naturally find in the home that would be, you know, soft and comforting or natural, like cottons and wool." Michelle, Tana and Jutta all explained that part of the rationale behind this progression of complexity was that it gave the child an unconscious experience of the evolution of humanity. Examining their response through the lens of Embodied Cognition Theory (Borghi & Caruana, 2015) these findings showed that sustained attention and perseverance developed through progressive handwork projects that align with Steiner education's concept of the Will. These examples of embodied experiences show that prolonged sensory motor tasks impact self-regulation and cognitive capacities.

All of the interview participants observed how natural materials were a teacher in and of themselves. While the teachers facilitated a learning space and instructed the students to focus on skill development, they noticed that when they stepped back the students would learn about the natural world. They would learn about the raw material and items functionality by the consistency, resistance and substance of the material. Tana and Michelle discussed learning from materiality. Tana said "one of the things I most loved about handwork is that you don't have to confront the student, teacher on student on learner, because the materials spoke to them, the materials educated them, led them forward." She also spoke of her time living in rural Kenya and the effect that living more intertwined with elements had on her and her students.

> I see that texture and the relationship with the Earth is not over thought. You get busy enjoying life and part of that is coming to the quality of whatever you are working with…So if you're in the kitchen, meat or vegetables, fire, whatever you're working with, you're really going to feel it. You're going to feel the way it behaves. You're going to come into contact with the touch and sense of it.

Jutta discussed meeting the child where they are, in terms of being geographically situated in Aotearoa New Zealand and what crafts are then relevant in the handwork lesson. She acknowledged her limited cultural understanding of mahi raranga and understood that there was more to teaching this skill than just the physical hand movements. There was an acknowledgement from her, in making this decision, that there is element to mahi raranga which may not have been explicitly taught, yet was important for the teacher to hold. In order to provide her students with an authentic and meaningful experience with mahi toi, she reached out to a Māori teacher who could teach her students raranga and the tikanga associated with it.

> ... this [craft project] is all very eurocentric, what I'm teaching, it's all very German. But we are living in a country where we have different cultures…then I started to teach a little bit of raranga in class three, combined with cross stitch, it seemed like it would fit into the curriculum. Then I thought, this isn't right, that I'm teaching, this should be coming from a Māori teacher.

In contrast Gina, who is a kairaranga and embodies tikanga shared instances where she was able to facilitate a connection to the earth and people through resource sharing, which

nurtured community and ensured future generations would be able to participate in the culturally significant act of raranga.

> I've got a cousin … she's the liaison with the city council and they were going to do some planting…I ended up giving the guy my harakeke seeds, who's growing them for the community. Because they will actually use them. So, the whakaaro behind that is that in 20 years from now, young ones wanting to weave, its right there and they don't have to go looking for it.

This anecdote reflects what Elywn Richardson wrote his seminal work *In the Early World* (1964). They both emphasise the importance of purposeful, community driven work. Richardson discussed the purpose driven activity of his class collecting clay from a particular bank, after they discover it has the right properties for sculptures. This collective spirit of working together for a purpose, is a key skill required to form meaningful relationships, which often turn into friendships - this being one of the key indicators UNICEF Innocenti Research Centre recognise as positive well-being (Rees, et. al 2025). Participants observed how this relationship, facilitated kaitiakitanga. Participants gave examples of collaborating with their communities in different ways while building a collective reverence for the local environment and the resources within it "... if you love something you take care of it." said Gina.

By meeting the child through their culture and working with traditionally used materials, Michelle saw individuals coming together to form a community of learners "connecting with the process, but also with the resources and with the person that's instructing and then also with the people around you."

Tana described students connecting to the land through purposeful work.

> I think seeing students collecting materials, collecting flax and clay from the banks, and cutting down the trees in order to get the materials for the chairs, it seems like that offered a connection to the land they are part of. It offered a new level of relationship … it was coming to the end of their primary years, so the students themselves talked about it [the process]. I don't think they said belonging, but I think that's what they were describing. Like feeling more connected to the property. Yeah, isn't that belonging?

She goes on to reflect on the mind-body connection happening "You know we have a gut brain, a heart brain and the head brain, all of its connected." Jutta talked of the importance of

connecting to natural materials “It actually lays the basics for life, in terms of how to look at something and where it comes from and how it feels and how it smells, and how you know there’s different senses involved in exploring certain things.” Her observations demonstrate Kolb’s (2005) cycle, starting with direct or tactile experience, leading to reflective observation which leads to creating abstract meaning about their place in the community.

Social Connection; Will stimulates relationships.

Gift Giving

The observations of participants were in line with the claims made by (Puketapu-Hetet, 2004) in that giving of oneself helps the maker understand that creating an object is more than just learning a skill. Michelle discussed the power of gift giving in terms of motivation “I think there’s more buy in to do something really well and really beautiful, if it is going to be used, if it’s going to be gifted to someone, if it’s going to, you know have a function.” Tana also spoke to this in that “... making things for others that are useful … I think that builds belonging somehow.” She reflected, “We talk about *belongings*. If we make belongings, it somehow touches upon belonging.” Michelle noted how her students approached their work when they were making an item with someone in mind.

> I love it when they make something and they keep someone else in mind … like an intention, giving this empathy ... They can make something for someone else, really keep that person in mind, make it for that person. It’s like they are connecting with that person … they’re really putting thought, intention, and love into that process.

Gina reflected on making kete for specific people “if you were like my sister when I make something for her birthday or something, I put a lot of effort into it, and I think about what colours she would like and she’s a bit fussy so she gets two handles on her kete.” A physical item given as a gift or keepsake can bring comfort to the receiver, such as Gina’s niece “... she’s down in Otago University and she asked to take her mum’s kete with her, so she has a sense of home.”

These items hold whakapapa and memories, and the giving of a gift that has been handmade connects not only the gifter to the receiver, but there are connections to the land from which the resources came, and any other person who had a part to play in its creation. Gina described the care a beginner will take, knowing the first item made will be given away “... you’ve just made this thing, you put all your hard work and soul into it, and you've done all this learning, give it away, do it again.” The receiver is gifted, not only of the object, but the

effort involved. Gina said that if a student of hers "... gives me a kete that they've made I look at all their mistakes as potential learning and I love it anyway". She went on to talk about keeping the receiver in mind, and what purpose the gift will serve. "I'm going to this wedding weekend, and I'm not allowed to spend any money. So, I could make a big flash kete ... but I'm more inclined to go out and make a little kete waikawa … It's good for holding weight and just chucking a plant in it, you know."

Creative Communities – Collaborative Learning and Whānau Participation

Most participants spoke about the power of collaboration and the way it forms a sense of community. Tana said that when students collaborated and worked on the same project problem solving conversations arose and the learning space became one where a social education could take place. Because the individuals had a sense that their work was important, there was a collective focus on completing the project. The collective motivation lead students who needed help to seek it from their peers and engage in discussions about the best way to work through a problem. Tana discussed how a collective project impacted students who find it difficult to focus, "… so children who disconnected for whatever reason, because of challenges, or students who disconnected because their brains worked so fast, they didn't disconnect. They connected that week." She goes on, "They didn't dissociate, they associated that week." She reflected that this was because the project "… spoke to them in such a different way, it engaged them at a different level, where they couldn't stay separate … some of those students had real issues in their life in relation to just having relationship to the world and other people…there was a warmth in the end, a warmth to each other" She discusses the bonding element of humour that arose "… kind of joking around" Partly she puts it down to "appreciation of the product that I think it was because they were there from scratch. Yeah, it really engaged them. There's a level of challenge that's there if you go from scratch."

This collaborative work had a positive effect on those students who found fitting in with their peers a challenge. Tana noticed that when students found it difficult to navigate the social realm, they often had difficulty engaging in challenging academic work and handwork. She found that handwork projects provided a way to engage children and work on underlying issues that contributed to social difficulty.

> ... something shifted for them through being confronted with taking up the technique or the challenge … I'm thinking of two students in particular…who had ongoing

> difficulties in their social integration … somehow this drama of the project, they had to learn the technique, they had to redo it until they got it right. So, I don't know if it was that breaking through the challenge, or if it was other things, but I felt like the reason they didn't connect and find belonging with their social group was the same reason they couldn't just let go and enter into the challenge.

As she looked back "... this class I taught, we grew incredibly close because of the difficulties with some students … So, we learned how to work together, really work together. And the students talked about the week, so they were quite able to talk about intimate things in Class Seven, even with their teacher." According to many researchers such as Kolb and Kolb (2017) and Piaget and Inhelder (1969), young children learn through materiality and concrete experiences. Class Seven's collective focus was on a physical object that required physical manipulation. This encouraged multiple members of the group to problem solve or physically show another how to perform a specific action. Tana's example of two socially isolated students and their improved integration into the class group was reflected in their capacity to meet physical challenge. Groups focusing on the creation of a physical object provided an opportunity for peers who may not engage by choice with one another, to have a conversation and socially connect through problem solving and connect through feeling a sense of collective accomplishment. When looking at the contradictions between Maslow's individualistic concept of self-actualisation, and the Blackfoot people's notion that self-actualisation is dependent on the collective (Bear et al., 2022), we can see in the example of Class Seven that their chair making project provided opportunity for students to be self-actualised, or discover a sense of belonging, purpose and self-efficacy within the group. The concept explained by the Blackfoot peoples mirrors the traditional Māori belief that all living things, all people have inherent value (or Mana) and are dependent on each other (Harmsworth & Awatere, 2013).

Over time this capacity to mull on a collective issue and contribute to a group solution lends itself to more abstract concepts. The social skills of navigating these discussions, of listening, observing, being honest yet kind with critique, teaching another, taking feedback, offering out of the box solutions, are social skills which are incredibly important as they grow up - all of which contributes to strengthening connections between individuals. According to the framework of the 21st century skills (Battelle for Kids, 2019), collaboration and social cross-cultural interaction are important capacities to develop when we live in a society with people who have vastly differing world views, cultural contexts, and values. Michelle was "not

overly strict on working in silence and stuff like that … it's a conversational kind of activity" she reflected on students building relationships with peers "... they talk, they sometimes forget I'm there." This created opportunities for those who found the social aspect of school difficult, an opportunity to socialise with peers while focusing on purposeful work.

Michelle discussed how the handwork environment and learning culture affected her students' social development " ... one girl who was amazing at handwork…was always wanting to extend herself, and I did extend her…but at the same time helping her [socially] because she can be a bit braggy…so it was great for her to help others." She went on, "I could see she almost became like my little assistant, when she saw someone who struggled, and she'd become quite kind." Another child found his way into his work through social encouragement of his peers "... another boy really struggled with the whole knitting tthing butcame to it and worked quite independently … there was encouragement from the rest of the group, who would keep him going sometimes, when he was a little bit of task." The culture of the classroom became that of "helping others…We're not just making for ourselves we are working as a bit of a community as well. So, you don't always come to me [the teacher], you can approach someone else and also, you're always willing to help someone else." She went on to say, "When I find that there are those who become a bit too competitive and 'really, it's all about me,' then I try and direct them into working with someone else and helping someone else who needs it." Michelle talked about this sense of belonging within a learning community needing to be nurtured and not left to chance "... bringing a little bit more humility, maybe compassion for others so those who are not so great at this, you know. How can we still celebrate their work?" They learn a kind of appreciation for those in their class community. This is an example of students enhancing their own Mana by enhancing the Mana of those around them. Mana building does not occur in isolation, but within community (Webber & Macfarlane, 2018)

Gina talked about the social development that occurred within a raranga lesson "You've always got shy people and you've always got main characters, and harakeke is a very good way to equalize that with the way you work." She goes on "It's a very social thing, but it also allows for introverts to be introverted…you see the natural learnings between people." She elaborated by saying "I've noticed that the energy levels even out. So, the introvert comes up a bit and the extrovert comes down a bit, but there's a meeting." She observed that not only are students weaving a physical item but "it's the weaving of the people, weaving the group together where they are all doing one thing." She saw students assisting each other

> …so the ones who get it help the ones who aren't getting it. And then it brings together a sense of the circle…it creates a circle through action. You know, the action of weaving, or the action of going and collecting, or the action of learning together, establishes community…then that little hub will have connections to other little hubs.

Jutta discussed the effects working in a circle has on a group of young students "... working in a circle was lovely because it was creating a feeling of the wholeness of a class, somehow they saw each other." It helped with tuakana teina, when students learn from each other "And of course I find that easier in a circle. Yes, put a student who struggles with somebody else who works very diligently, or can show things to." There is a social mobility that comes with working in a circle which encourages collective work, "the circle lends itself more to moving children to different places." Jutta reflected on the deeper importance of working in a circle "I think there's a strong sense of belonging that comes through belonging to that circle, belonging to learning those skills, and that goes probably much, much beyond that. I mean in a deeper sense goes way back to many generations back, beginnings of humankind too."

Linda explained why her ideal learning and teaching environment would be on land that she connects to through whakapapa "... I still have to do my karakia and build relationships with both the whenua and the mana whenua. But I would prefer to do that [teach weaving] somewhere where I felt like I was mana whenua." Linda added to her ideal physical learning environment during raranga wānanga "We just had, like a big room that had tables around the outside, a few pieces on the walls, mats on the ground." Teachers facilitating tuakana teina and allowing students to work a circle or in spaces where they can choose to work where they are most comfortable, becomes an activity system within the CHAT framework. This specific activity system is guided by the protocols of tikanga (cultural and historical). By removing physical and emotional barriers knowledge can be distributed by all members of the group. Collective problem solving, which is a core element of the CHAT framework (Engeström, 1987) is often visible within kaupapa Māori, and in this case, through tuakana-teina.

Whānau Engagement

The craft classroom opened avenues for extended family to come and participate and connect with the children by learning and teaching skills. All the Steiner handwork teachers interviewed, ran parent or community craft groups. Jutta said "during that time of working with children, I often did classes with parents … making crafts for the fairs every year, but also in my later years."

Tana talked a lot about needing to know each student and their whānau, which is an aspect that facilitates the development of Mana Ūkaopō (Webber & Macfarlane, 2018). The teacher needs to know their students as individuals and within a whānau context to find a way to help them feel they belong to place and space. "... to know what the person is experiencing as they're walking up the steps to go through that gateway and just being there to help them through that door."

Michelle discussed enthusiastic whānau involvement.

> Some of our parents are wanting to know more about the crafts and stuff. They say, 'I've never been taught this, I can't help because I don't know how to do this' So then I'm able to help, give them those skills."

So, out of this skills sharing, the parents and wider community " ... are forming their own little craft groups. They are now getting together. One of the grandmothers in my class was coming to help in class one, then she was teaching one of the mums … who didn't know how to knit."

Michelle spoke of other ways whānau participated within the craft classroom "... this dad who was in between jobs came in … and he's sitting there, and his son's knitting away and one of the most beautiful things was, he was leaning back reading a story, and there was his little one lying in his lap and knitting away." She finished this part of our conversation by saying "So, yeah, definitely a lot of connection. Not only to others, other cultures, but also to our world. It's very beautiful."

From a broader perspective, Gina reflected on how just one member of a family or group learning a practical skill can impact a whole community "learning and hearing and having this experience, and then developing this actual sense of connection may then be the virus, which infects their parents with knowledge".

Linda encouraged whānau to be present with students when she ran wānanga raranga "... everybody could bring their children, so pēpē, tamariki and any whānau support. Like we had some grandparents and partners come along. It was just really nice to have everybody around. It wasn't just students. You encountered the real world." Everyone participated in

"... cooking, cleaning, helping with babies, washing, swimming."

Spiritual Connection; Being Part of Something Greater than Oneself.

Richard Sennett (2008) stated that using tools and making useful objects is a major part of what makes us human and allows us to connect with humanity and a greater purpose. All participants discussed this in ways relevant to their pedagogy. They spoke of the sense of belonging to something greater than themselves when they were in a state of creation. Michelle looked to the greater purpose of crafting in an education setting.

> I think through this process we are creating more empathetic and sympathetic human beings…. If we are wanting to survive in a more healthy and balanced way, then more of our children need to get out of the headspace of just becoming a cog in the wheel and working just for their own furthering.

She went on to say, "Yes you need to work on yourself, but at the same time…what kind of contribution are you going to be making to the world." She asked

> how are they [students] going to do that if we don't actually give them an experience of what the world is really about and not developing the skills that they are going to need…If they are not exposed to this, then we are not preparing them for real life.

Skills have been handed down since the beginning of our journey as human beings (Sennett, 2008), with weaving being one of the most ancient crafts (Albers, 2018), yet every generation has built upon what their ancestors have passed down and the participants discussed how the practical task of making an item connects the maker to their tupuna or ancestors.

Gina spoke about how weaving strengthens an individual's connection to their tupuna "It's a really good way for people, you know, our young ones and even adults, to sort of think about how our tupuna used to live … everybody wove … you had to have some degree of weaving. There were specialists but everybody did it. It was just what you had to do." There is a respect Gina held towards those who came before, she understood and appreciated how hard our ancestors worked in order to keep traditions and practices living among their people. "I didn't invent this. I'm just doing exactly what my aunties did, you know, hundreds of years ago. I've got better tools." and "... hats off to whatever Auntie figured out how to extract muka, pound it, make it soft, and then whatu it up into something that'll keep you warm. That is some technical bloody knowledge ... it would have taken a lot for that knowledge to spread." She pointed out that non-Māori students could connect with their ancestors in this way as well. "There might be some young person in your class who has Welsh whakapapa, Scottish whakapapa you know, different whakapapa … every ethnicity has its own kind of

fibre weaving, grasses, trees, willows you know?" As humans migrated, skills were shared and continued to evolve in symbiosis with what materials were available and what the needs of the community was.

Participants commented that they feel a sense of connection to their heritage and whakapapa when they used skills taught to them by their grandparents, extended family, and parents. Gina described her teachers and used their tūrangawaewae to situate them in a social context and provide myself and the readers of this thesis possible ways to connect to them, and her. "My first teacher was Aunty Annie (Apia Anne Heke) and she whakapapas to Tūkorehe Marae up in Kuku. And she was married to Uncle Honeheke…and he whakapapas to the real Hōne heke…he's Ngā Puhi." She went on to explain that Uncle Hōne gave her the karakia she used before we started our interview. Through her father she was then able to connect with another tohunga, Erenora Puketapu Hetet who she called Aunty Erenora (although not directly related to her) hails from Waiwhetū Marae ki Te Awakairangi.

Narrative (both scientific and cultural) or the pūrākau (myths and legends) of the land and history is a shared theme of the participants when talking about establishing belonging. Tana said "... knowing the narrative of the trees, knowing the narrative of the animals…oh that animal, I know how it sleeps, I know where it keeps its babies. I know the story. That builds belonging."

Gina and Linda shared pūrākau relating to the origin of mahi toi and raranga. Within these stories, students are not only connected to the craft itself, but there is a connection to the spiritual world they inhabit. There is a moral lesson which emphasises a particular cultural value, behaviour, and/or norm. The plants and animals associated with the individuals from these stories form another connection between the listener, the orator, and the craft. Through story, and through the action of making, the practitioners formed their own relationship and connection to something greater and more ancient than themselves (Chan, 2021). Linda said

> I love harvesting and the connection to that. I kind of realised that my connection to Te Ao Māori, it's in nature and with using my hands…I get it when I am in nature…So that slowing down of pace, I guess, like if you were making something like completely out of muka, that slowing down of pace, it gives you a lot of time to

> reflect on things like whakapapa and the pūrākau of everything you're working with, and the stories that it is telling us.

Gina and Linda spoke of the Niwareka, the daughter of Uetonga, deity of Rarohenga and the story of love and heartbreak between Niwareka and Mataora which resulted in them bringing back, from the spiritual world, the teachings of tāmoko and tāniko. They spoke of Hine-te-Iwaiwa as the atua of weaving, childbirth and menstruation. Linda explained that stories and history are embedded into the weaving, the patterns, and designs. She contextualised this while speaking of raranga and tāmoko "... you can see that those patterns became infused with raranga techniques and kete making and things as well." She also shared the story of Pīngao and Toitoi, which are both plants used together to make tukutuku panels. Chitham et al, (2019) wrote extensively on the documented fact that cultural knowledge and history is literally woven into crafted objects, and Smith (2012) emphasises the need for these narratives to be embedded aesthetically, in order to keep cultural knowledge alive and authentic. By connecting the materials used to a pūrākau, embodied practices (Borghi & Carunana, 2015) such as using one's hand to harvest, to process materials and to make an item, informs aesthetic judgment. The CHAT framework (Engeström, 1987) weaves judgment into aesthetic experience, through the learned cultural rules which mediate judgments such as the useability of the item, what visual elements are incorporated and how the objects are made.

Linda explained the importance of aesthetic language embedded in traditionally crafted objects and how an item transcends from an everyday item, to taonga. The item becomes

> … a holder of knowledge beyond that taonga. It becomes taonga through whakapapa, through its own whakapapa over time. So, let's say we've got a kākaho that's held in the whānau, and every time it's brought out there's a karakia done. And every time it's worn, they've been given permission to wear it. So, it's creating this whakapapa and that's how it gains its value. So, it's a cultural, spiritual sort of mana wairua. It's a value that transcends ... our taonga get their own whakapapa over time and with that comes stories and knowledge.

Jutta thought back to cultural and spiritual connections made over a life of living in different countries "Once I left Germany, I felt so much more connected to other cultures, like to Native Americans…and when I came here, I really wanted to connect with Māori culture, tikanga. So that cultural belonging, as you put it, has probably played a big role in my life, in

some ways but I always feel drawn to other cultures." She went on to say that she connected to new cultures through crafts and reflected on why that could be "I think I've just so appreciated artifacts, crafts, handwork you know, of other countries no matter what it is. That came probably out of the original basic knowledge [of crafts] when I was taught in school, that I had that connection to handwork."

Tana reflected on how craft helped her form a connection to her heritage and self in a way she may not have without it "I have craft as a way of re-finding what should have been my heritage…it's almost religious…kind of re-connecting to the world though crafts… [I was] being released from the constraints of my upper class childhood." Tana acknowledges the role educators have in understanding their students' cultural context and weaving that into the classroom tikanga and environment

> ... when you're little and you're still living through concrete experiences, then your family and your heritage are very important. It's you. It's the thing. It's their life experience. So, I think tradition is important. If that's what the children have as their background, that's how you should meet them. This idea that you meet a child where they are and bring them forward to the next experience, well, doesn't that mean traditional crafts?

Michelle went onto describe what kind of making experience she witnesses in the children.

> If you've been involved in the whole process…you have this connection to it, which is really different in a way when you have finished making something with it [the material] ... it's really become part of you. It's kind of come through you were as its not from you.

This distinction between *through* and *from* describes the depth to which the student connected with the process not just the material. It became part of them. She talks about this later.

> If they have had this experience [crafting from natural materials and learning about the sources] ... we're going to have human beings [who will ask] how do we nurture and look after our natural resources? How can I make a contribution to my community, to society and to my country. Because not only do I value the people, the culture, the resources, but I want to see it nurtured and balanced, kept loved and everything for future generations.

Tikanga and Ritual

Establishing Routine and Cultural Norms

Gina discussed the general importance of tikanga and shared a warning for those who may choose to ignore it.

> You must have tikanga, without tikanga it [raranga] won't work because one of the most important things is to acknowledge the wairua of the plant and where it came from, it's whakapapa … every time we go, and we pick, we need to acknowledge everyone before us. Because I didn't come up with it. I didn't invent it, so we have to acknowledge it, because if we don't do that acknowledgement, we end up becoming soulless.

Tana talked about what she sees as tikanga and ritual; "ritual teaches you something. To begin with you could be following rules. But actually, if it's the right tikanga, then it's telling you something about that creature, the harakeke. And I know it had an effect on me, and saw it affect the students, that helps build belonging." Tikanga created cultural norms which gave individuals a set of socially accepted 'rules' to follow, in order to express the values and ideals of the group. This built Mana Ūkaipō (Webber 2024) in terms of individuals adhering to an 'agreed' upon set of rules which allow for a social connection. Participants described the kind of experiential learning that took place when implementing tikanga, wherein the student is transformed through the habits of the group, and the group is transformed through the temperamental makeup of the individual (Kolb, 1984).

Gina spoke of tikanga being important from a health and safety perspective "... this is what you need to do, you know, and I point out the health and safety stuff, you know, sharp knife, good shoes. Make sure you've got some protective eyewear." Linda said that "… a tikanga within weaving that I follow and I encourage my Tauira to follow as well … the first of anything you make you give away."

Tikanga can facilitate the development of the Will. Gina said "one of the main tikanga is that you must finish what you begin."

Michelle also acknowledged the importance of finishing what is started, and she adapted her projects to suit her students so they were all able to complete a project "It was a beautiful project, but half the class weren't finishing it … so I changed the project … I do a little snood and it's a bit more modern and functional … it appeals to the boys and girls … I adapted the

snood project … I make sure that all of them finish with something." She went on to say "Perseverance, I think, is a really good one for this day and age. You know seeing something through from beginning to end. Completion, finishing something and meeting expectations."

Manaakitanga was a core value when it comes to creating a learning space where people feel Mana Ūkaipō (Webber & Macfarlane, 2018) or welcome and safe to participate, which in turn created a positive and safe classroom culture. Linda said;

> We always engage in manaakitanga. We always provide kai. Sometimes it takes longer than other times. So, getting to know each other, karakia, waiata you know? Sometimes we will go into deeper stuff, depending on the size of the group, maybe there's you know aspects of pūrākau being introduced.

After manaakitanga is established, the purpose of the day could take place. Sometimes Linda will harvest the harakeke with the students, but it depended on time "... harvesting is sometimes on a separate day." Teaching students to be respectful of the whole plant, even the off cuts are important "I encourage people to bring their own para bin … traditionally what you collected from the pa harakeke, you would return to the pa harakeke." Food in a weaving setting was kept separate from the workspace. This was to keep *tapu* and *noa* spaces separate, and harakeke sap can cause digestive issues. In terms of staying in a state of tapu throughout the day, Linda said "I can't eat when I'm weaving. I don't know if it's the tikanga kind of thing coming out. Like to naturally get into a weaving state. But I just find if I eat, I get tired."

Karakia, prayer or verses are spoken at the beginning and end of both wānanga raranga and Steiner handwork lessons. Tana said "we would always have a verse or something like a prayer, I suppose it had the mood of gratitude and asking for the grace to do your work well." She described how these rituals helped the child transition from a state of noa, into a space tapu.

> There was the warmup of the fingers which is very much part of the ritual, because it helped the students be present. You use ritual because it helped the students be present in their fingers…ready for work but also becoming less sacred and more profane.

Michelle found that ritual established a readiness for learning.

> [when] it's really windy, and the children come in and their like 'woooo' ... I do my finger [games] or rhythmical kind of stuff and we do our verses but then I say

> ‘concentrated work [no talking] then after that I say ‘okay we can start talking now.’ Then I find that it really sets the tone. And then they are more settled.

Tana reflected on what happens when incorporating ritual into work “... when you do something like pray … you know, when we say words that have a specific musicality to them. A particular intention … you know it affects the way our body works, where our brains and muscles work.”

Linda discussed this too “I found like, it’s even karakia. It’s like pausing … going ‘right I’m doing this now.’ Switch your brain off, going I’ve got all these things to do, you know you're still in it. I’m fascinated by this type of state.” Both in wānanga raranga and Steiner handwork, starting the lesson or mahi with reverence was important. These physical acts performed with intention, indicates embodied cognition (Bonini et al., 2022), in that sensorimotor engagement with their bodies (such as finger games) and materials scaffolded the student into a cognitive state that supported focus and connected the body to the mind.

Tana reflected on crafting around the world and how the rituals and tikanga involved affected her students “... without the ritual, the students were less present, less able, and the whole experience would have been different, not just mentally, but physically would have been different, yeah, emotionally different.” In another section she reflects “... there was such a lesson in you might think you’re teaching sewing, yeah, but for the children, the whole lesson, including the ritual, is their experience.” From a global perspective “ ... I think those things are intrinsic and just studying weaving around the world or you know the making of those amazing embroidery heirlooms that they have done up and down the Pakistani border for instance…all those people have things they do before and after. There is a mood to their crafting which I think is part of the culture. It almost becomes ritualistic.”

Gina reflected on the times she knows of people not engaging in tikanga "Oh you can take it away but it won’t work…. they get frustrated and then this doesn't work, and they have miscounted, and it just does not work…. So technically you don’t have to follow tikanga, but I recommend you do.” She explained this by saying “Yes it's my hand and my body, but I’m not actually the one making it.” This was in reference to being connected to her tupuna and the unseen influences of the spiritual world. Tana reflected “It’s up to you [the teacher] to bring your gratitude…help them feel gratitude…then that brings the question, how does ritual affect the social group and how the social group is going to affect the individual then engages

in the work." Though the embodiment of tikanga and respecting cultural customs, the child developed an understanding of their place within the group, the environment and the wider world. Tikanga can be seen as a mediating tool from the CHAT framework (Engeström, 1987), in that it organises the group, and sustains culturally significant rules and expectations.

Behaviour Expectations

Tana discussed the learning environment and classroom culture she curated depending on the age of the children "In Class One…students are learning to stay in one spot." She explained that the task or schoolwork was influenced by where the learning took place and how students approached it. She spoke more about the class experience of Class Seven collectively making a chair from scratch.

> ... it was not a structure [or schedule] made by teachers, but a structure made by the technique and the tasks that needed to be done every day… I saw the students flourish in that … I would say the social aspect, socially it really suited to them. There weren't discipline issues. They didn't need to be over directed by the adults. The task itself brought them into a good relationship with the activity itself [and] each other.

In terms of setting boundaries and social norms within the classrooms Tana talked about the materials being just as much of a teacher as the teacher themselves.

> They discover a different part of themselves through the hand working. They discover the peaceful part of themselves, the restful part of themselves, but not through being told off, just because, again, because of materials. Almost every class, one class I taught, I saw students being almost rescued by the hand work… so can you think of students who have heaps of energy, who they can't, they can't moderate that energy, and they have very strong sense of pride. So, you get this kind of catch 22 where they're getting into trouble, and then, because they're in trouble, they get furious, and because they're furious, they're even more energetic.

While the teacher needed to set the tone in terms of noise level and socially acceptable behaviour, Tana saw that boundaries provided students with freedom. They could focus on their work without having to constantly negotiate the social dynamics between each other, which is exhausting for children, "you've got to let them be free enough to actually notice and be intentional…I had to be very strict, but as the years went on, I realised that's what let the students engage."

Michelle discussed the tikanga and ritual applied to tool use and delaying the introduction of various tools and materials which helped to create a sense of respect for the resources.

> ... now we've got these beautiful wooden needles. These are our tools. And I see someone like, trying to do a sword fight, you know, I'm like, what are you doing with your tools? That this is not a toy, this is a tool, just like outdoor classroom …. Then coming to crochet, well then, we are moving from two tools to one tool … So, I think itis important that they know [of the whole process involved] and then they also, they respect their tools. They look after them better … so it becomes our culture of how we work and how we look after our things as well.

Jutta explained that keeping tools and materials organised was a routine way to embed respect within the child.

> ... it was always important for me that things looked beautiful, and the children treasured their things. You know a lot of the presentation of materials, even the sewing basket … when its organised and they know where things go, is such a teaching tool … and I can see that sometimes with teachers who don't have that, it affects the children. And I just think it's another way through again, through imitation, to teach the children to organise something. And how much easier it is when we know where things are, we can find it right away.

The preparation for work and the ending of a lesson contributed to a positive and respectful classroom culture. Jutta said the children

> helped carry the baskets of course, up to the handwork room. And before we left, you know, the room, all the little bits of piece on the floor, of wool and things had to be picked up. And all that was done together, which also creates of course, more social awareness and organisational skills, tidiness.

Michelle spoke about encouraging students to stay organised and care for their environment "I've been conscious about trying to keep things in their place so that, you know, there's a rhythm of where things are kept and an expectation [that] things goes back where they belong." She went on to describe the cultural norm in the handwork classroom, that there is "respect for each other". Tana spoke about this as well, "…the preparing for the lesson, and the tidying and the cleaning, I would say is very much part of the ritual…you could create the space as a teacher, where it is done with gratitude." The ongoing inclusion of tikanga, and routines function as a Mana-building pedagogy. These culturally grounded norms foster

Mana Ūkaipō (Webber, 2024) and reciprocal obligations in the learning space, such as students tidying up after themselves, making gifts for others, and peer support.

Kaitiakitanga

Environmental Stewardship and Innovation

Throughout this research process there was a major theme surrounding the symbiosis between humans and nature. To innovate while maintaining a sense of kaitiakitanga, and environmental stewardship, participants discussed the important of learning experiences that nurture a student's love and appreciation of their environment. From a young age, individuals developed intrinsic values in line with the social, spiritual, and physical environment surroundings.

Gina explained the difference between land ownership and land stewardship - or kaitiakitanga which is about Māori belonging to the land and caring for it, as the land does for us. The subtle difference between land ownership and kaitiakitanga is important. "The uninformed think that we own it. It's not that we own the land. It's that we belong to the land." She thinks "... with more contact and education coming from a place of commonality, we can find better connection and learning."

Tana talked about importance of narrative in relation to the materials which "... helps to build belonging. And that sort of guardianship, stewardship, that crafting can help that." There seemed to be an inseparability of crafting with natural materials and the resulting reverence for nature. This in turn develops a sense of environmental stewardship and embodies kaitiakitanga. While these aspects were discussed separately, they were never fully isolated in themselves.

Gina's journey as a weaver began out of practical necessity and innovative thinking. "I planted my harakeke fence, I knew it was going to grow and once it started growing, it's going to keep growing, and I'm going to the one responsible." She not only described the whakapapa of people in her life but explained the whakapapa of her harakeke "... the harakeke that I've got down the front whakapapas to Kāwhia." Gina explained why the harakeke at her house was so special and has value to others "... my harakeke out the front…so it was the special harakeke from my nanny's house, because it came from Kāwhia, and so that's why I chose that one to plant." She and others call it a taonga. "I know this

harakeke. People know the whakapapa of this harakeke…people come up and visit me, like, oh that's where my kete grew."

Observation of the natural world led to an understanding of how everything is interconnected. The labour and time involved builds a respect for the materials and all that contributed to the plant being able to grow. Gina spoke about how important it was to spend time preparing materials, as it makes a difference to how easy it is to manipulate that material and how high in quality the finished object is "People think, just go and pick some harakeke and I'll just make this. No girl. It's a living thing." She said "… you pay attention to when you pick it." and that " … you need to be observant of everything." Gina said that a major part of her role as a weaver is management of the resources " ... if you don't look after them, they become scraggly." She spoke of how harakeke is integral to her local environment " ... the role harakeke plays in the natural environment, Te Taio. So, the birds like harakeke, it's an important food source." She placed a huge emphasis on not wasting resources and only taking what you need. To use and dispose of even the smallest part of the harakeke is vital " ... these are all the leaves that are too small to use on anything else … So I just make putiputi ... I just don't like wasting them."

Linda is very mindful of disposing of the para in an environmentally friendly way because " ... traditionally what you collected from the pa harakeke, you would return to the pa harakeke. But we don't live in an age where everything that we gather is clean and not disease free, so we never know what we're spreading." She manages what harakeke is brought into Ōtari Wiltons Bush, which is a site where native plant research takes place. Linda states plainly "we don't want rank disease-ridden things to be brought in onto site." This practice aligns with kaupapa Māori by emphasising respect and reverence for Te Taiao.

Michelle explains the profound influence she saw when her students harvested, processed and created from a natural resource.

> ... the experience brings a whole other level of understanding … it's then ingrained in your psyche. You really then look at the whole process differently in a way. Whereas when you're just given a ball of wool, you have no real connection of how this was formed.

When talking about the children building a sense of kaitiakitanga through the practical aspects of making a useful object from locally sourced materials, Michelle discussed the reverence and respect for the other (both human and non-human) " ... they will build this

reverence of materials and the resources they are using, and of course, they're going to want to look after those better … So we are installing the seeds of morality in a way." This morality arose out of understanding of the material, how it feels and what it takes to grow.

Tana spoke of working with various natural materials in that they " … offered a new level of relationship." between the material and the students. This contributed to a child's developing understanding of different aspects of an economy, such as the time, labour and material used. As well as this economic understanding developing, she also talked about the capacity of judgment developing when working with different materials

> I'm not say its [working with synthetic fibres] is a bad thing. I don't know how they'd get to build a relationship to how those synthetics came to be, or whether they're really friendly to use … I think young people who are still building knowledge of themselves and the world through being in touch with materials, I would hope [they are using] natural materials. I think there's a clear reason for why that's is a good idea. They are involved in the whole process. The narrative is that meaning, there's a meaningfulness to it.

The concrete experience of working with natural materials built connection to the resource, which developed an understanding and empathy for the environment. This in turn becomes kaitiakitanga or environmental stewardship. Tana explained "I know it had an effect on me, and I saw it have an effect on students…. I want that sort of guardianship, stewardship, that the crafting can help that." She noticed

> ... they did talk about the property, thinking differently about the property afterwards ... they had gone and chopped trees down. They had gone up and down banks looking for various things that we needed … going down to the stream at the property and up again. Then being out there in the wind and wet for a week … they talked about just feeling a bit different and going to move up into the high school.

Tana hoped that by nurturing individual's Mana Motuhake or positive self-concept (Webber & Macfarlane, 2018), she would be helping the children become conscientious consumers.

> If they feel more confident, that will affect society … if you value fixing your own socks maybe you won't go to the warehouse so often, and maybe that will make a difference to what shops are in your vicinity.

Michelle discussed this in reference to her Class Eight students'.

> …when my Class Eights hold their first ball of wool [that they have spun], and their beaming. I'm going 'right, now did you realize how much work went into creating that ball of wool.' I said to them 'now you understand. When you go out and buy that beautiful woollen jumper, look after it.'

When students were involved in a whole craft making process Michelle noticed "there's more buy in, there's more respect. There's just more awareness." She said "I've just been so impressed with how knowledgeable and how more awake our students are compared to when I was their age. I was like, woah, I never thought of that. You know it wasn't in my consciousness to be so aware of my diet and…what fashion I was buying and different stuff."

Participants talked about how practical experiences with natural materials created a deep connection to the earth, which is in line with a 'transformative experience' described within the Experiential Learning Theory (Kolb, 1984). Kaitiakitanga does not need to come at the expense of a flourishing economy however it does require individuals to develop an understanding of how their choices can impact their environment. The world our children are growing up in is a fast paced one, due to the rapid increase of technological advancements (Haidt, 2024). Gen Z and Gen Alpha are aware of environmental and social issues much earlier than generations before, as well as becoming independent consumers with disposable income earlier than other generations (Zlatanova-Pazheva, 2024). Children are being marketed to in increasingly clever ways, and the influence beyond their family and local community far more than it was even ten years ago. Nurturing a sense of kaitiakitanga through crafts could be a way to balance the influence of excess consumerism.

Jutta spoke of the developing kaitiakitanga and a capacity for reverence because " ... that connection to the natural world, knowing where things come from and it creates a certain gratitude, can create a certain gratitude or reverence." She connected this developing reverence to students crafting with natural materials "I think this also creates reverence because they have made it themselves. They take much better care of it than when it's given to them, already finished, and they learn to appreciate handwork, or crafts."

Gina stated very plainly "if you love something, you take care of it." Kaitiakitanga is not the sole responsibility of indigenous peoples " ... it's just taking care of Te Taiao you know, and you don't have to be Māori to do that. We all share this bloody rock that's spinning through space." The common sentiment among participants was that if you get to know the land, you begin to understand the people indigenous to it. Whether one is able to whakapapa to the land

they stand on, or not, they create their own relationship to people and the land. Through this connection point of crafting culture is constantly in flux and being co-created by the relationships people nurture (or don't) as described by Leontiev's and Engeström's Cultural-Historical Activity Theory (Cong-Lem, 2022). Culture is made, through making.

The Natural World Inspiring Creativity

The participants acknowledged that in this day and age in urban Aotearoa New Zealand, being able to source natural materials in their raw form is not always possible. All of them remembered times where their students were able to harvest material from a natural source such as, harakeke, wood, or fleece, and saw value in doing so. Jutta discussed the sense of touch in terms of natural materials.

> I felt it was important for them to know where the material came from, not out of a machine or artificial process, but from animals or plants. I think it creates a different sense of touch or affects the sense of touch ... different senses are stimulated in a different way than artificial materials.

Michelle mentioned her thoughts on natural materials.

> I think, you know, obviously from the younger ages we want to work with more natural qualities, fabrics, resources. Because you know they're connected to the natural world. They're still very, still kind of connected to the spiritual world as well…as we develop and we get older, then we can bring in the less natural kind…and synthetics and stuff. I think it's important that they have an experience of all of it to make their own judgment in the end.

She went on to say that,

> I think that it's better that they kind of experience the good stuff, the natural stuff first, which is really part of their realm and then they come to the rest of the stuff later on, and then there's a more intellectual process that will happen…we need to be open and understanding that some resources are going to be better for other things…you know synthetic [materials] for different things and natural [materials] for other things.

Linda reflected on her experience as a child, and the innate desire to learn from Te Taio "I think that as children, we are naturally looking for this kind of education. I wanted to make things with stuff I saw around me every day." When given a material in a raw form children were provided with a hands on experience. They enter a physical relationship with the

substance and quality of the plant, which laid the foundations for abstract scientific thinking. Michelle reflected on her upbringing, suggesting that growing up rurally, where shops weren't as easily accessed, the community was more self-sufficient and homemade crafts were more common place. “I think when you grow up more rural, you are exposed to different crafts and stuff…there’s more of it in the fabric of living.”

In an ideal world, Tana thought it would be beneficial for school sites to cultivate natural resources to use in the classroom. “I think we should use resources that are around us. We should grow stuff on the property…To me it’s about local. It's your school, your locality and build it that way, especially with craft.”

Gina placed an emphasis on how important harakeke is for Māori “You needed it for your building. You needed it for clothing…nets, catching food out of it…it was just such a vital resource.” In general, the relationship between the environment and the development of culture was discussed by both raranga practitioners “To survive in Aotearoa, the Māori people had to learn to use the resources available and adapt.” Gina talked about adapting skills to new contexts “ ... when we got here we had harakeke, like we lost access to coconut palms … the first Māori who got here had to take the skills they had, look at what resources were available, figure out how to work with those resources and adapt them to their needs.”

Linda also talked of skills evolving with the migration of the pacific people “So there’s pandanus … over in the pacific islands, various forms of cabbage trees … But flax was growing in abundance here, so that was the natural sort of go to.” She also discussed how these techniques evolved by humans observing the natural form of the plant and recreating that in their work “I guess they were recreating the palm tree shape. So, when you are doing kete whiri, you’re basically creating this shape. We are actually just emulating the way the palm tree grows. So that's the kind of starting point.” Participants and theorists like Tim Ingold (2007) acknowledge that narrative and cultural history is held not only in the aesthetic expression of an item but the materials it is made from.

Linda and Gina talked about craft evolving out of practical necessity. Gina reflected globally on human beings finding innovative solutions to problems in using natural materials by “ ... making use of what you’ve got and adapting yourself to your surroundings.” She went on to say “ ... back in the rā before the ships arrived, it was an everyday skill.” Yet there was a difference between making everyday items like foot coverings, to ceremonial and ornamental items like korowai. While not everyone would reach the level of skill of those who wove

korowai, everyone knew how to use the resource to survive and thrive. Universal creative skills migrate with human beings. The material resources change, and due to the differences needed from clothing, shelter, and weaponry, humans adjust to the natural environment. Shelter is used in colder climates to keep warm, in warmer climates to stay cool. When humans come to work with the natural resources, they come to meet the essence of the land and evolve with it. The land in turn evolves with the human beings as particular animals and plants are favoured and cultivated. When this relationship of reliance on both ends exists, belonging arises. Gina spoke at length on how the natural world inspired innovation and creativity.

> It's [raranga] a really good introduction to how we interact with Te Taiao, the natural world, by looking at the natural materials available and then sitting down and coming up with some kind of indigenous technology…techniques and knowledge or methodologies using these natural materials….So the plant is telling me what it needs…now it's my responsibility to sit down and do something with this…it's a way of being in your space.

She talked about how the need for whitebait conservation inspired an innovative project using tī kōuka to create a whitebait highway, including input from iwi, local council and community members. Conservationists and the council were looking for a sustainable alternative to synthetic rope. She discussed the twofold nature of the project, in that they were using natural resources and traditional techniques to solve a problem while also bringing members of the community together.

> …it's going to need to be a group project. I'm going to organise another wānanga because it's too much work for one person to do. But that also gives a good opportunity for Māori and non-Māori…environmentally conscious people of Aotearoa and the Waikanae community [can] come be part of something which is an actual, tangible, concrete artifact that's going to be out there in Te Taiao to see if we can make an impact on little baby fish surviving.

All participants discussed the importance they placed on story telling as part of building a bridge between children and the natural world, as well as allowing them to play and explore nature which inspires creativity. Michelle said "Well, I think seeing that most of our resources come from the natural world, it's really quite important to bring this awareness that

it's there. I think you can do this really beautifully through age-appropriate stories." She went onto describe the emotional connection that can be fostered through storytelling.

> I think it's important and it ... connects the children not only to the resource they are using but then also to nature … they will build this reverence of materials and resources that they are using, then of course they are going to want to look after them better.

Both Jutta and Michelle mentioned the story 'Pele's New Suit' which is a book by a Swedish author illustrating the process of making a woollen suit from the sheep, to spinning yarn, to weaving fabric to dying it to having it sewn up. This is read to the students before they are given their first knitting needles. Jutta talked of how she used this story as part of a holistic learning experience

> I really wanted them to have a strong knowledge and experience about the materials they were working with, which at that point [age 6 or 7] seemed age appropriate to introduce knitting needles…In the beginning years I always took them to farms where there were sheep, and we felt the sheep, the wool on the sheep, and we saw it shorn and they could feel the lanolin….I had brought hand carders so we carded it, and then we spun it just by twisting it. We made a necklace which was twisted out of a rolled wool so that they really slowly grew into the spun wool…we also talked about dying.

She claimed that years of these experiences would nurture individuals who are "innovative and more compassionate." Jutta reflected on how working with natural materials in the younger years could influence the individual into adulthood "I could see in their later life also much more of a tendency to work with natural materials and an awareness about natural verses artificial materials." Developing kaitiakitanga and nurturing a capacity for innovation blends the two frameworks of Experiential Learning (Kolb, 1984) and CHAT (Cong-Lem, 2022). Students harvesting materials translates into experiential learning which shapes community norms. Concrete interactions with local materials is a shared activity that guides their motives and values and reinforces the importance of tikanga.

Michelle said the reason for the linier introduction of particular tools is in part due to it being a micro cosmic experience of human beings evolution in tool and artifact making. " ... before our hands were our tool, we are not necessarily working with tools in the kindergarten, except for maybe a needle or something." A slow introduction of tools, while simultaneously teaching children how to create these tools from scratch, helps to build respect for the tools

and an understanding of how human innovation arises. They learn they can innovate and look to nature for solutions to their problems. Universal skills and techniques were adapted in response to the human geographical location which inspired creativity and innovation. Tony Fry (1995) posits that even as humanity advances mechanical and digital innovation, craft knowledge is fundamental in 'making the human world.'

Developing the Will to Learn

Tana said "I think somehow handwork brings the Feeling into the Will. It kind of, domesticates the Will." She reflected later that " ... the crafting itself teaches us about ourselves. It's the discipline, the craft gives us the discipline, not the people teaching the craft." Mastering a skill requires an element of discipline, or the will to push through the challenges of learning. In the Craftsman (2008), Richard Sennett goes into detail explaining the historical and cultural implications of an individual moving through the process of going from beginner to master and this is reflected and unpacked by what the participants say. This links to the concept of Mana Tū (Webber & Macfarlane, 2018) which explains that persistence and determination are required in order for someone to move from beginner to master of a skill. I found that both the Will and Mana Tū (Webber, 2024) share very similar meanings.

Gina talked about striving for perfection which impacted her capacity for persistence – in which she is embodying both Will and Mana Tū. While she acknowledged that perfection can never be met, she was driven by a desire to always do better "I've been doing it a long time, I think there's three kete that I am happy with … I am far too critical of my own work." however " … that's part of it because that's how development and innovations happen." When reflecting on her learning throughout the years, she looked at one of her very first pieces, which she was still very proud of yet she acknowledged at the time it wasn't at the standard she wanted it to be at " ... so that needs to be fixed. This could be tweaked. I could improve this. And so that actually motivates you [herself] to weave again." As well as developing Mana Tū, she was describing the development of Mana Motuhake (Webber, 2024) with a capacity to reflect on her own abilities and knowing she is capable of greater achievement. Another example of this is when she compared her first projects with her latest ones and how she spoke about this progressions with her tauira, "I always take my old stuff. I'll just grab my newest kete so you can see the difference between then and now. So, I tell the students, don't compare yourself to the work I am doing now. Have a look at the stuff I was doing

twenty years ago." She still found ways to improve and pointed to a tiny gap in her work " ... those gaps should be as small as possible … see that one there? I'm not happy with it, not happy at all. It needs to be tighter." This inner striving seemed to build resilience which is needed to engage in new learning, to do hard things, to observe one's progress and celebrate mastering a skill. It motivates the individual to want to come back to a skill and continue to improve. Mana Tū development in one curriculum area can influence the attitude of the learner in others.

In terms of developing the will to learn, there were multiple examples of this being driven by different kinds of intrinsic and extrinsic motivation. There was a through line of the craft project itself being a vehicle in which this willingness to learn develops. Two major aspects of motivation were; the children finding satisfaction in the aesthetics themselves (making something beautiful and functional) and gift giving (making something with another person in mind). Michelle spoke of this " ... you've just made this thing, you put all your hard work and soul into it, and you've done all this learning, give it away and do it again."

Jutta explained that the younger children were driven by the purpose of play " ... making their toys which they always love, their gnomes became such a companion that was useful in that way." Jutta also made use of narrative to inspire the Will. This builds the internal motivation to see a task through to completion. By "making something simple like a little snail, and then you make him a friend, and then you make the friend a mannequin…you [the student] start thinking about what you've made and it can become a story, and then you can use the skills that you've learned in a new way."

Michelle talked about how in the kindergarten years, children's work was their play " … they would be making, say, necklaces or bracelets that could be for their friends or they've got a toy that they are busy with. They could make a lead for a cat … So its related to them and related to their play."

As children get older and move away from learning through imitation learning becomes more formal " … they're not just learning through imitation anymore … it's becoming a little more formalised becoming a bit more structured … but of course those early years [class one and two] are still part of the heart realm. So, then you still want to keep those things quite natural and beautiful but also with purpose." Michelle spoke of class project where she taught back stitch by getting the students create individual leaves for a wall display "I would introduce back stitch through felted leaf project. So they would do the veins on it … I would cut out the

lead and draw the veins, and those veins would be backstitched on.“ She also observed how younger children’s Will can be inspired by older children's work

> I love it when little ones come into my room … I feel it's better because then they come in they do look around and they go ‘wow, oh, what's this? What's that? What's this?’ I do have a shelf with dolls and animals that people have made and examples of different projects.

Participants acknowledged that long term sustained practice is required when developing the learners’ capacity to do hard things and learn to do them well - resilience as a learner or Mana Tū takes time to develop. Tana noticed that handwork “…needed quite a lot of commitment from the student. So, you know, hours of Cross Stitching before these changes happen, big, long projects with lots of homework”

Michelle reflected on how resilience develops from through a handwork experience “It’s not just the skills but the process that is important …what are the challenges, what are the experiences that the students are going to be going through…what’s going to come through them and how is this going to benefit them?”

Jutta reflected on the importance of being able to put an idea into action and that educators consciously need to teach “…the skills to put creativity into matter.” Tana considered learning habits being formed through handwork.

> …longer attention spans, greater interest in making a connection between the level of intention and the resulting level of satisfaction ... in crafting lessons, they can relax a little bit and enjoy. Then they learn that actually [while] learning, it's normal to feel enjoyment.”

She also observed that

> …crafting for themselves with discipline is like a precursor to being able to build that kind of sober sense of yourself and the world that then can lead to this kind of biting in with your thinking. It’s a very sober thing to bring critical thinking to what you’re doing.

These learning habits are related to the 21st century skills of *Initiative and Self-Direction (*Battelle for Kids, 2019). Tana suggested “the students who find it difficult to be disciplined even in their social life, very much in their maths and their science, watch them in handwork.

You can see they haven't passed that threshold of sober, collected engagement in handwork." This is evidence that handwork can be an indicator of developing critical thinking and discipline.

Tana described being ready for learning, and learning to learn.

> In class one, just watching how the students are still learning to stay in one spot, how to give their attention, and the lovely experience of once you have learned to do something that you do it again and again, and then your eyes and your hands work together. So that whole first year of formal learning…a simple knitting project can be a way of enjoying the success…little successes that come together to accumulate to a whole new experience.

This nurtured Mana Motuhake (Webber & Macfarlane, 2018). She continued, "It's something that's not thought through too much, but your eyes, your ears, you're thinking, your hands, everything is starting to work together so that you're being intentional in a new way." She also discussed the tangibility of the learning experience affecting the students.

> ... if they are able to achieve, not just the product, but if they're able to work through challenges, they can see they have worked through challenges. Its more obvious because of the practical nature of the challenge. Where in English or maths … they might not quite get how much they have overcome the challenge.

From her many years of teaching she observed that " ... you can really see in classes where the handwork is the focus, where they bring themselves, they develop though challenge…it's a sense of the student respecting themselves more. The whole class has that about them. You could almost say there's a quality to the social life of a class where they don't take handwork seriously, which is different from when they do."

Ways in which social and subject learning happens through the hands and movement was described by Tana " ... it was fantastic to have the activities that involved quite focused, tight finger work, hand eye coordination. There's the whole crafting of the wood, the green wood so you had to be on these horses and use your feet as well as your arms." She goes on to talk about how she observed the impact of those learning experiences on her students, "So that whole kind of experience of your body being involved … and the breathing in … the technique that involved repetition but precision, I think that's a nice feeling for your body. Physically, you feel your whole body's there." During the child development stage of learning through concrete experiences (Piaget and Inhelder, 1969; Kolb, 1984), the physical

substance they are working with teaches them about the natural world in terms of texture, smell, malleability, and what purpose it would best suit. The material acts as another teacher about the natural world. Within the framework of Experiential Learning Theory, there are four modes of learning and concrete experiences are one of them. In that hands-on manipulation of the physical environment is a powerful way to learn about the world around the individual (Kolb & Kolb, 2017)

Tana observed a relationship between rhythm and movement and texture. She talked about the project itself being the teacher.

> ... you're busy with your fine motor skills and all of this time, it's not the teacher saying, hang on, that's not right, you're not sitting still, please remember stop talking … If you don't concentrate, your stitches fall off. When you do engage deeply and bring yourself to the material, then something good starts to happen. The children always feel that in my experience, they always felt a deep sense of satisfaction if their stitches had an even tension.

Aesthetic Education

Beauty + Functionality

While the Steiner handwork teachers placed value on the aesthetic element of an item they also acknowledged the item needs to be functional. Not only the user, but to stimulate the makers' intrinsic motivation or 'by in' to the project. When I asked whether it was worthy for the student to pursue both beauty and functionality, Michelle responded with

> Yes, I do, not only for it to be beautiful but I think functionality is quite important. I think especially in this day and age. I think in times gone by, [for] something to just be beautiful and not used was more appreciated…We're making things that we can use…because things [crafts] are not kind of done naturally in the generations anymore. If we are going to introduce them [students] to something that we need we need to kind of catch their attention a little bit more…a little bit more buy in. So, as well as buy in there is also a mark of quality when there is an aspect of beauty to it.

Michelle described expectations she maintains with her of her students

> I don't want your doll falling apart…when you're stitching. When you're knitting you have to look at your tension. You have to look at this. Do we want big holes in our

> work? No. So I think we do need to set expectations, and we do need to have a certain quality of work.

However, she acknowledged the need to have different goals and expectations depending on the child and their capacities "We are in a position where we get to know our students. So, at the same time we are setting expectations, but we are also working with the child." Jutta observed that when her students were striving to create something beautiful their will to work, or their levels of intrinsic motivation, became more powerful.

> ... handwork is such a crucial thing to teach aesthetics. I think because of the materials which are given to them, where they can choose, they can match different colours and see which colours actually look good together … it can help when, just even in the presentation of the wool, of the yarn … when different colours are presented together. It creates such an aesthetic picture of colours, that in itself, is a tool for teaching aesthetics.

Jutta described the difference between something that is pretty and something that has a beauty " ... beauty can stumble people because you think of like a pretty painting of some flower but beauty is in the functionality of something as well. When it is well-made and simple, it can be beautiful, yes." Visual aesthetics when it came to function were not always important – sometimes it was more important for it to be apparent that the item was woven correctly and would stay together "so it's ugly, but it's useful." Gina spoke of how the purpose of the item could guide the aesthetic emphasis on it.

> I took a group of reo wānanga students, and it was before matariki….[we] needed some rourou, the food baskets and they are the most basic, rough as anything. They are not meant to be pretty…I made a couple as samples…then made a couple in front of them so they could see the process…and they were like but ours aren't as good as yours and then I went watch this and mixed them all up. Now where's mine? They all looked the same you know, and they were chuffed with themselves…They were beautifully ugly

Participant did acknowledge that "I think it needs to be practical, and for it to be practical and not fall to pieces it needs to be well executed and well made ... there's reasons for things to look aesthetically accurate and therefore functional." She discussed the language of aesthetics which is symbiotic with a lot of raranga, in that the patterns and materials used

have meaning “I think it’s really interesting when things have intention, when you've got an intention which is both functional and telling who you are.”

Developing Judgment

Tana talked about the progression of projects linking to the child development “as early as six or seven the next step of really consciously making knitting so that you can create a 3d item, you can see how that brings in a different cognitive activity… doll making comes much later on.” She discussed the impact of puberty on the capacity of her students and kept that in mind “ ... you know that puberty is starting to come in … almost all of the skills go backwards for a little while.” Yet the complex project of the doll called for the students to be precise and focused. “It’s the stitches telling them to be present, follow through, is it correct, is it precise?” There was an increasing emphasis on needing to be precise as the projects get more complex “ ... their doing back stitch and they're doing invisible stitch with making dolls and they have to be really precise, and I get them to pull it out if they haven't done it, if there’s holes in it.”

Participants described why aesthetic judgement was important, while many acknowledged that there are certain cultural bias that exist which teachers need to be mindful of, they were able to draw attention to the quality of something that is made, emphasising the use of it. Does it perform the task we made it for effectively? Focusing in on that as a primary value in the handwork lesson, caters for diverse skill sets and needs, ensuring that regardless of the artistic component which develops over time and can be culturally relevant - the essence of the item's beauty is in its function and can serve as a universal point to connect the group. Tight knitting tension, or a tight harakeke weave is beautiful, it looks geometrically pleasing and it will be a better quality product than one which is uneven and loose.

Linda discussed the element of storytelling within the aesthetic designs of raranga, and that this actually becomes a language of aesthetics “I think aesthetics is part and parcel with the whole thing. Yes, it tells a story, but it’s well made. It's functional as well. So, I feel like that’s, yeah, that's a language.” Linda spoke of how the language of aesthetics is such a big part of culture creation and in its self, the tikanga and cultural story behind a plant or a skill created connection to nature.

> …spending time getting to know [the plant], like harvesting, how it grows, the story of our harakeke, and how the really strong ones were actually a product of Te Puna marrying together Parekeke and Harakeke to create something that was really strong,

> but you could more easily extract fibre from. So that's where the really good muka plants are, actually a cross breed and that was intentionally done.

The emphasis on aesthetics came through all discussions and made me question (not for the first time in my life) what is beauty? Is it subjective or universal? When reading about it further I discovered it can be both. Participants found that teaching aesthetics was important because they saw a connection between the child's developing sense of beauty and their faculty of judgment. Cantone (2025) uses the Kantian theory of aesthetic judgment in part to explain how humans develop a sense of beauty. These are that judgments are informed by how something is made, whether it serve its intended purpose, does it add value to life (as a toy or an object), and are the forms and colours balanced and harmonious? These questions being asked of the specific qualities of the object can form an understanding of the whole, which guides judgment around whether the final object has a quality of beauty. If we follow the theoretical framework of embodied learning theory (Borghi & Caruana, 2015), we can see how it would be beneficial for children to develop this faculty of judgment through hands on, practical work. When we throw in the notion of beauty, we then add an element of emotional and spiritual connection to the process. The process and end product that is deemed beautiful stimulates a positive emotion. Cantone (2025) discusses the interplay between human physiology, and the environment as well as genetic/cultural factors of an individual and the universal experience of humans finding harmony, proportion and rhythm pleasing and pleasurable.

The Impact of Craft beyond the Craft Lesson

Holistic Lessons: Cross Curricular Learning

Michelle discussed the need to bring multiple aspects of the curriculum into one learning experience

> I try to look around at what the other teachers are doing and find ways to, you know, weave that in because I do think it's important that our subjects are not just subjects, you know, we're part of a whole. So, if we can, as specialist teachers, support class teachers or festivals…then we do.

Gina explained how raranga is an avenue into learning about Te Ao Māori.

> Mahi raranga and Māori culture are so intrinsic to one another…we're sitting here talking about weaving, but its lead to other things, like the story of Pīngao, and it's

> just an opportunity to open the door in a safe way for people who are interested to know more.

Linda discussed the connection point between scientific education and weaving "it's quite an accessible medium to learn some practical skills and connect to Te Taio…it's relatively accessible because it grows rampantly."

Tana said handwork provided a foundational scientific learning experience and that while you can become more abstract as the students get older, younger ones are " ... still learning through concrete materials." They are still " ... taking meaning through concrete materials." So, working with natural materials as much as possible could give them a concrete understanding to bring into biology and other sciences as they get older.

Numeracy and mathematics was embedded within craft projects, whether the child is made conscious of that or not. It becomes applied learning. Tana uses the example of " ... making the bean bag" where they "can work with that four way symmetry, two way symmetry" and she " … knew they were having difficulty with the process of maths…so fractions is an area, if you can't show your workings out, if you can't be systematic and methodical [you lose] traction with fractions." She suggested that cross stitch could help with children being ready to grasp fractions

> ... the discipline of doing the cross stitch the same each time, the complexity of the brain work … There just seemed to be a bit too much of a coincidence, because the process of going from A to B to C, the methodical-ness of the mathematical practice, started to happen for them.

She went to say, "It happened too often to be, I think, a coincidence, very suspicious." From a math and social connection Tana suggested that " ... if there's social disharmony, maths is what suffers." Analysis within the literature and in participant statements as suggested that craft education is associated with improved engagement and perceived academic outcomes. These findings suggested that craft education should be more seriously considered. Kolb's following quote illustrates his view on the importance of educating the whole human being "To learn is not a special province of a single specialized realm of human functioning such as cognition or perception. It involves the integrated functioning on the total organism - thinking, feeling, perceiving, and behaving." (p, 31, Kolb, 1984).

Mindfulness

All participants spoke of craft making as a mindfulness practice "When they're doing handcraft, they feel nice … they've come back to themselves, that nobody overthinks it" said Tana. She went on to say " ... we would kind of have to put our heads aside a little bit … put ourselves aside a little bit to get into handwork." The materials and the skills teach a quality of mindfulness.

> If you don't concentrate, your stitches will fall off. When you do deeply engage and bring yourself to the material, then something good starts to happen. The children always feel that, in my experience, they always felt a deep sense of satisfaction if their stitches had an even tension for instance.

Tana believed this inner stillness developed through focus and concentrated movement " ... to get it right, they have to stay in one place … it gives them a feeling of 'it's okay to be in one place. Wait a minute, I am sitting on my chair!' You know, they discover who they are becoming. They discover different time in themselves." Tana said " ... whole body movement, eye, hand movements, repetition, rhythm, all these things. It's the medicine for other stuff that's coming in. Feeling frazzled, disconnected, short attention span."

Grounding One's Identity

Bose and Mohsini (2023) explore the process of knowing and decolonisation that occurs through the embodied practice of indigenous crafts. Facilitation of an embodied practice allows an individual to understand their cultural knowledge, identity and how to be in community. For Māori, knowing your whakapapa or genealogy is a fundamental aspect of knowing who you are as an individual (Harmsworth & Awatere, 2013). Linda talked about connecting to the whenua of her tupuna which helped her become contextualised in her cultural heritage.

> ... so that sense of belonging, I feel like I had an epiphany last year [when she went back to her tūrangawaewae] Maybe it was the raranga here and you know that reconnection. But going back to the place that I was born, and going and standing on the whenua, area, I was like 'This is mine, I'm here, I've landed.' There was this like, overwhelming kind of like 'this is me'

She "planted a couple of harakeke plants at my father's that weekend … I felt like, grounded." She reflected further.

> ... learning raranga put a bigger spiritual element and got me to reassess my identity again … I found out I was adopted … and went off to find out who my parents were, in [specific location]. So, it wasn't so much about making these fun objects … I was trying to retrace who I was at nineteen … raranga has actually been a more grounded way for me to reinvestigate who I am … from a Māori perspective and learning to make taonga.

Linda discussed the deeper effects " … with raranga, I'd say that a kind of self-investigation, that comes through the process of going bush, connecting to the atua, connecting to tupuna, connecting to Te Taio. It's a different kind of self-exploration." She went on to say

> I really love art and potentially working with natural fibres and have always kind of been drawn to it is because maybe it's an inherent thing that I maybe knew I was adopted. So, I think that sense of belonging has always been a bit of a funny one for me, and I've been never quite felt I belonged anywhere. So, I am constantly looking for that in my arts practice.

Tana claimed that by stepping back as a teacher, and allowing the students a degree of freedom when working with a material "… the identity of the child grows in a very healthy way through handwork in those first few years, you're kind of leaving the child alone in their own world. You're guiding them and guarding them, without kind of invading their growing identity." What does the word *Free* mean from a Steiner educator's perspective? The term 'ethical individuation' is a stage reached when the individual has the self-awareness to think in an objective manner. This objective thinking leads the individual to choose what to think and how to act in a way that is moral (Steiner, 1996b). They overcome their lower drives of fear, instinct, and desire, and rise above these in order to rationally and ethically assess the situation. It is from this place of *knowing* that the individual is free to act in a way that will be of benefit not only for themselves but all humanity (Last, 2025). Although most will admit that to be in a state of freedom in its purest sense 100% of the time is almost impossible; through a holistic education, individuals can attain a certain level of self-awareness when they leave school, continue to develop their sense of freedom and act accordingly. Which is another example of developing the inner freedom of the child. She goes on to describe the process of doll making meeting the students where they are at.

> ... they're crafting a human and as the stitches become seams, and as the seams become an leg and an arm and a head, they start to relate to this human image that I

> think then allows them a different kind of connection … at that age … your humanness is growing in a very particular way inside … how you craft the features, what kind the of temperament or quality of the doll, the character of the doll becomes, like a whole conversation with themselves, how they're crafting it. There's also a reflection of who they are and who they hope to be.

Tana referred to the materials and the skills being another teacher in terms of letting the student find their own way to work with crafts, with minimal teacher instruction.

> I think the identity of the child grows in a very healthy way through handwork in those first few years, you're kind of leaving the child alone in their own world. You're guiding them and guarding them without invading their growing identity.

By giving students the space to work with materials students develop a sense of their own power and creative abilities. They learn to see all technology and even social, cultural, and political systems as tools to be controlled by human beings, not the other way around. Within the lecture series *The Child's Changing Consciousness* (1996a) Steiner stated that if individuals' have the capacity to think logically and problem solve, if they have empathy for others and are moved to help when they see a need, if they have the practical skills to be self-reliant and understand the basic mechanics of our technology, we have the makings of a free human being. Examples from participants show how positive relationships between *Mana Whānau* (connecting to others), *Mana Tangatarua* (diverse knowledge and skill-set), *Mana Ūkaipō* (belonging) and *Mana Motuhake* (positive self-concept and embedded achievement), result in the overall development of a student's mana (Webber, 2024). They explained how experiential and meaningful mahi supports wider academic and social outcomes and becomes mana enhancing.

Resilience and Self-Esteem

"It was important for me that they were proud of the work they had done." Jutta explained the need for teachers to monitor the child's progress and make sure they were doing the task in the right way, so the object was well made. If mistakes were made, or it was wrong, the child would need to redo it. To do this require an inner fortitude and persistence - another example needing to build Mana Tū in order for the child to feel a sense of Mana Motuhake - positive self-concept (Webber, 2024). "If you just let them do whatever they want and it is not nice, they are so disappointed when they compare it with other children. It was important for me, that they would have a positive connection with their work." Jutta reflected on students

finishing their work and what the impacts were to the child's self-esteem " ... beyond the skills, you know, just the joy when they have finished, is something so beautiful to witness." She observed a developing " ... joy, self-esteem and pride."

Tana saw that " ... a simple knitting project, it's a way of enjoying little successes that come together to accumulate to a whole new experience." This echoes Eastwood's (2020) assertion that belonging is nurtured when individuals engage within a group setting in meaningful, purposeful work. The effort and focus of the handwork lesson goes beyond just learning a skill or creating an object but creates a shared narrative where all members of the group have faced challenges, and felt success. In this way, the crafting process reflected the notion of whanaungatanga that Bishop et al discuss (2014). The 'us-ness' grew from groups sharing in these moments of vulnerability, and joy.

Jutta discussed how positive self-esteem and Mana Motuhake is developed in the handwork lesson.

> ... hand orientated things, like gardening, like woodwork, like handwork, can play such a big role in regards to their self-esteem, and create a balance to the academic learning, which they may not be so good at, but they are working with their hands so it creates a completely different person, doesn't it? When there is this balance between those two, their self-esteem and confidence can be boosted through to things. With academic learning, when they can't do it, it just goes down.

Creating as many varied opportunities for a child to shine and find their strength is an important part of a child's education. Participants have shown that building self-esteem and self-worth takes place in different ways for different children.

Children come to see that they can be successful by finishing what they start. Michelle said, "I think we are coming with a lot of diversification of children, challenging children with dexterity and like, I [teach] an autistic child, and so I have to think, well how can I engage them?" She developed projects to suit his needs and temperament.

> He has headphones for noise…we can up with the idea that he would knit a bag. He would knit a bag, so he didn't make the recorder bag like the others, but he made a bag to put his earphones, and he was so chuffed by the end of it his little face just beamed.

Another student struggled to stay focused, so she engaged him through curiosity.

> ...it was a punch for making labels and I was making labels for work and stuff. He was like, what's that? And I said knit three rows and I'll show you…knit another three rows and you get to make labels for the rest of the class…So I think yes, there's a bit of bribery and corruption there…but sometimes they need a bit of that. Not often…but sometimes we do need to find little ways of buying in, especially for those who struggle.

Tana talked about the importance of finding the right level of challenge to keep students engaged

> ... how do you bring the element of challenge just enough? If you as the teacher are the person guiding the process, if you know deeply the value of going through the threshold and engaging despite the challenge. If you know how important that is, I think the student knows too.

She reflected on a broader level "I see more and more one of the cornerstones to learning is to know where to challenge, where is the gateway challenge?" She reflected on the long term impacts of feeling connected and belonging "I think that the whole thing of feeling belonging, feeling connected, feeling capable, makes a big difference to how the learner takes all other aspects on."

Therapeutic Aspects

Both Jutta and Tana talk about the therapeutic aspects of handwork. Jutta talked about how her professional life as a therapist influenced her style of teaching.

> I taught for maybe two years [after her kindergarten teaching career], all the classes but it wasn't enough for me. I missed doing therapy and when I worked with students … I was much more used to the therapeutic realm, but I also enjoyed handwork itself, you know and being with the children too. And so, I started the extra lesson training because that gave me therapeutic work with children…and I had the class of teaching handwork.

Tana noticed that the outcomes and behaviours exhibited in a handwork lesson and the project itself were useful formative assessment tools from a therapeutic perspective "I was fronting the care group [learning support team]...Being the handwork teacher was a wonderful way to keep in touch with the well-being of the student, their approach to life, their kind of learning capacity." An example of this was when;

> ... two students in particular … had ongoing difficulties in their social integration … and somehow this drama of the project, they had to learn technique, they had to redo until they got it right. So I don't know if it was that breaking through that challenge or if it was other things, but I felt like the reason they didn't connect and find belonging with their social group was the same reason they couldn't just let go and enter challenge … by helping them, by facilitating that 'going through challenge' I think it helped this other thing too.

She mentioned the link between physical movement, social interactions and the child's capacity to form judgments.

> Two students come to mind…who were struggling and the first thing you hear is they're a problem for the teacher because they won't sit still and they are hurting other people…there's a disturbance in their movement, sense of movement, that's the judgment form.

She observed embodied learning theory (Borghi & Caruana, 2015) in action, described in the following words " ... the storytelling around what the threads are doing. Then they find the stitches and they start with the stitches, then somehow, they learn. They discover a different part of themselves through the hand-working."

Tana discussed the impact on those students with mental health struggles, and how experiential learning occurred through the transference of social and environmental knowledge resulting in an emotional and spiritual transformation in these children "There were children who had a very serious problem with depression [and] gender identity, there was some really heavy stuff going on for some of those students. And during the week that we were working together on this Quakers chair, there was a sense of just being able to let that go, let those burdens go." By the end of that week she found the students '...went back to being themselves, away from all the heady stuff, all their worries…I'm not sure why, working from scratch and making those chairs, what it was quite about the whole experience of the atmosphere, but it was transformative." She also said of the experience "I saw the teenagers do really well, they just looked healthier in the end…I guess it's the activities, the crafting itself, taking materials from your own land. The land you live on, work on, walk on and play on."

Tana reflected on the physical experiences involved in handwork and how the rhythm of the lesson and the activities affected the learners "Physically you feel your whole body's there,

and it's challenging then relaxing, challenging, then relaxing, challenging them, relaxing, physically. That kind of activity over a week…I saw the teenagers do well, their well-being, they just looked healthier at the end." She went on to reflect further "What does that say? I guess it's the activities the crafting itself taking the materials from your own land, the land you live [and] work and walk on and play on. It just seemed to be really good." Michelle talked about the rhythm becoming routine when going from "chaos then back into order." She explained it as follows "I think it [the learning environment] needs to be inspirational, tidy, and sometimes chaotic, because you know, we've got a lot going on, but that's okay, but then it kind of goes from chaos then back to order" Jutta reflected on how craft " ... probably is deeply connected helping with health, to belong, to have that feeling of belonging, whether it's emotional health or whether its physical health."

Linda talked about the potential benefits to the wider population of Aotearoa

> I think everyone would become better Te Tiriti partners potentially if they wanted to be, so what would you call that, a more harmonious infrastructure. Yeah, I think it's [raranga] really healing. We had to teach some recovery addicts that are from the Salvation Army, and they loved it.

She reflects further

> I think you know, metaphorically, you can see how weaving, working with tikanga, looking after plants, and seeing the role, the place raranga had in our early societies, in our kāinga and translating that into our modern space. These values, these experiences, the mahi, caring for everything, working together; that's going to create a better social future for New Zealand.

Chapter 5: Limitations, Conclusion and Future Avenues for Research

Limitations

As Smith (2012) acknowledges, there are limitations to applying decolonising methodologies. The pool of handwork teachers who teach in New Zealand is small (as of this writing there are less than 15 who are actively teaching at the moment). I had access to small number of people who had both the level of expertise required and the time to participate within this research. There are many more active raranga tohunga in New Zealand. However, although invitations were sent widely, recruitment was constrained by limited practitioner availability and my timing. The two participants who did respond did so either because I had participated in one of their workshops and they knew of me, or I met them through a Māori colleague at work. Due to the academic timelines, I could only build relationships within a period of a few hours. While we established mutual trust during conversations before the interview, there was only so much time I could spend with the participant. Which was far from ideal in terms of kaupapa Māori research.

This study did not include learners' perspectives. While the teachers had their own observations and qualitative (observations) and quantitative (their own systems of assessment) evidence to support their views, the perspective of the student was missing. Further to that, the narrative of many teachers was that they saw handwork affecting the academic achievement and well-being of the child, although specifics in terms of the academic results, what year level and the other context of the children being discussed was absent due to limitations in time and what the focus of this thesis was. The longitudinal effects of handcraft education were discussed but there was limited qualitative evidence to unpack how it affected individuals into adulthood.

Although the raranga practitioners involved have taught primary-aged children, the year levels of one-eight was not their exclusive specialty. While I found theirs to be important perspectives there was a gap in terms of the perspective of Māori teachers who have expertise as educators of primary aged children. These participants had expertise in the practice of raranga and working with all age groups.

Avenues for Future Research

There are a wide range of avenues for future research which could involve qualitative and quantitative studies. To build on the findings within this thesis I propose a focussed, multi-strand research agenda that combines robust quantitative designs with rich qualitative and indigenous-led research methods. The suggestions below would contribute to the growing body of peer reviewed research which could help inform future policy development, curriculum reform and pedagogical practices in relation to crafts place in a child's education. Researching interventions related to specific craft skills and their effects on particular curriculum areas is suggested. While all participants observed the impacts of craft education on their students, long term studies with multiple participants in targeted areas is needed to provide more sound evidence. While narratives are useful data points, and certainly provide evidence that supports the positive impacts of craft education, it is a starting point and requires further study into points raised by participants. Some specific future avenues of research that have arisen from this thesis are as follows.

- Undertaking longitudinal studies on craft education impacts by examining well-being, academic outcomes, and identity, which follows cohorts of individuals from primary age through secondary education and into early adulthood.
- Controlled interventions that link specific handcraft skills to curriculum outcomes, such as reading knitting patterns to algebraic thinking, weaving to geometry, or cross stitch to fractions.
- Conducting studies which compare the impacts between students who engage in environmental stewardship by harvesting and working with natural, local materials, to a control group who use materials already processed.
- Further studies in the area of neurology and physiology that look deeper into brain development when using specific craft skills as interventions.
- Studies into the social effects of crafts to measure whanaungatanga, reciprocity, community participation, and mana enhancement within group projects.

One of the major avenues of future research is an economic one, looking at the cost-effectiveness and the feasibility of bring craft education at scale in state funded education. This would require looking at the cost of resources and teacher training needs. Further to that, looking at curriculum development in terms of creating easy and efficient way to incorporate

learning experiences that are holistic and incorporate crafts with other STEAM learning areas.

Conclusions

This research set out to explore how two distinct but resonant craft traditions, Steiner handwork and mahi raranga, connect children to culture and place, and whether this impacts their sense of belonging. Participants provided evidence that showed how craft is not a 'nice - to-have' curricular add-on, nor is it solely about teaching manual skills; it is a way to transmit knowledge, enact culture and shapes the learners' identity. Within the contexts studied, making enables embodied narrative, where materials, ritual and technique interweave to situate the child within histories, communities and natural environments. Practical work, such as harvesting, processing and shaping the materials emerged repeatedly as a pedagogy of relationship – to land, to tupuna, to others – and through this relationship, belonging is seeded and sustained.

Six themes emerged during the data analysis process which became the central tenants to this thesis. *First*; craft lessons were a vehicle for connection, allowing students to build direct relationships to the whenua and community while learning about the world around them. Materiality became a teacher, and through craft, connections formed between the child, the physical world, their social relationships and their spiritual nature. *Second*; tikanga and ritual focused attention and established shared social norms. Through karakia, finger-games, movement exercises, and behaviour expectations the learning environment was shaped to support collaborative learning and individual focus. *Third*; working with materials connected to the child's physical location fostered kaitiakitanga and ecological stewardship which naturally arose when children participated in the life cycle of their natural resources. *Forth*; sustained practice with tools, skills and materials developed the Will, which was seen in the capacity for students to remain focused, and their dedication to see a task through to completion. This Will development impacted other domains of learning. *Fifth*; aesthetic judgment and pride developed as students created useful, beautiful items. The functionality and care that goes into making an item drove internal motivation. *Lastly*; the impact of crafting could be seen by children developing resilience and building reciprocal relationships. Craft also helped to inform the development of identify and provided students with practical skills and techniques that became therapeutic outlets.

These six tenants' do not operate in isolation. Instead they adhere to a system of pedagogy that aligns with the theoretic frameworks used. Experiential learning was seen in the cycle of doing, observing, and reflecting during the craft making process. Embodied cognition illuminated how sensorimotor engagement with materials grounded cognition and aesthetic judgment. Kolb's Cultural-Historical Activity Theory, mapped out how cultural norms and collaborative projects can be observed through the seven staged experiential cycle. The Mana Model provided an indigenous cultural model from which to view the process of craft making, and the fundamental elements of human development that need to be nurtured to enhance positive well-being and academic achievement.

Implications of craft education extended beyond the craft room. Participants spoke repeatedly about how the learnings within the craft lesson had broader educational outcomes, such as; improved concentration, manual dexterity, improved resilience, self-esteem, capacity for group work, a readiness for learning and an empathy for their community and environment. In the accounts shared by participants the act of making became another way for the teacher to understand and get to know their student. Teachers made formative, informal assessments in terms of dexterity, and readiness for learning which informed pedagogical adjustments that could be made during the craft lesson, impacting other subject areas. These observations suggested that hands-on, culturally grounded craft work was a form of holistic learning, which included the education of the spiritual, intellectual and social life, in a way that a purely test-driven approaches cannot.

In an age where youth mental health challenges are on the rise (UNCEF, 2025) and the number meaningful face to face interactions are declining, providing students with holistic, and collaborative learning experiences which nurture belonging to people, place and purpose is an educational imperative. While craft education may not be the only way to do this, it is a practical way to facilitate connection. It develops the 21st century skills, such as problem solving, environmental stewardship, resilience and co-operation, paving the way for students to move into a unknown future and have the skills to be a make meaningful change. By providing students with a culturally rich and deeply practical education, they are given a context from which to develop their own identity and build on the world their ancestors have created. This connection to traditional practices, and cultural knowledge helped students and participants feel a sense of pride in themselves, not only through their achievements but also through whakapapa. Nurturing the development of individuals with a focus on contributing to society in a way that enhances the well-being of others was found to be a desired learning

outcome for participants. By finding purpose through meaningful work both independently and as a group, students were able to develop their own sense of positive self-concept within the context of their community.

This work is an invitation to re-imagine a curriculum embedded in the material, and physical reality of becoming a human being, while maintaining the delivery of a rigorous academic and knowledge rich education. If schools could adopt the philosophy that *to make is to know and to be*, they could nurture children who grow into caring, resilient, thoughtful and innovative citizens. The holistic education described by participants and supported by literature can be accessible to all children in Aotearoa New Zealand. It would take a shift in collective values - from the neo-liberalism and individualism, to working within holistic and indigenous frameworks. Society can reach new heights of innovation and collective well-being when everyone has a mana enhancing education in which our children's unique capacities are celebrated, they are guided to find their purpose, and are supported to find their way to meaningfully contribute to the overall well-being of their communities. Craft is not a historic relic, and while it can be a quaint pastime, participants have shown that it is a powerful educational vehicle that empowers children to innovate and understand what it means to be human.

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Appendix 1: Ethics Approval

1 October 2024

Neil Boland

Faculty of Culture and Society

Dear Neil

Re Ethics Application:**23/347 Building connection to culture and place: Steiner handcrafts, wānanga rāranga (weaving) and belonging.**

Thank you for your responses to AUTEC's conditions.

Your ethics application has been approved for three years until 1 October 2027.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality

obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact ethics@aut.ac.nz

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat

Auckland University of Technology Ethics Committee

Cc: silvercapcrafts@gmail.com

Appendix 2: Indicative Questions

While the conversation will be a collaborative experience between myself (the researcher) and the participant the following are indicative questions which will be discussed during our interview.

Steiner Handwork Teachers

- Tell me about how you came to be a Steiner handwork teacher (and Steiner teacher in general) (What is your experience in this field, how were you taught, who taught you)

- How does your personal craft/art practice connect to your cultural/familial background?

- Where does your understanding of the child development come from?

- Can you talk about the projects, lesson content or materials given to the child at a particular age? – a general picture of child development and how particular projects or materials meet the child.

- Can you talk about the importance of aesthetics and function within the creation of an artifact? Is it worthy to pursue both? How do you see this meeting point affect the learner?

- Could you describe the ideal learning environment for craftwork to take place (physically, spiritually, socially)

- What do you see is the role of the natural world within craft and the learning context?

- How does working with natural materials differ in experience to synthetic ones – in regards to the experience of the maker?

- Does it make a difference if a student is involved in the whole process of creating an artifact (from harvesting the raw material to completion of the object)?

- In what ways have you engaged students in learning experiences where they can work with a raw, natural materials?

- Do you have any examples of how a student responded to the kind of learning experience you described?

- Do you have any stories about particular individuals who have been impacted by learning handwork?

- Traditionally, who was it that participated in craft work. And has that group of people changed?

- Can you talk about the tikanga or cultural practices that occur within the learning environment (verses spoken, singing, story telling, rituals associated in the lessons).

- Do you feel you could remove the tikanga or ritual from the practice - would have the same value for the maker?

- Do you notice any positive benefits to your students who master a craft – beyond gaining a skill?

- What impacts do you see craft having on your community?

- What kind of learning occurs when you are teaching your crafts (social, academic, physical)?

- How would you define belonging?

- Could you describe if you have seen handwork projects and the handwork learning context impact a student's sense of belonging?

- What is the state of your handwork in the current educational, cultural landscape? Do you see a place for in the modern child's education?

- What value do you see in continuing to keep traditional craft practices alive?

- Do you have any suggestions in regards to the future of handwork education?

- Do you see the kind of educational experience of handwork lessons impacting the social and economic future of New Zealand? How?

Tohunga Raranga – Weaving Teachers

- Can you tell me how were you taught, who taught you, how does this lived experience affect you as a raranga practitioner?

- Are you able to give me a historical picture, or cultural narrative related to your craft (e.g, where is its origins, is there a myth associated with its beginnings, how has it been viewed in the past).

- Can you talk about the importance of aesthetics and function within the creation of an artifact? Is it worthy to pursue both? How do you see this meeting point affect the learner?

- Could you describe the ideal learning environment for your craftwork to take place (physically, spiritually, socially)

- What is the role of the natural world within your craft and the learning context?

- How does working with natural materials differ in experience to synthetic ones?

- Does it make a difference if a student is involved in the whole process of creating an artifact (from harvesting the raw material to completion of the object)?

- When you are teaching someone, what ways do you engage the student in learning experiences where they can work with a raw, natural materials?

- Do you have any examples of how a student responded to the kind of learning experience you described?

- Traditionally, who was it that participated in this craft work (age, gender, ect). And has that group of people changed?

- What does a student learn while the engaging in raranga (what kinds of technical skills, social skills, movement, cultural knowledge ect)?

- Can you talk about the tikanga or cultural practices that occur within the learning environment (karakia, keeping food and work separate, timing of craftwork)

- You mentioned there being different purposes, or levels of raranga. Like simple woven shoes compared to $500 kete. Could you discuss the difference between creating something for a utilitarian purpose, and an artistic reason?

- Do you feel you could remove the tikanga from the practice - would have the same value for the maker?

- What cultural impacts do you see raranga having on your community?

- What kind of learning occurs when you are weaving with a group of beginners (social, academic, physical)?

- Do you have any stories about particular individuals who have been impacted by learning this craft?

- You have mentioned raranga has been healing for you, are you able to describe this in more detail (please only share what you are comfortable doing so)

- Can you describe how a sense of belonging is nurtured through mahi toi, or craft practices?

- What is the state of raranga in the current educational, cultural landscape? Do you see a place for in the modern child's education?

- What value do you see in continuing to keep traditional craft practices alive?

- Do you have any suggestions in regard to the future of craft education, whether in kura, on marae or in the home?

- Do you see the educational experience of weaving impacting the social and economic future of New Zealand? How?

Appendix 3: Te Reo Māori Glossary

Definitions of the following were informed by Mead (2003), Smith (1999, 2012), Durie (1998), Royal (2009), and Puketapu-Hetet (2004). While meanings can differ between iwi, the ones below are generally assumed to be accurate.

Term	Definition
Atua	Māori deities and ancestral beings that embody natural elements, relationships, and spiritual dimensions of the world.
Kāinga	Place of living and belonging; a site of whānau connection, identity, and relationship to whenua.
Kairaranga	A weaver; one who holds and practises knowledge of raranga, including cultural, spiritual, and genealogical dimensions. A position of mana and respect.
Kaitiakitanga	A principle of guardianship and reciprocal responsibility for the care and protection of people, whenua, and taonga.
Kākaho	The flowering stalk of harakeke or toetoe, traditionally used in weaving and construction.
Karakia	Ritual incantations or prayers that acknowledge atua, set intentions, and maintain balance between spiritual and physical realms.
Kaupapa	A foundational principle or collective purpose that guides thought, action, and practice.
Kete	A woven basket; also a metaphor for repositories of knowledge and learning.
Kete waikawa	A kete woven using dyed or treated muka, often reflecting innovation and adaptation within tradition.

Term	Definition
Kete whakairo	A kete featuring decorative or patterned weaving, expressing identity, narrative, and aesthetic values.
Kete wiri	A finely woven kete incorporating twisting techniques that require high skill and precision.
Korowai	A prestigious woven cloak adorned with hukahuka or feathers, signifying mana, protection, and whakapapa.
Maanakitanga	The practice of care, generosity, and hospitality that upholds the mana of others and the collective.
Mahi	Work or activity undertaken with intention and responsibility.
Mahi raranga	The practice of weaving, encompassing technical skill, tikanga, and cultural transmission.
Mahi tā moko	The practice of tā moko as a culturally embedded art form expressing identity and whakapapa. Skin art, or tattoos that are grounded in cultural knowledge systems.
Mahi toi	Creative and artistic practice grounded in Māori knowledge systems.
Mana wairua	Spiritual authority and wellbeing that arises from alignment with tikanga, whakapapa, and atua.
Mana whenua	Authority and responsibility derived from ancestral connection to land.
Mātauranga	Māori systems of knowledge, understanding, and wisdom developed over generations.
Matariki	The Māori New Year marked by the rising of the Matariki star cluster, associated with renewal and reflection.
Muka	Fibre extracted from harakeke used in high-quality weaving.
Noa	A state of neutrality or the profane, often following the removal of tapu.
Pa harakeke	A cultivated harakeke plantation cared for according to tikanga.

Term	Definition
Para	Waste material, off cuts or rubbish.
Pēpē	An infant; symbolising beginnings, care, and continuity.
Pīngao	A native sand plant used in traditional weaving, valued for its golden colour.
Pūrākau	Traditional narratives that transmit knowledge, values, and worldviews.
Putiputi	Flowers; often symbolising growth, renewal, and beauty.
Rā	The day or the sun; a source of life and temporal rhythm.
Rarohenga	The spiritual realm associated with ancestors and atua.
Rourou	A woven food basket; metaphorically representing shared contribution.
Taonga	Treasured objects, practices, or knowledge imbued with cultural significance.
Tā moko	Traditional Māori tattooing practice representing identity and lineage.
Tāniko	A complex finger-weaving technique used as decorative borders in weaving.
Tapu	A state of sacredness or restriction that protects people, knowledge, and spaces.
Tauira	A learner or apprentice within a reciprocal teaching relationship.
Te taio	The natural environment and interconnected living world.
Tikanga	Customary practices and ethical frameworks that guide behaviour.
Tī kōuka	Cabbage tree; a valued plant for weaving, food, and symbolism.
Toitoi	A native grass (*Cortaderia fulvida)* whose stalk is used for kits and tukutuku panels.
Tuakana teina	A relational model of learning between senior and junior members of the group. A non-hierarchical learning model.

Term	Definition
Tupuna	Ancestors who continue to influence the present through whakapapa.
Tūrangawaewae	A place where one has the right to stand and belong.
Wahakura	A woven flax bassinet for infants, grounded in tikanga of care and protection.
Waiata	Song or chant that carries history, emotion, and knowledge.
Wānanga raranga	A learning gathering focused on weaving practice and knowledge exchange.
Whakapapa	Genealogical connections linking people, land, and atua.
Whakatauki	Proverbial sayings that encapsulate collective wisdom.
Whānau	Extended family networks formed through whakapapa and shared responsibility.
Whanaungatanga	The process of building and maintaining meaningful relationships.
Whare wananga	A place of higher learning and knowledge transmission.
Whāriki	A woven mat used for ceremonial and everyday purposes.
Whatu	A finger-weaving technique foundational to cloak making.
Whenua	Land; also the placenta, symbolising the deep connection between people and place.

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