

Ko Mohio Tenei Kia Koe | What You Think
Ko Mohio Tenei Ana Tatou | What We Know

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What you think, What we know

*Culturally inclusive narratives for
student engagement in NZ*

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Abstract

The design disciplines are increasingly struggling to address the systemic ecological, social and cultural issues affecting our global community, a call for alternative approaches to how designers shape interactions with the world. This design research builds on theory emerging from across the disciplines which argues that design, regarded as an “ontological instrument that is able to transform the social and cultural reality” (Tlostanova, 2017) which determines how we perceive and interpret the world, is in a state of “defuturing” (Fry, 1999), restricted by the coloniality of a north/western modernity to perceive and interpret the world within certain legitimized principles. What is needed and what this design research proposes is to start exploring ways in which design, grounded in indigenous principles and sensibilities might begin to create multiple realities and options outside of a context of modernity/coloniality for how we might be in the world.

Primary research is undertaken in one part as a case study which seeks to explore curriculum around identity development in Aotearoa New Zealand, appropriating research methods which align with Māori epistemology, focused around collective participatory actions and relational understandings of being, grounded in matakā, tikanga and kaupapa Māori. The intent of this research is to investigate potential opportunities for resources and supports that facilitate better pathways for learning and identity development with Māori students in New Zealand public schools at grades 5–6. Research is executed using a cultural design probe which, through a variety of activities, guides students to identify learning and future growth aspirations, support networks and identity markers. These activities include Make-a-Robot, which asks students to design a robot, assigning it personality and traits as well as physical and mental abilities, and allow insights to be drawn on students’ needs and aspirations. Cultural probes are useful here as they “offer a less obtrusive way of gathering information” (Celikoglu, Ogut and Krippendorff, 2017) and align with Māori principles and protocols. These principles and protocols begin with whakapapa, which recognizes the interconnected and relational nature of oneself within a larger social/environmental/spiritual network.

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I would also like to thank my colleagues for their encouragement and input into this thesis, and the vital support they provided when the process became difficult, without which this thesis would not have seen the light of day.

Lastly, I would to thank my family, friends and others who have supported me on this journey.

Ngā Mihi,
Jordache Mackenzie

Mihi

Opening Words

Ka tangi te titi

The titi calls

Ka tangi te kaka

The kaka calls

Ka tangi hoki ko au

Now I will also call

Karanga mai, karanga mai

Call to me, call to me

No Aotearoa ahau, ko Jordache toku ingoa

I am from New Zealand, Jordache is my name

He marumaru au mai I nga iwi e rua, ko Muaupoko, ko Ngati Raukawa

I am a small chip from two Māori tribes, Muaupoko and Ngati Raukawa

Kei ahau hoki he taha Pākehā

I also have a Pakeha side

No reira, aku Rangatira, kei te harikoa ana ahau n ate mea kua tae mai

And so you noble people I wish to say I am very pleased to be here

Tena koutou, tena koutou, tena koutou katoa

Greetings, greetings, greetings to you all

Preface

This story starts before my arrival on these distant shores in the North Pacific, it starts with a farewell. A few days before my flight was due to leave from Auckland, New Zealand, my mother and I made a trip down to te upoko o te ika a maui where my extended family and grandparents live, which translates to the head of the fish of Maui or, the Lower North Island. I spent time saying farewells to my family, all eager to give me advice and ask questions, curious about this strange adventure I was taking. It was on one of these days, sitting in the living room of my grandparents' house, enjoying the warm Wairarapa air, eating coleslaw and chicken buns that have been a staple of the many school holidays and summers spent with my grandparents and cousins, that this story takes place. My grandfather walks into the living room brandishing a yellow folder in my direction, "here you go moko, come and take a look at this". He lays the folder on the table and opens it, inside is a single sheet of paper, stapled to thick card paper for extra support. It has a mihi written on it, carefully typed out for me with the English translation alongside, "what is this for?" I ask, my grandfather replies "this is your mihi, you'll know when to use it". I gratefully accept his gift, aware of the great value of the object and significance of this exchange, trying not to look confused as I wonder when I might possibly need to use this, trusting that this was some wisdom that I would come to understand in time.

Receiving this parting gift from my grandfather was fundamental to shaping my perspectives throughout this degree, inspiring much in this research, and reinforcing my connection to home while studying far away beyond the Pacific. He has spent considerable time and effort into maintaining Māori culture through us, his descendants, by taking us through Māori language lessons, teaching us the proper ways of participating in customary Māori practices on the Marae (gathering place) and not being afraid to give us a clip around the ears.

Contents

Abstract	4
Keywords	5
Acknowledgments	6
Mihi <i>Opening Words</i>	7
Preface	8
Contents	9
Lexicon	10
1.0 Te Wero <i>The Challenge</i>	11
1.1 The learning landscape of Aotearoa <i>New Zealand</i>	
1.2 Place-based, contextual inquiry	
1.3 Building a narrative of here	
1.4 Generating options for sustainable futures	
1.5 Research Questions	
1.6 Theoretical Framework	
1.7 Scope + Limitations	
3.2 Ethics in participatory design research	
2.0 Te Ara o te Rangahau <i>The Path the Research Has Taken</i>	18
3.0 I Waenga I nga Kohatu <i>In Between the Stones</i>	20
3.1 Research Approach	
3.3 Starting from the Roots	
3.4 In the Studio: Whakapapa	
3.5 Seeing the Island: A Lense for Research	
3.6 Marking Boundaries/ Crossing Thresholds	
3.7 In the Studio: Demarcation of Space	
4.0 In Action at Tongariro School	28
4.1 Familiar Places, Familiar Faces	
4.2 What is Action Research?	
4.3 Why use a Case Study Approach?	
4.4 Designing the Probe	
4.5 The Importance of Play	
4.6 Inside the Probe	
5.0 I Haere ai Matou <i>Where We Landed</i>	34
5.1 Practice-led outcomes	
5.2 Make-a-Robot Cultural Probe Responses	
6.0 Nga Kemu mo te Korero <i>Games for inclusive Conversations</i>	37
6.1 Play: Setting out the Board	
6.2 Symbols: Drawing out the Tacit	
6.2 Emergent, Reflective Practice	
6.3 Annotations as Recursive Reflection	
6.4 Board Games: Decolonizing Tools for Organizing Conversations	
7.0 Conclusions	42
8.0 Bibliography	44
8.1 References	
8.2 List of Figures	
8.3 Appendix	

Lexicon

Aotearoa

noun / ,ɑːəʊtiːəˈreʊə /

Land of the Long White Cloud / New Zealand

Coloniality

The imperial/colonial organization of societies.

"Conceptually, coloniality is the hidden side of modernity i.e. coloniality is constitutive of modernity, and that there is no modernity without coloniality" (Tlostanova, Mignolo, 2009)

Defuturing

Activities, processes and products which reduce, rather than enhance, the possibility of a future which can be sustained.

Education

A formal process in which the knowledge, principles and values that are important to a society are transferred from one generation to the next

Kaitiakitanga

noun

guardianship, stewardship, trusteeship, trustee

Kaupapa

A set of principles and ideas that inform behavior and customs.

Mātauranga

Māori knowledge tradition or epistemology, closely aligned to pre-European contact that encompasses traditional concepts of knowledge and knowing.

Tikanga

The customary system of values, practices and beliefs that have developed over time and are deeply embedded in the social context and derived from whakapapa

Tongariro

noun

"Belly of the fish that Maui caught"

Tongariro is one of three mountains in the Central Plateau of the North Island of New Zealand.

Whakapapa

noun / 'hwækəpæpə , 'fæk- /

"to place in layers", Genealogy. A fundamental principle in Māori culture. A person reciting their whakapapa, places themselves in a wider context, links themselves to land and tribal groupings and the mana of those. Whakapapa is fundamental to identity.

Wero

noun

Challenge.

Whānau

noun

Family.



Te Wero | The Challenge

Fig. 1 River in the Central North Island of New Zealand. Oceans, lakes, rivers, mountains and other natural landmarks are fundamental to our identity as Māori.

Te Wero

The Challenge

This section provides contextual framing for conclusions suggested by the research process. Recent NZ public school statistical data is discussed with a focus on the achievement of Māori in the NZ public school system in order to establish the clear, nominal opportunities for this type of research to take place at this point in time. This is followed by a discussion of the wider disciplinary discourses which support this research as it seeks out moments where spaces might be created which allow for a more diverse range of perspectives and world-views to be drawn into the conversation, and multiple options to be presented.

The learning landscape of Aotearoa

There have been numerous initiatives undertaken in New Zealand over the years which attempt to address disparities in educational achievement and participation for indigenous Māori students in the public-school system which, although see some progress in improving achievement for Māori and Pacific students, are still far below parity with non-Māori (Office of the Auditor-General, 2016) (see Side note I for Indicators of Inequality for Māori and Pacific People in New Zealand).

More recently, there have been a number of government led initiatives aimed at improving Māori achievement in the public-school system, these have identified a need for greater cultural visibility for Māori in mainstream public schools in New Zealand (Ministry of Education, 2017) and attribute this as a key contributing factor to Māori students achieving success not only on standardized testing but also 'Māori enjoying educational success as Māori', a statement created as part of the most current government initiative "Ka Hikitia: Achieving Success" (2016) to act as a collective vision and recognition of a need for a more holistic educational framework:

The vision of Ka Hikitia – Accelerating Success 2013–2017 is 'Māori enjoying and achieving education success as Māori'.

This vision means ensuring that all Māori students, their parents and their whānau participate in and contribute to an engaging and enjoyable educational journey that recognizes and celebrates their unique identity, language and culture. This journey will support Māori students to achieve the skills, knowledge and qualifications they need to achieve success in te ao Māori, New Zealand and in the wider world. (Ministry of Education, 2016)

Side note I. Indicators of Inequality for Maori and Pacific People in New Zealand. In a 2016 report by the Office of the Auditor-General, "The percentage of 18-year olds who achieved a minimum of NCEA Level 2 or equivalent has increased from 79% in 2011 to 86% in 2014 for NZ European students, compared with an increase from 57% in 2011 to 68% in 2014 for Maori students" (Ministry of Education, 2015). The distribution of Maori students by school decile (indicator of socio-economic position) reports that Maori student populations are heavily concentrated in low-decile schools compared to the overall student population. Of the population, 14% of Maori students are in a decile 1 school with 5% attending a decile 10 school, in contrast, the general population shows an inverse distribution with 6.5% of total students attending a decile 1 school, and 16% attending a decile 10 school.

These reports underscore the complex political, social and economic conditions that perpetuate the insufficiency of the public education system in New Zealand in providing for Māori students. One of the recommendations provided by the 'Report on Indicators of Inequality' (2016) was that "the education sector should give more priority to promoting 'success as Māori'. It should also include better incentives for schools to work together and share practices that help Māori students to succeed." (Office of the Auditor General, 2016). What the recommendations provided by this report indicate is that there are an abundance of opportunities for action to address aspects of this complex, multifaceted topic.

Place-based, contextual inquiry

Research conducted for this thesis in the form of a cultural probe was undertaken at Tongariro School in Turangi, New Zealand. This community was selected primarily because of the fiduciary relationship between myself, the researcher, and the school community, having been educated and worked there prior to commencing this thesis. It attempts to provide an opportunity for participants to identify and reflect on their own values and social systems, and express themselves authentically within a design research process.

As Māori, our experience of research has been dominated by being the 'object' that is studied and theorized about. Our lives, our whānau, our culture, our language, our entire being has been theorized by Pākehā academics and researchers over the past 200 years. Our world has been theorized through paradigms that bear no resemblance to the ways in which we would explain and understand ourselves. (Pihama, 2015)

This thesis suggests that in order to have meaningful impact, design can and should be aware of its own role in perpetuating inequalities, especially when working with historically marginalized communities, and work to change itself. This should not lead designers to avoid these communities, as they are often the ones whose needs are not being met, rather it requires care and attention to the protocols, world-views and wellbeing of the people in these communities. This thesis explores how tools and actions might support this sort of design research.

Building a narrative of here

There is a need for more and better design research methodologies and frameworks which are created with the specific including commonly excluded groups in the design research process.

This thesis suggests that by collecting and situating research in local contexts, design will be better able to serve a wider variety of communities, for example, this thesis does this by using cultural probes designed specifically for the participant group, designed around their context, values and world-view, as opposed to designing around the desires of the researcher. Another study done as part of this research involved designing board games intended to be used in a design research process with inclusivity in mind. This is done in order to facilitate conversations about concerns raised by people who may have varying degrees of familiarity or engagement with a topic, or with a design research process and who may have been excluded from a formal design process due to perceived lack of knowledge, understanding, value.

What the research activities undertaken in this thesis intend is to create methods that lower the barriers to participation in a design research process, especially for communities who have traditionally been excluded from or the subject of research, rather than an active participant with equal input and purpose. The benefits to the design disciplines as well as the communities described, will be mutually advantageous. Design disciplines will be able to generate more accurate, appropriate, situated research narratives grounded in the real, lived experiences of communities, communities who will then benefit from having themselves, their values, their aspirations and needs represented accurately in the design processes.

Ko Tongariro te maunga

Tongariro is the mountain

Ko Taupo te moana

Taupo is the lake

Ko Tuwharetoa te iwi

Tuwharetoa is the tribe

For this research, the first step in situating this research and working in this community meant acknowledging the whakapapa (genealogy) of the primary research context, Tongariro School, a fundamental aspect of identity and culture in Māori epistemology. Discussed in further detail later in this thesis, whakapapa describes social relationships and relationships to the environment which are crucial elements of our identity. The act of reciting whakapapa is integral when introducing oneself or when entering a community, as it allows both parties the opportunity to situate each other in relation to themselves.

Generating options for sustainable futures

I am fortunate enough to be undertaking this research at a time when conversations about the role of design in driving humanity into an unsustainable "defutured" (see Side note 2 for defuturing) state are being had, Tony Fry's writing on defuturing and its alternative "human-futuring", that is, options that increase the lifespan of humanity's continued existence, question design's predominant role as a tool of commercialism, being used to sell yet more products, and along with other works proposes that our actions be redirected toward more ethical practices for social impact.

This is integral to this thesis as it is precisely the exclusion of other ways of knowing and being in the world, outside the "single story" of western colonial history, that has led us to this state, and precisely why we urgently need to create space for other ways of being in the world. As has been suggested by Castellano (2000) indigenous communities around the world have largely lived in sustainable relationships with the planet for millennia before colonization, and may perhaps offer an alternative path from our defutured state of being. For example, Māori did not have a concept of land ownership before colonial British settlers arrived and bought, sectioned and sold off New Zealand, the idea that one could own the land on which we live was foreign to Māori.

This study builds on writing by Mignolo, Fry and Tlostanova who propose that we create (decolonial) options outside Mignolo's "colonial matrix of power" (see Side note 3 for Mignolo's Colonial Matrix of Power), and attempts to understand how that might shape a more ethical, culturally relevant design discourse in New Zealand, amid the complexities of our mixed, bi-cultural nation.

In order to achieve this, research was undertaken in the expectation that it may provide decolonial options outside the colonial matrix from which designers, especially designers working in countries such as New Zealand, with high indigenous communities whose needs are not always being met. It is an important conversation to be having in the design discipline, and echoes sentiments being brought up around decolonizing design. It is timely and crucial more than ever that we are able to get outside input into the way we shape the environment and things that we put into it if we desire a sustainable future.

This study sits within a larger conversation that is emerging, around the colonality of design which suggests that the design disciplines are currently incapable of getting us out of our defutured state, and that there is an urgent need for alternative options.

Side note 2. Defuturing. Fry defines defuturing as "a condition of mind and action that materially erodes (un-measurably) planetary finite time, thus gathering and designating the negation of 'the being of time,' which is equally the taking away of our future" (Fry, 2011).






Side note 3. Mignolo's Colonial Matrix of Power. The colonial matrix of power defines four areas which were created out of 16th century colonization and persist as sites of struggle today; Mignolo defines these areas as follows:

1. The struggle for economic control (i.e the appropriation of land, natural resources and exploitation of labor);
2. The struggle for control of authority (setting up political organizations, different forms of governmental, financial and legal systems, or the installation of military bases, as it happens today);
3. The control of the public sphere - among other ways, through the nuclear family (Christian or bourgeois), and the enforcing of normative sexuality and the naturalization of gender roles in relation to the system of authority and principles regulating economic practices. It is based on sexual normativity and dual "natural" gender relations;
4. The control of knowledge and subjectivity through education and colonizing the existing knowledges, which is the key and fundamental sphere of control that makes domination possible.

This research is situated within Mignolo's fourth area, that is to say it acknowledges that our world-views and fundamental understandings of the world are shaped by the conceptual frameworks and knowledges of modernity/ coloniality.

Decolonization is an approach that has everything to do with how the world as been constructed in a manner that has very specific powers in play, utilizing very specific notions of what modernity and coloniality may mean within a capitalist framework. (Rizvi, 2016)

Research Questions

-  How can we design better learning experiences which promote educational achievement for Māori students in New Zealand public schools?
-  How can indigenous ways of knowing create a more inclusive, holistic learning experience for all students?
-  How can design better serve the needs of those who have been excluded by design?
-  How can design foster learning communities that embrace indigenous ways of knowing?
-  How can we embrace place-based cultural sensitivities into pedagogical approaches to create more inclusive learning environments?

Theoretical Framework

Situating this research between theoretical frameworks used in Māori research practices and more common disciplinary research practice allows for a flexibility in approach and sensitivity in action. A brief introduction of the research frameworks follows, along with a contextual diagram that clarifies the intersectionality of the different research paradigms.

Kaupapa Māori research has been used as both a form of resistance and a methodological strategy, wherein research is conceived, developed, and carried out by Māori, and the end outcome is to benefit Māori. (Walker, 2006)

Kaupapa Māori theory “was first developed by Graham Smith and other Māori academics in Te Aratāia (Māori Education), in the early 1990s (Pihamā, 2001) and aims to “alter the balance within power relationships” (Lee-Morgan, 2016), it is based on six principles (“Kaupapa Māori Research,” n.d):

Tino Rangatiratanga – the self-determination principle
Taonga tuku iho – the cultural aspirations principle
Ako – the culturally preferred pedagogy principle
Kia piki ake i nga raruraru o te kāinga – the socio-economic mediation principle
Whānau – the extended family principle
Kaupapa – the collective philosophy principle

Together with social constructivism, as defined in Creative Research: The Theory and Practice of Research for the Creative Industries by Hilary Collins (2010):

Knowledge is created through interaction with the environment, developed and transmitted primarily within a social context. (Collins, 2010)

The social constructivist theoretical framework based on Collins definition shapes the methods on which I have chosen to act out my research. In Collins (2010) definition, social constructivism is often misinterpreted as/compared to but is different from social constructionism in that the focus is on the individual learning that takes place because of a participant's interactions in a group construction activity, rather than the artifacts that are created.

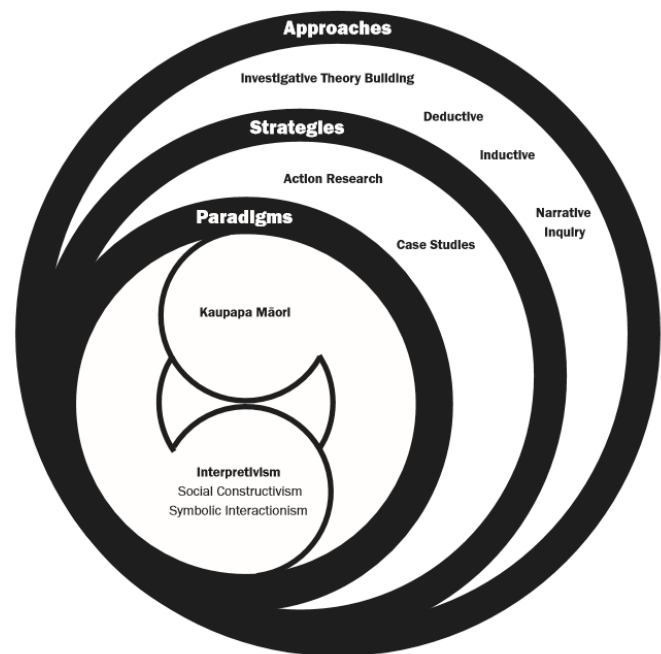


Fig. 2 Theoretical Framework diagram

Te Ara o te Rangahau

The Path the Research Has Taken

The diagram shown in Fig. 3 synthesizes the research path taken through this thesis and portrays the interconnectedness and relationality between the different elements that arose and guided this research.

The Ngutu Kaka (Kaka beak) encasing either side of the diagram, are used to represent ethics and whakapapa, the two fundamental elements of this research process, together they create a rigorous, grounded framework for research.

The Kowhaiwhai at the top of the diagram are customarily used most commonly to represent genealogy and family members, here they are used as the starting point of this research path, a place of familiarity and support.

The red and white stepped pattern of the Poutama is commonly translated to "the growth of man" and is used to represent learning, growth and development, here they are used to denote the ambiguity of the design research process and the opportunities for emergent, generative research to arise when stepping beyond what we are already know.

Finally, the central pillar comprised of chevrons as they are commonly known or Kaokao (armpit) pattern in Māori culture, customarily connected with strength, resilience and training, along with the side beams of the pillar itself, which are common features of customary Māori meeting houses. These are used to show the strength of a reflective research practice, the importance of a wayfinding mindset, and using boundaries and thresholds to create safe, open spaces for conversations to take place. These elements were crucial to successful facilitation of primary research activities in this thesis and are discussed in more detail in the following section. Together they allowed for successful navigation through the often at times ambiguous nature of the research process and ensured participants were given the space and time needed to express themselves comfortably.





Fig. 3 Research Process diagram “Te Ara o te Rangahau”

I Waenga I Nga Kohatu

In Between the Stones

The following section takes a detailed look at the approach taken by this research, exploring the interconnected relationships and connectivity between the different methodological elements. It provides a detailed, intersectional analysis of the primary and secondary research methodologies, a reflective account of the conditions that led to their inclusion in this thesis and proposes how they led to the insights and outcomes suggested by it.

Research Approach

It was important to establish early in the design research process the importance of self-determination of any research participants, and being as inclusive as possible.

An emic approach is one which originates from within a culture, without attempting to act impartially or draw broad conclusions. This approach places value and emphasis on the statements, knowledge and world-views of local people. As described by Kotto (2005):

"An emic approach investigates how local people think. How do they perceive and categorize the world? What are their rules for behavior? What has meaning for them? How do they imagine and explain things?"

The approach taken by this research is primarily emic, with importance placed on the contextual exchange of past, present, external and internal dialogues. Insights gained from these dialogues, while intrinsically situated within the specific context of this research, are potentially translatable to other similar situated indigenous peoples.

This approach is however, specific to the bi-cultural Māori context of this thesis and should be treated as such. There is no expectation that results will be reproducible in contexts other than those in which they arose.

The Designers Role

In attempting to take on socio-cultural design opportunities such as those that have arisen in this research, the designer necessarily must wear a number of different hats. In this research process I have worn the hat of designer, researcher, facilitator, student, observer. The "thing" that ties these different hats together is intent, the designers intentions provide a continuing thread to ground the research when navigating the messy realities of an emergent design research process.

Ethics in participatory design research

As this research primarily involved working with two of society's most vulnerable groups, children and indigenous peoples, it is important that the ethical implications of actions undertaken as part of this research process are supported by guidance and dialogue with advisors.

Consideration of historical Māori experiences of research which, according to (Pihama, 2015), have been "dominated by being the 'object' that is studied and theorized about". It was imperative that this research look to cultural frameworks provided by Kaupapa Māori theory which are able to utilize and validate Māori approaches and practices when necessary (Pihama, 2016).

Smith (1999) describes guiding codes of conduct for Māori researchers:

- + Aroha ki te tangata (a respect for people)
- + Kanohi kitea (the seen face, that is present yourself to people face to face)
- + Titiro, whakarongo... korero (look, listen... speak)
- + Manaaki ki te tangata (share and host people, be generous)
- + Kia tupato (be cautious)
- + Kaua e takahia te mana o te tangata (do not trample over the mana of people)
- + Kia mahaki (don't flaunt your knowledge)

These codes describe fundamental guidance for researchers wishing to work with, not just Māori, but any participants in a mindful way, deeply rooted in reciprocity and respect for others. Over the next three segments I discuss in detail three pivotal elements of the research process that arose over the course of this thesis.

Scope + Limitations

This thesis acknowledges the complexities of culture and identity in our interconnected, global community, and does not attempt to assume that any conclusions drawn here can be generalized or applied to any context other than that in which they arose.

However, there are opportunities for parallels to be drawn and insights to arise that may serve as inspiration or inform research and conversations in comparable areas. The findings generated here are preliminary in nature and should serve as a starting point for further dialogue on how design might go about working to partner with under-served communities, and by doing so experience mutual benefits and opportunities in the global pursuit of sustainable futures.

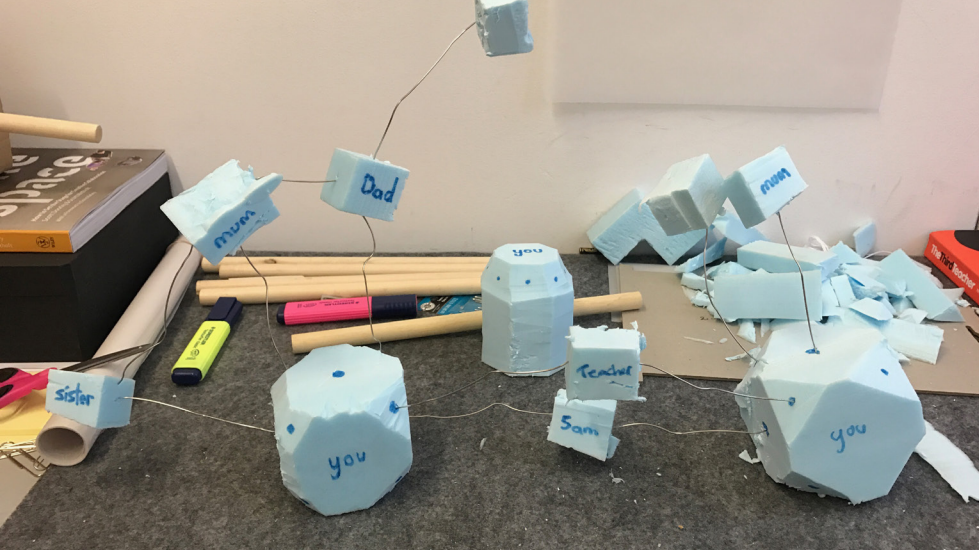


Fig. 4 Whakapapa prototyping for participatory design activity

Starting from the Roots

Māoritanga (being Māori) begins with whakapapa (genealogy), whakapapa defines how Māori relate to each other, to whenua (land), to tribal groupings and the mana of those. Positioning oneself in a wider context is fundamental to identity as Māori and therefore ensuring that I had an appropriate understanding of my own whakapapa was essential to ensure that this research arose from a position of integrity and authenticity. Some of the initial explorations involved researching my own whakapapa with my grandfather, as well allowing my personal explorations to inspire the development of potential design research tools. Both of these explorations will be discussed briefly here.

The exchanging of whakapapa has customarily been about introduction and welcoming. In this research activity, I investigated how whakapapa might be used to guide conversations in a context where participants may be unfamiliar with the concept, the importance of this exercise was integral to framing the development of later research activities, in particular the cultural probe. I worked under the assumption that even though primary research activities would take place in a majority Māori student population, there might still potentially be students from non-Māori backgrounds who may also wish to participate and whose voices would be equally welcome. Therefore, it was important that though this design research tool was inspired by whakapapa that it was inclusive and open to participation by all.

In the Studio: Whakapapa

The activity involved Emily Carr participants using the objects provided to map out their ancestry as they saw it, as well as describing any stories, myths or legends that they associated with to their partner (see Fig. 5). Responses from participants were positive, notably that the physical tool allowed them the time to think through what they were doing as they pieced together the different objects. The hexagonal shapes were used to symbolize people or other important “nodes”, different length rods symbolizing strength of connections. Hexagons were used here for their large number of flat sides in a 2D plane. There were suggestions for the potential for this to be used as an icebreaker tool in one on one or other intimate settings, both as a way of introducing oneself to another and creating a visual map of how an individual sees themselves as part of a wider network.



Fig. 5 Participant using participatory design research tool.

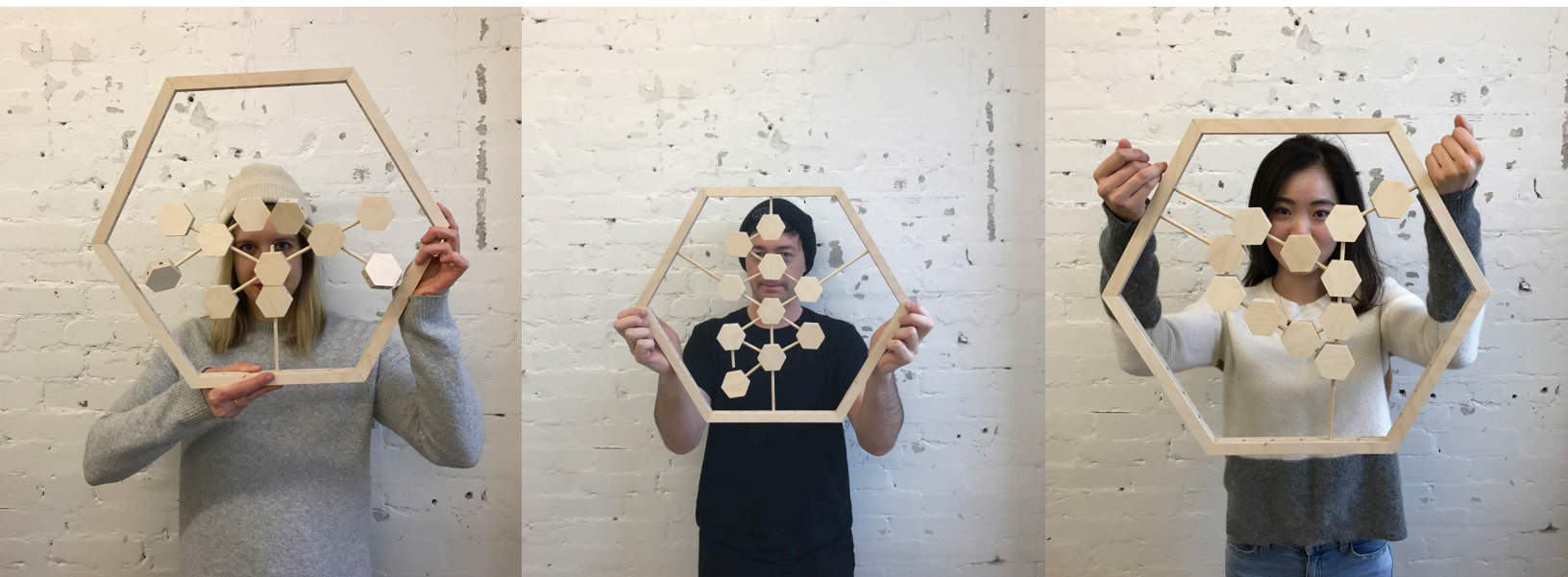
Over the course of the summer I returned to New Zealand and worked with my grandfather to research our own whakapapa in relation to the Muaupoko tribe. This was something we had not done previously as our primary tribal connection was to Ngati Raukawa, however, as our connection to Muaupoko was the reason I was able to make this journey it was important that we researched this whakapapa and our connection to it so that I could represent that connection and add to the mana of our tribe.

What followed was a few weeks of back and forth both in person and over the phone as we individually researched the elements of our whakapapa, checking in to compare and discuss our findings. This resulted in the whakapapa below as well as a greater understanding of the significance of learning and knowing these ancestral connections.

Ko Tararua te Maunga
Tararua is the mountain range
Ko Rangitikei te Awa
Rangitikei is the river
Ko Kurahaupo te Waka
Kurahaupo is the canoe
Ko Muaupoko to iwi
Muaupoko is the tribe
Ko Ngai te ao te Hapu
Ngai te ao is the sub-tribe
Ko Kawiū te Marae
Kawiū is the meeting place

Knowing the significance of being able to place oneself in relation to wider networks and being able to recite my own whakapapa, as well being able to share these understandings through the creation of design tools was integral to the design of a research process grounded in reciprocity and inclusivity.

Fig. 6 Whakapapa research activity participant outcomes



Seeing the Island: A Lense for Research

I was introduced to wayfinding by Dr. Eruera Tarena from Te Taupae o Rehua, at the Design for Social Innovation Conference in Christchurch, NZ. Wayfinding is an alternative leadership model drawn from ancient Māori/Polynesian navigational knowledge. It uses the metaphor of setting out for unknown destinations as a model for navigating the uncertainty and increasingly complex challenges leaders face today.

Eruera described the mindset of 'seeing the island', of visualizing where you want to go, holding that vision in your mind, and then opening yourself to the present, reading signs that appear to guide the journey. The way finder seeks not only the 'thing', but the underlying relationships and patterns, being able to discern these connections reveals insights which might not be obvious at first, enabling them to act, rather than react.

After being introduced to wayfinding I found myself frequently coming back to the metaphor of ocean navigation as a way of positioning myself and my current research activities within the overall research process. This allowed me to proceed with activities which did not always have a clear pathway to stated research goals, creating flexible spaces for experimentation and emergence.

Marking Boundaries/Crossing Thresholds

Boundary

noun /'bʌʊn.dər.i/

A real or imagined line that marks the edge or limit of something.

Boundaries became an important part of the research design of this research, through preliminary secondary research. Although we are generally familiar with what a boundary is and what purposes they server, I was only able to fully appreciate the significance of creating boundaries and demarcating spaces to the sustainment of Māori cultural identity and knowledge after reading 'Decolonization in Aotearoa' by Jenny Lee-Morgan (2015). In this text Jenny Lee-Morgan discusses the importance of Marae-a-Kura (meeting place in school) in schools, and the role they play in supporting Māoritanga in the public-school system.

Furthermore, they are powerful because they create cultural boundaries and cultural expectations that demand that Māori language be heard, and Māori cultural protocols be adhered to. (Lee-Morgan, 2015)

In the Studio: Demarcation of Space

This led to studio explorations which I used to dig deeper, unpack and synthesize what I might take away from this to apply to the creation of my own participatory research activities. I looked to Māori knowledge for guidance on how to approach this, by going back to the spaces I was familiar with, the marae and the wharekura, and observing with purpose, how Māori culture is transmitted in these spaces.

There was the explicit, carvings, tukutuku (wall panels), and painting, which all provided the visual sign that one was in a Māori space. But there are also other aspects, the physical space between the carved meeting house and the waharoa (exterior gate) has a tacit presence of its own, that can be felt even by someone who has not entered the space before, as they stand under the waharoa, waiting to be welcomed on.

This then led to a period of reflective making, through which I tested how I might begin to reflect some of the essence of these spaces, and apply it to the process of creating welcoming participatory research spaces. I was looking at how to capture and transmit this essence in a meaningful way, that evokes Māori customs and ways of knowing, and reflecting on this to see if it could lead to a sense of internal and external cultural empowerment. In reflection, I feel that it does create a presence of its own in some way, and was significant in the creation of the cultural probe and board games.



Fig. 7 Studio based research exploring intuitive responses to physical boundaries

A grayscale photograph of two students sitting at a table, focused on their work. The student on the left is writing on a piece of paper with a pen. The student on the right is looking at a document. The table is covered with various papers, some featuring illustrations of people and objects. A calculator is visible in the bottom left corner. The background shows a classroom setting with shelves and other materials.

In Action at Tongariro School

Fig. 8 Students working on cultural probe activities during participatory research sessions at Tongariro School.
Turangi, NZ

In Action at Tongariro School

Following on from the previous section which described the overall research approach and reflections of the significant supporting explorations, this section discusses the primary research site in detail. It covers how the actions described in the last section supported the creation of an action research case study at Tongariro school using a cultural probe, and discusses the cultural probe in detail. This will provide clarity into how these elements work together in service of the overall learning objectives.

Familiar Places, Familiar Faces

Tongariro School was selected as the research site for primary participatory activities as it was a site I am personally familiar with, having recently worked there as a teacher aide as well as being educated there for a number of years. Having spent considerable time in the classroom gave me the benefit of being able to identify areas of opportunity for design research to have an impact early in the process, then proceeding to validate my personal assumptions and experiences with data from the Ministry of Education as discussed in earlier sections.

Another reason for choosing to do primary research at Tongariro School, specifically with grades 5–6 students, was that my mother teaches students in this age range, and it was her classroom that I had worked in as a teacher aide. The main benefit of this was that I had already spent considerable time with her in the research site, this gave me confidence in her ability to take on the role of facilitator, as it was a natural transition from her daily role. It also provided participants a degree of safety and familiarity when participating in the research.

Tongariro School is a mainstream public school with a majority Māori student population, located in Turangi, a small town in the Central North Island of New Zealand. It is physically remote from the main metropolitan centers of New Zealand, and as such has a more traditional cultural make up of indigenous Māori and NZ European. Lessons follow a traditional stem focus with time set aside each week for Information Technology, Art and Physical Education. A typical day for this age group is split into five one hour time slots, with early morning sessions containing the core subjects; reading, writing and math, with the afternoon slots alternating between physical education, art, and information technology, depending on the day of the week.

What is Action Research?

Situating the focus of this research in a highly structured social setting, the public elementary school classroom, required finding the most appropriate research approaches and methods for working towards change through place-based qualitative paradigms. The first framework used was that of action research, which Swann (2002) defines as "a program for change in a social situation". He lists three conditions required for research to be considered action research:

- Subject is based in a social practice that needs to be changed.
- Action Research is an explicitly participatory activity.
- The project proceeds through a systematic & documented cycle of **plan>act>collect>reflect** (see Fig. 9)

Collins (2010) describes action research as a "form of inquiry conducted by researchers who wish to inform and improve their practice, their understanding, and decision making". This differs slightly from Swann in that the desired change is in the practice of the designer as practice led vs practice based research. This research draws insights on both the research space and design practice.

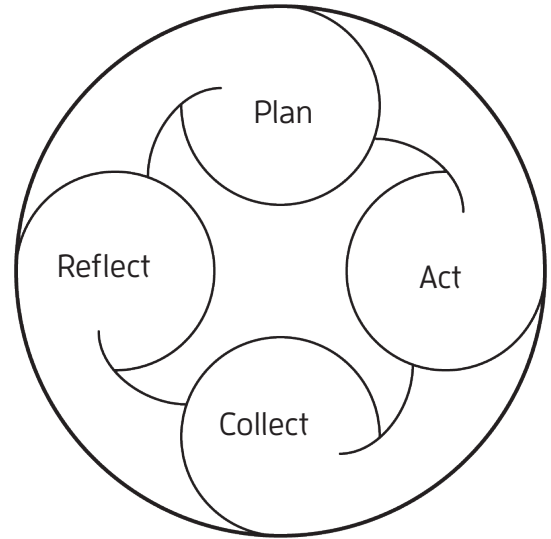


Fig. 9 Action Research Cycle

Why use a Case Study Approach?

Using a case study approach to drive the research enabled me to fulfill both the vehicle objectives and learning objectives of the thesis project. A case study is useful in this research context as it "involves situating the case within its appropriate setting be it historical, social, clinical, cultural, economic, physical, to name a few" (Creswell, 1998), and can be described as "a fairly intensive examination of a single group of people" (Collins, 2010). It allows data gathered to be viewed within the context in which it was gathered. It is inclusive and generally has a depth that "compensates for any shortcomings in breadth and the ability to generalize" (Martin, B., Hanington, B., 2012).

The benefit of using a case study in this context is that it has the potential, when managed carefully, to more accurately represent the world-view of those being researched.

Designing the Probe

Designing the cultural probe “All About Me” to be used in the facilitated participatory research activities required a lot of thought and revision. The probe needed to be simple enough that it could be managed by a team of two facilitators, who were working with a group of 12 grade 5-6 students and flexible enough to facilitate multiple learning styles.

It involved a number of generative, reflective, and exploratory activities around cultural identity, self-expression, and identification of social structures and aspirations. These activities were designed to paint a picture of the lived experiences of these students in the education setting, and provide self-expressed narratives for change. The creation of this probe and the analysis and reflection of results has provided both practice-led and practice-based insights which will be discussed in the following section.

So why use a cultural probe in an action based research activity?

This probe was primarily designed with the goal of providing an inclusive, accessible, and enjoyable participatory research activity for participants, and to reaffirm their agency within a design research process. Cultural probes consist of a wide range of activities designed to elicit to participants new forms of “self-understanding and communication about their lives, environments, thoughts and interactions” (Martin, B., Hanington, B., 2012). Martin and Hanington describe cultural probes as being “specifically casual and informal, yet thoughtful in their aesthetic craft, message and delivery”, and when done well result in enthusiastic, invested participants. This was essential here, as the students at Tongariro School rarely have an opportunity to participate in a design research process, even less so in a way that provides them the space, time and accessibility needed to explore and reflect ideally.

The title of the cultural probe “All About Me” is intended to set the scene for the participants, to achieve two things, reaffirming the value of their contribution to the research process, and setting the scope as an internal, reflective and exploratory process. The probe itself reinforces the validity of the Māori cultural identity of participants through the use of Māori visual elements and language, as identified early, using these elements as visual boundaries to say that “this is a Māori space and our knowledge is fundamentally valid here”. However, in all instances english translations are provided in order to both provide for Māori students who may not know the Māori language, and also to include non-Māori students who wish to participate in research activities.

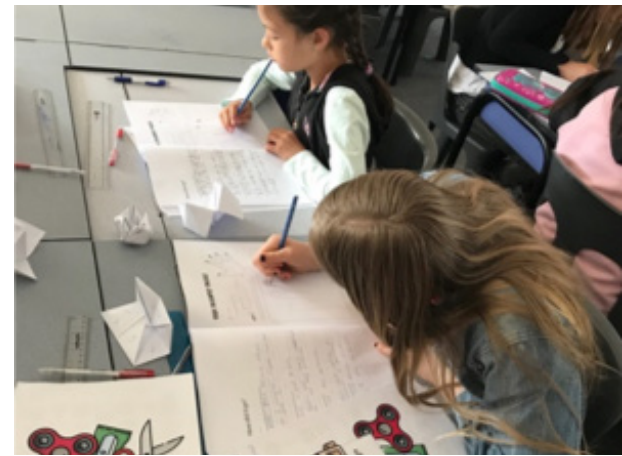


Fig. 10 Students at Tongariro School completing cultural probe activities

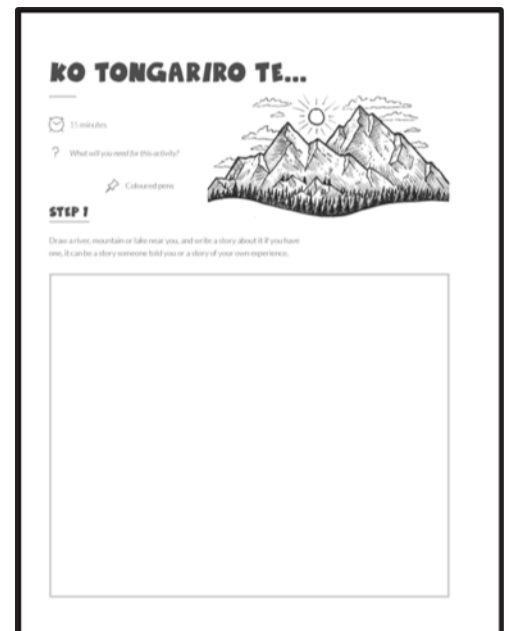


Fig. 11 Excerpt from cultural probe illustrating storytelling activity asking students to share stories of their local environment.

In their paper "How Do User Stories Inspire Design? A Study of Cultural Probes" (2017), Ozge Celikoglu, Sebnem Ogut and Klaus Krippendorff describe Cultural Probes as being "particularly helpful in environments where an observer's presence can distract from the everyday behavior of participants". In the case of this research, it was crucial that every effort was taken to minimize the effects on participants of being in an active research space. This was achieved by using a cultural probe as the primary research method, as well as organizing research activities to take place in the students' normal classroom. While activities were still primarily facilitated by the classroom teacher, the novel nature of the cultural probe created a fun and exciting environment for students as they were able to take a break from regular scheduled lessons.

The Importance of Play

In his article *Design and the Play Instinct* Rand (1965) compares the nature of game-playing with that of problem-solving, proposing that being successful in one can equally imply success in the other. He suggests that games and, more specifically, play can be useful tools in creating an engaging learning environment.

Rand (1965) discusses the importance of basic rules or disciplines required to introduce the element of play into an environment stating that "Without specific formal limitations, without the challenging possibilities of introducing the element of play, both teacher and student cannot help but be bored". This delimiting of the experience in order to engage participants is also discussed by Sanders and Stappers (2012) in their book *Convivial Toolbox: Generative Research for the Front End of Design*". They discuss the generative techniques and dimensions behind building creative toolkits, emphasizing limiting the selection of toolkit ingredients to successfully support participants in generative activities.

A journey into the unknown can cause participant anxiety, however, this anxiety can be mitigated by the power of delimitation and the play instinct (Hester, 2013), allowing participants to be creative and fully express their thoughts and ideas. Careful curation of probe activities, delimitation of primary research activities, and the introduction of elements of play, enabled participants to feel safe to engage openly in research activities.

Inside the Probe

The activities described here formed the content of the cultural probe. While these activities may at first glance appear disconnected, they have been intentionally designed in this manner. Using widely varying activities in the cultural probe creates a consistent sense of novelty and introduces elements of play. Play, as defined by Paul Rand, has been discussed previously in this thesis. John Dewey, a renowned educational theorist and scholar, shared similar notions of learning to those of Rand, that is, introducing elements of play and novelty which require students to engage critical thinking.

Give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking; learning naturally results. (Dewey, 2005)

The activities created for this cultural probe were designed to provide participants with a consistent sense of novelty, in that each new activity provides a different experience from the last. This allows students to engage different senses and modes of thinking, while contributing to the overall aims of the probe. These separate activities work together to create a self portrait of cultural and individual identity for participants. Through completion of activities along with reflective exercises, a space is created for students to express intuitively what their indigenous ways of knowing are, and define their personal goals and aspirations.

Activity 1 + 2: My Very Important Place + Say Cheese

These first two activities were designed to work as a sequential pairing as a way of easing participants into the flow of the cultural probe. The first activity asked participants to think of a place that was important to them, reflecting on why it was important as well as drawing that place. This introduced students to the direction of the probe as well as the multiple method approach designed to facilitate multiple learning styles, giving participants more than one way to think through the questioning. The second activity was an expansion of the first activity, in that it asked participants to either go out and photograph, draw, or use cut and paste to visualize a number of different places/activities/things in their daily lives that matched emotional cue words provided in the probe. This was intended to elicit connections between the participant's emotional responses and elements of their daily school lives, the increased difficulty of the task was mitigated by providing more methods of interaction.

Activity 3: What's in Your Pocket?

This activity asked students to take an everyday item out of their backpack, desk or pocket and then draw that object and describe it. The activity included prompts such as "When I pick it up it's as heavy as a...", these prompts were designed to encourage participants to use a reflective and exploratory thought process as they worked through different prompts using a single object.

Activity 4: Paper Fortune Teller

Paper fortune tellers are a favorite past time of NZ kids, and the responses I received from the facilitator was that students enjoyed this activity a great deal. This activity required participants to cut out and fold a paper fortune teller printed with questions based on the growth mindset, coined by Dr. Dweck, and then use the fortune tellers on a partner, asking questions of each other. The questions asked students about goals, challenges, aspirations and opportunities, which can be difficult to answer, however the game elements and social nature of the activity turned these difficult questions into a fun activity.

Activity 5: Five Friendly Faces

This next activity asked participants to think of 4 of their closest friends or family, trace around their hand and then draw the faces of those people, as well as themselves on the fingers, reminiscent of finger puppets. This painted a picture of the students' social support networks and was a chance for them to reflect on the value of their relationships.

Activity 6: Ko Tongariro Te...

"Ko Tongariro Te..." (Tongariro is the...) is an activity based on the Māori concept of whakapapa, in which (as described earlier) whakapapa is recited, this phrase is familiar to students of Tongariro School and was intended to provide familiarity to the participants, reinforcement of their identity and also provide an "exclusive" gift like quality to the probe. The activity asked students to draw a river, mountain or lake near them and write a story about it, either a myth/legend that had been told to them, a personal experience or an experience shared with them by someone else. This was intended to reinforce Māori ways of knowing, that is, the importance of the environment to identity, and the importance of storytelling to maintaining culture. The activity also asked students to define where the story came from, their personal experience of the place and what they enjoy about it, as well as asking them how we might look after this place so that others may enjoy it too.

Activity 7: Make-a-Robot

The final activity in the cultural probe asked participants to create an imaginary robot using colored paper, cutting and pasting images from the provided materials book or drawing. Participants were also asked to name their robot and describe what it does, it was an open exercise designed to draw out the participants aspirations and needs, with the making process creating space for exploratory and generative thinking.

Reflective Exercises

At the end of the probe as well as spaced out between activities, were opportunities for participants to reflect on the research activities and the overall process. Participants were asked to identify what they liked, disliked and learned from the activities and provided space for self-reflection on how what they had learned might change how they approach identifying and achieving their aspirations.



I Haere ai Matou | Where We Landed

Fig. 12 Drawing of Lake Taupo , New Zealand created as part of the “Ko Tongariro Te...” probe activity asking participants to draw a local geographical feature and tell a story about it.

I Haere ai Matou

Where We Landed

This final section draws together the feedback received, insights gained and lessons learned over the course of these research activities and lays out possible paths for further exploration. It also provides qualitative analysis and discussion of cultural probe results which according to Boehner, Gavner and Boucher (2012), provide a richly textured but fragmented understanding of a setting or situation. They suggest that the purpose of a probe is "not to capture what is so much as to inspire what might be" (Boehner, Gavner, Boucher, 2012).

Practice-led outcomes

"I hope that you are able to do this activity again"

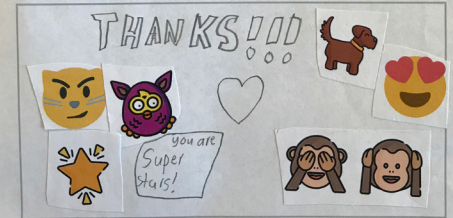
Out of a classroom of 30 students 12 students participated in the research with 11 of the probes returned fully completed. Feedback received from participants indicated that the probe was well received and they were highly engaged in the activities and invested in the outcomes.

While there were a diverse range of responses, there were a number of commonalities that emerged. Participants responded that their favorite activities were the "make-a-robot" and the "paper fortune teller", both of which placed a greater emphasis on social interaction. The fortune teller activity directly required students to engage with their peers and feedback from the facilitator indicated that students spent a large amount of time discussing their robots and comparing with their peers. The "Ko Tongariro Te..." activity also elicited substantial writing from participants who were excited to retell and share stories about their local environment. Participants were also pleased to have this opportunity to explore and share their own feelings, as well as reflecting on and engaging with aspects of their identity, culture and aspirations for the future.

Feedback received from the facilitator included that students were excited to be participating in this research, one of the reasons they gave being that it allowed them a break from regular scheduled lessons as seen in Fig. 14. She also noted that it was an excellent activity in terms of students practicing their writing skills, and that it provided a more holistic learning experience for students. On the following page are a number of examples of participant responses to the make-a-robot activity, which give an insight into participants needs and aspirations.

Fig. 13 Participant feedback from cultural probe research activities at Tongariro School

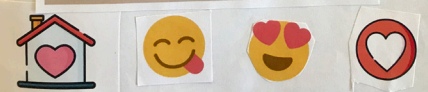
Anything else?
I hope you are able to do this activity again. I really help you to think about yourself. I would love to be able to ~~part~~ ~~participate~~ participate in this activity again. I learned so much about myself and I would like to thank you for hosting this creating this activity. I would also am very grateful to be apart of this activity. This activity really made me think about what I like and what I want to accomplish. I would like to thank you again for creating this activity.



Anything else?
I really like this activity, I hope you do this activity next year. It really helped me talk more about myself and I would like to thank you for ~~best~~ creating this activity. This activity really made me think about what I like to do. I would like to accomplish. I would like to thank you ~~again~~ again for creating this activity.



Anything else?
I like when you just made school work more easy and fun and I like that you ~~should~~ should do this with kids around the world and make @ children happy. Thank you to know about myself and my world that I have learn from the booth so I say thank you for making my work easy and having lots of fun.





Name: Wonder-Botia

She can look at other people's test by going invisible. Her stomach is an oven and can make any food I want. She knows how to fight and get smart and defend me. She does whatever I tell her to do. She knows how to comfort people.



Name: Tiwila Ngatai

Whakamautahi Brown
My robot gives huge hugs and gives out love hearts. She has a blue love heart she wants to give hugs and she is very sad and always thinks about dollar signs and coins.



Name: Bama Heartmind

My robot would help me with the hard parts in my homework and would help me study. She would also remind me on what I have to do. She would also be able to motivate me to do more studying and to try my hardest. She won't answer the questions on test she will only give me a hint. She also cares for people.

Cultural Probe Responses

Overall, the responses to this research were overwhelmingly positive and suggest that activities such as this probe which was designed to create open spaces outside of everyday curriculum, and reinforce a more open and diverse approach to identity development, could add to the learning experience of both Māori and non-Māori students in grades 5-6 in the NZ public school system. The results suggest that this probe was successful in instilling a sense of hope towards students' aspirations. It also suggests that there is a need for further place-based longitudinal study grounded a reciprocal relationship between facilitator and participants, using a flat power structure.

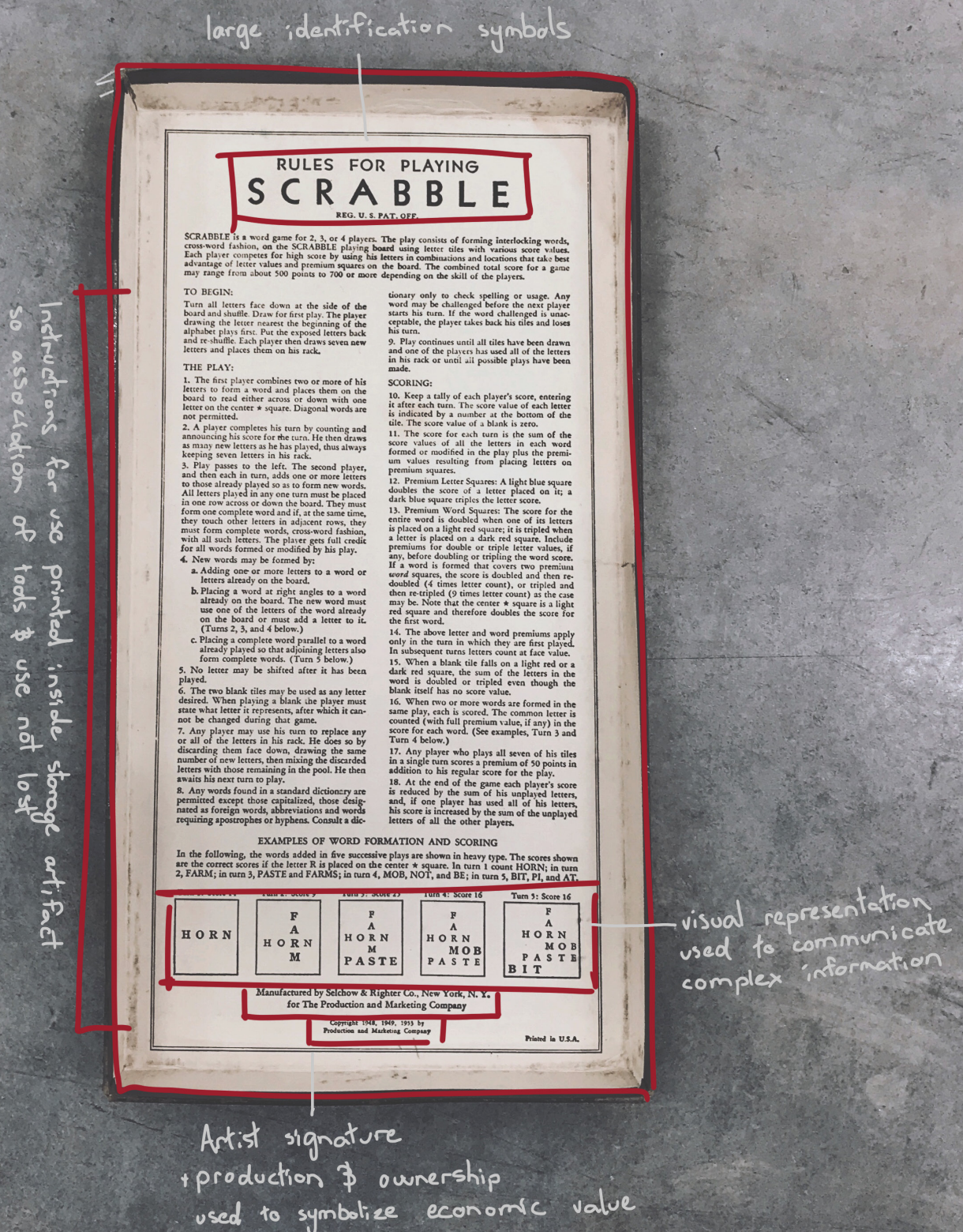
From the positive responses to the cultural probe it is clear that this activity could be a template for development of curriculum around cultural identity to be included in regular classroom pedagogy. The playful nature of the probe was successful in creating a space outside of regular classroom programming. The success of play in contributing to the creation of alternative spaces for learning and dialogue to take place has been further developed in the second major component of this thesis - Nga Kemu Mo Te Korero (Board Games for Inclusive Conversations).

To make new connections and reframe ideas requires freedom to muse about ideas in alternative ways, to look past current limitations, practice different modes of thought, and gain insights from every means a student has at their disposal.
(Majumadar, 2015)

Nga Kemu mo te Korero

Board Games for Inclusive Conversations

Fig. 14 Annotated Board Game piece, part of a series of annotated images created during a reflective investigation into the elements of Board Games.



Nga Kemu mo te Korero

Board Games for Inclusive Conversations

This section contains reflections and insights resulting from research into the potential of board games, as guided activities in a design process involving play and negotiation, to facilitate discourse, specifically, indigenous concerns involving stakeholders with varying degrees of familiarity and engagement with a particular topic. In this study, design games are to be seen as distinct from regular games in that they are used as tools in a design process, particularly as “a way of understanding and/or organizing participation” (Brandt, 2006).

Play: Setting out the Board

This study came about as the result of early secondary research into the theory of play, manifested as an attempt to generate methodologies that foster a greater sense of play and exploration in design research. As Rand states:

A problem with defined limits, with an implied or stated discipline (system of rules) that in turn is conducive to the instinct of play, will most likely yield an interested student and, very often, a meaningful and novel solution. (Rand, 1965)

In other words, play is conducive to engaged participants and generative, exploratory insights and outcomes. Rand (1965) suggests that the exploratory nature of play allows participants to put aside preconceived expectations, conventions and understandings. In order to foster these desired qualities in a design research methodology I chose to work with board games, as these are inherently conducive to fostering play. This research was conducted primarily through a qualitative analysis of elements of popular board games, in an attempt to draw out some of the tacit, formal and symbolic meanings embedded within.

Symbols: Drawing out the Tacit

Modern board games, many of which have their roots in indigenous and non-western cultures and were subsequently naturalized by modernity/coloniality (see Side Note 4), are loaded with symbols and cultural expectations rooted in universalist notions and interpretations of the world.

Decolonizing design, then, requires problematizing the affective and conceptual operations that form the basis of our relations with the world, and questioning the essentialist or instrumentalist approaches that have been naturalized previously. (Tlostanova, 2017)

Side note 4. The colonization of board games. The recorded histories of popular board games are fragmented and largely anecdotal however there are a few whose histories are more widely known. According to Wikipedia, the popular game 'Snakes and Ladders' originated in India and was known as 'Moksha Patam' and associated with traditional Hindu philosophy contrasting destiny and desire. When the game was introduced to England it was interpreted to better reflect Victorian doctrines of morality.

Snakes and Ladders. Retrieved from: https://en.wikipedia.org/wiki/Snakes_and_Ladders

Unpacking some of the symbolic language of board games was the key focus of this study. I hoped that by teasing out some of these tacit meanings and expectations embedded in the elements of board games, I would gain insights into how they might be carefully used to support development of a board game as a decolonised conversation organizing design tool. To do this I needed to uncover some of the colonial, universalist interpretations embedded within the board games, so that they might be provincialized, allowing them to exist only "in the form of relation" (Tlostanova, 2017). The influence of these symbolic elements on the players who participate in play cannot be overstated, as discovered by researcher Mary Flanagan (2009) in her study on the effects of board games on players. Her research found that when playing a gender bias board game, players were better at seeing things from someone else's perspective but only if the game used "embedded" design, rather than relying on overt messaging.

Emergent, Reflective Practice

The extent of the research methodology used to carry out this activity, consisted of building a photographic inventory of commonly available board game pieces. The images in this photographic inventory were then digitally annotated over (see. Fig. I3, I4) using a tablet and stylus. This was originally derived from the "Picture Cards" design research method described in "Universal Methods of Design" by Martin & Hanington (2012):

Picture Cards stem from activity theory, which holds that, "the human mind is the product of our interaction with people and artifacts in the context of everyday activity." (Martin, Hanington, 2012)

The Picture Card method consists of using images to encourage participants to recall stories and evoke conversations, and it was this aspect which became the inspiration for the method which emerged from this study. This method involved applying annotations to identify and articulate symbolic meanings associated with board game pieces, a starting point from which pathways to eliciting further understanding may emerge.

Insights and content generated through this activity were intended to serve primarily as inspirational reference material for the construction of design games. However, as this was structured as an exploratory process, it created space for unexpected outcomes to emerge. I will discuss the key takeaways from this process in the remainder of this section.

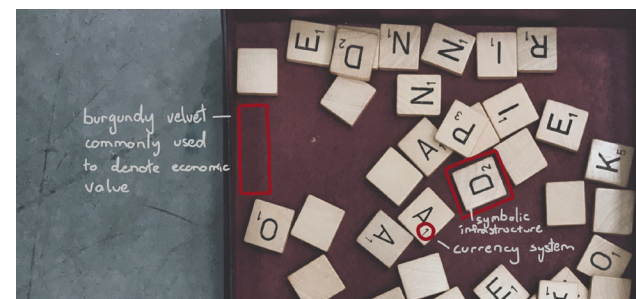


Fig. 15 Annotation Process

As the annotation process was completed digitally, using hardware and software that compiled all strokes of the stylus into a video which could be played back at any time, it becomes possible to leave the annotation work, and the thoughts that drive it in an incomplete state, for hours, days or sometimes weeks and then return to retrace the prior annotation process, simultaneously potentiating and then continuing the annotation and the thoughts that drive it from where they were left. However, each new annotation session creates its own driving thought process, necessitated by the passage of time between sessions, nesting, stacking, surrounding the previous thoughts and annotation works in a recursive pattern.

Annotation as Recursive Reflection

The annotation method described in the previous section, could be applied to any exploratory process involved in drawing out tacit knowledge.. This section describes in more detail the ways in which this annotation methodology works to synthesise intuitions, preconceptions, reactions and interpretations of knowledge, emotions and world-views. It is based on an understanding of learning as experiential and design as an ontological process. This process synthesizes the past, present, inner and outer, and works to draw out that which emerges when we allow these the space and time to intersect.

The process described here arose as an unexpected consequence of engaging in exploratory studio design research. The diagram in Fig. 17 visualizes how the annotation methodology which emerged from this study works to create a generative space for reflective synthesis in a design process. The elements of this methodology are described in greater detail below:

Reaction

What you see

- Responding instinctively to different interacting elements of the images

Preconception

Past knowledge

- Drawing upon your own preconceived notions and lived experiences

Interpretation

Future knowledge

- Interpreting external input and experiences into the annotation process

Intuition

What you feel

- Drawing out ill-defined feelings and emotional responses to the images

Emergent Reflective Synthesis

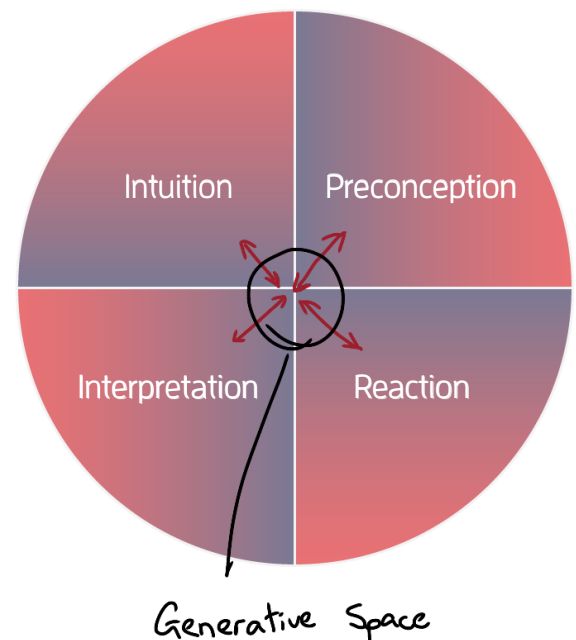


Fig. 16 Emergent Reflective Synthesis diagram

Board Games: Decolonizing Tools for Organizing Conversations

This study, through a reflective, generative design research process, explored the symbolic language of board games. The research process necessitated the development of the Emergent Reflective Synthesis annotation methodology which can be used to draw out tacit knowledge, synthesising the past, present, inner and outer. I suggest that this methodology may be successful as a starting point for creating options for design research, outside the frame of modernity/coloniality. As Tlostanova (2017) states "In Amerindian tempo local model the past is in front of us, rather than behind...It is a temporality that we know, in contrast with the unknown future", it is in this contrasting and comparing of the old with the unknown, neither less important than the other, that alternative patterns emerge.

Decolonial design, then, would not be a mere tool of modelling the environment so that it can model the human being. Rather, it would be a creative and dynamic reflection and realization of the people's needs wishes and longings, which would be inevitably linked to the local cosmologies, ethics and systems of knowledge seen not as the dead and museumized past...but as a living and breathing present and a promise for the future. (Tlostanova, 2017)

Tlostanova speaks to a discourse of relationality, reciprocity and ethics in design, an important anchor of most indigenous communities, including Māori. The methodology developed here echoes this sentiment and strives to create space for marginalized world-views to re-emerge and take hold in design research processes involving indigenous peoples.

Board games, with their rich and varied lexicons of symbolic language, provided a fertile exploratory space for this research. Further study, building on what has been learned here, is vital to developing open play spaces for the important conversations still to be had. Understanding the elements of board games through the four modes described here, past, present, inner and outer, is a crucial prerequisite if we are to create decolonial creative spaces.

In her paper 'Decolonization as Care', Uzma Rizvi (2016) discusses examples of how simple changes in the classroom can have large impacts on changing the dynamics imposed by modernity/coloniality. Her example of the left-handed desks is one example of what may arise out of the conversations undertaken in these decolonial creative spaces. Decolonization as an approach can be taken both externally by the designer, or as in this example, internally by the students and teachers themselves. The propositions of this thesis aim to provide starting points for both the designer as facilitator, through the use of board games, and also the educator as facilitator, through the cultural probes and board games.

Change can be quite simple. In the world of right-handed desks in schools, a decolonized pedagogy and are would mean that as an educator, you might think about a left-handed person and request left-handed desks to be brought into your classroom. (Rizvi, 2016)

Conclusion

This thesis explored the role of including indigenous ways of knowing in guiding the design of decolonial learning experiences and design research methodologies. A series of exploratory, generative, reflective activities were conducted in order to facilitate a deep and broad research process. Grades 5-6 students contributed to a design research process through participatory design methods, supported and extended by generative studio research. This research generated insights which may play a role in designing future classroom pedagogy and curriculum. It has identified a need for curriculum to place more emphasis on identity development and social learning, through the use of tools which promote a reflective, participatory, space open for playful knowledge production. From this research, it is clear that there is a need for further research to be done, from an outside perspective, on how to better include voices from the margins in design research processes. This thesis suggests a methodology for design research, grounded in indigenous principles and sensibilities, which may support in furthering this initiative.

This research suggests that there is a need for pedagogical changes in the NZ public school system. There is space for development of a more holistic learning experience for students, which places them as active participants in their own learning. It also resulted in design research tools and methods which are designed to intervene in the ways in which we interact within time and space, to create more time for deeper reflective practice and to create spaces where participants can feel safe to step outside their conventions and engage in meaningful conversations.

I hope that this research is able to have a positive impact on both the participants and those who follow them through the education system in NZ. Hopefully it may also provide a starting point for future development of inclusive, alternative options grounded in reciprocity, for design practitioners and researchers. This research is a small contribution to improving the lives of Maori, other indigenous peoples, and all people. The work started here will be carried forward, inspiring and driving my future design work.

Ngā mihi,
Jordache MacKenzie

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List of Figures

Figure 1. River in the Central North Island of New Zealand. Oceans, lakes, rivers, mountains and other natural landmarks are fundamental to our identity as Māori – Source: Jordache Mackenzie, 2017

Figure 2. Theoretical Framework diagram – Source: Jordache Mackenzie, 2017

Figure 3. Research Process diagram “Te Ara o te Rangahau” – Source: Jordache Mackenzie, 2018

Figure 4. Whakapapa prototyping for participatory design activity– Source: Jordache Mackenzie, 2017

Figure 5. Participant using participatory design research tool – Source: Jordache Mackenzie, 2017

Figure 6. Whakapapa research activity participant outcomes – Source: Jordache Mackenzie, 2017

Figure 7. Studio based research exploring intuitive responses to physical boundaries – Source: Shruti Gupta, 2017

Figure 8. Students working on cultural probe activities during participatory research sessions at Tongariro School. Turangi, NZ – Source: Angela Devonshire, 2017

Figure 9. Action Research Cycle – Source: Jordache Mackenzie, 2018

Figure 10. Students at Tongariro School completing cultural probe activities – Source: Angela Devonshire, 2017

Figure 11. Excerpt from cultural probe illustrating storytelling activity asking students to share stories of their local environment – Source: Jordache Mackenzie, 2018

Figure 12. Drawing of Lake Taupo , New Zealand created as part of the “Ko Tongariro Te...” probe activity asking participants to draw a local geographical feature and tell a story about it – Source: Jordache Mackenzie, 2018

Figure 13. Participant feedback from cultural probe research activities at Tongariro School – Source: Jordache Mackenzie, 2018

Figure 14. Annotated Board Game piece, part of a series of annotated images created during a reflective investigation into the elements of board games – Source: Jordache Mackenzie, 2017

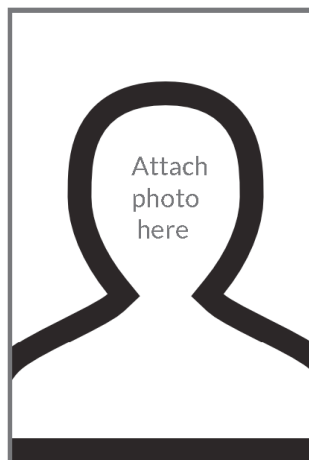
Figure 15. Annotation Process – Source: Jordache Mackenzie, 2017

Figure 16. Emergent Reflective Synthesis diagram – Source: Jordache Mackenzie, 2018

Appendix

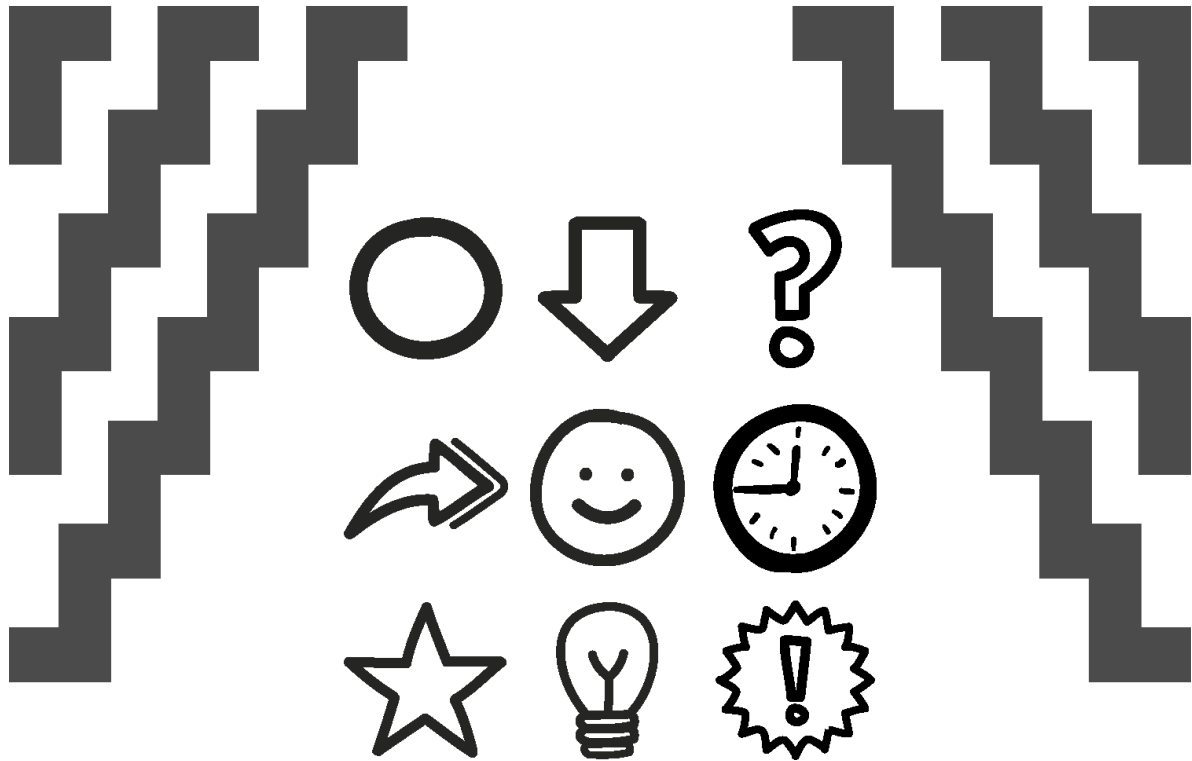
Appendix A - Cultural Probe Booklet

**ALL ABOUT
ME**



Cultural Design Probe

Participant Workbook



HELLO!

Thanks for taking part in this research!

This book is filled with activities for you to do as we get to know more about you, your school, and the things that make you unique.

If you have any questions you can ask Ms. Devonshire

or _____

If there are any activities you don't want to do for any reason, just leave them blank and move on to a different one.

You can use pictures from the materials book at any time by cutting and pasting them into the activity book, have fun!

MY VERY IMPORTANT PLACE



10 minutes



What will you need for this activity?



Colored Pens



Something to write with

STEP 1

For this activity, think of a place that is very important to you and finish the sentences below.

A place that is important to me is...

It is special to me because...

Add a drawing or photograph of this place here

SAY CHEESE!

 20 minutes

? What will you need for this activity?



Coloured pens



Pair of safety scissors



Instant camera or
cellphone

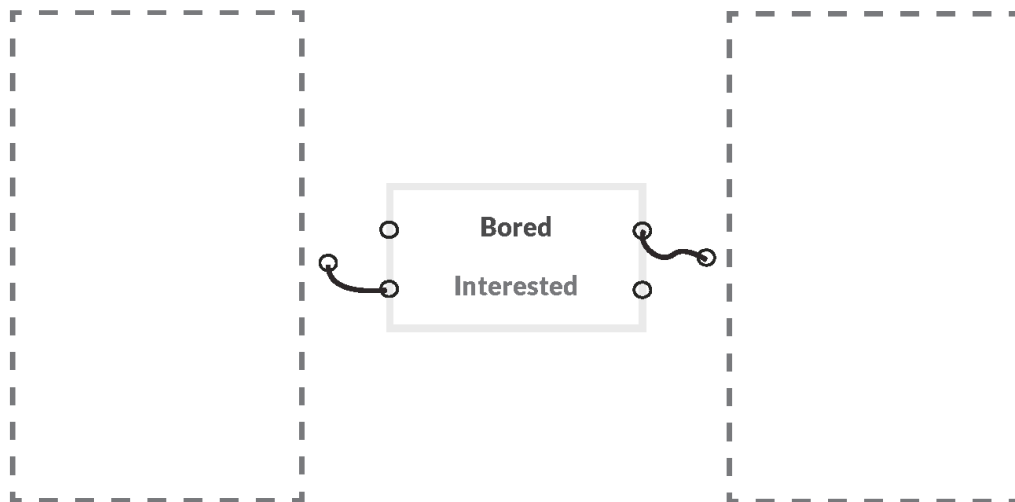


Glue stick

STEP 1

For this activity you will need to go out around your school and draw or take photos of **places/activities/things** that match the feelings below, draw or glue photos into the box connected to the feeling.

If you are unsure what a word means, see if a neighbour knows or ask a teacher!



If you get stuck, try moving onto a different activity and come back to this later

Next, **fill out the next 6 boxes** with drawings or photos of places around the school.

Once you have done that peel off the paper below.

<input type="radio"/>	Creative	<input type="radio"/>
<input type="radio"/>	Safe	<input type="radio"/>
<input type="radio"/>	Excited	<input type="radio"/>
<input type="radio"/>	Comfortable	<input type="radio"/>
<input type="radio"/>	Uncomfortable	<input type="radio"/>
<input type="radio"/>	Focused	<input type="radio"/>
<input type="radio"/>	Welcome	<input type="radio"/>
<input type="radio"/>	Inspired	<input type="radio"/>
<input type="radio"/>	Happy	<input type="radio"/>
<input type="radio"/>	Curious	<input type="radio"/>
<input type="radio"/>	Confused	<input type="radio"/>
<input type="radio"/>	Energized	<input type="radio"/>
<input type="radio"/>	_____	<input type="radio"/>
<input type="radio"/>	_____	<input type="radio"/>

Matching Time!

Now, match 6 words from the list above to the drawings or photos you took, try to use a different word for each one!

PS. There are also two spaces at the bottom of the list to add your own words if you want to.

STEP 2

Use pictures from the materials book to help explain the 6 feeling words you chose in the last step.

1. Cut pictures out that help you describe the words.
2. Glue the pictures on top of the drawings or photos that match the feeling word.

Try and **match at least 2 or 3 pictures** to each drawing or photo.

This is how it could look:



Creative



How did it go?

The most difficult part of this activity was...

because...

My favourite part of this activity was...

because...

Something that surprised me was...

From this activity I learned...

The most important place I made a drawing of was...

It is special to me because...

WHAT'S IN YOUR POCKET??



10 minutes



What will you need for this activity?



Coloured pens

STEP 1

For this activity, take one thing out of your pocket, bag or desk and draw it below. Think about an object that is important to you, it could be something someone has given to you, something you saved up to buy, or something you just really like!

You can use pens, pencils, or cut out shapes on colored paper.



If you don't have anything to draw try and think of one of your favourite things and draw that instead!

STEP 2

Next, pretend that you have to describe this object to a friend that can't see it, answer the questions below to try and describe the object without saying what it is.

When I pick it up it's as heavy as a... _____

It is the same color as... _____

It smells like... _____

It tastes like... _____

When I touch it it feels like... _____

If I put it on a fire it would... _____

Its the same shape as a... _____

If it got wet it would... _____

PAPER FORTUNE TELLER

 25 minutes

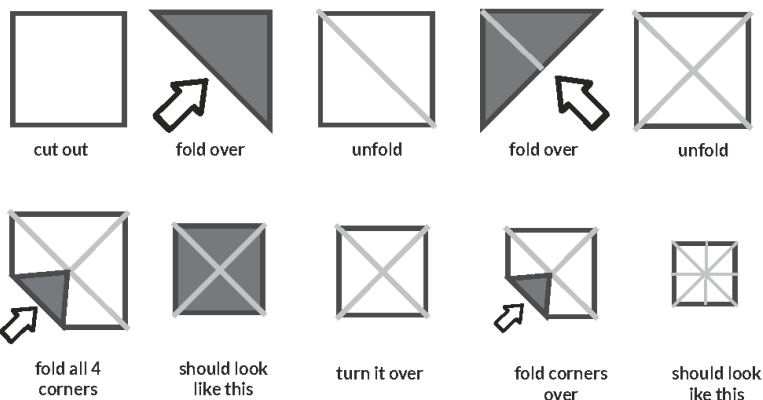
? What will you need for this activity?

 Coloured pens

 Pair of safety scissors

STEP 1

Cut out and fold the paper fortune teller on the next page using the instructions below. Start with the blank side facing up.



fold in half

Once you have followed these steps, slide your thumb and forefinger of each hand under each flap and push together.

You should now have a working paper fortune teller!

<p>Challenge</p>	<p>3</p> <p>What did you try hard at today?</p>	<p>4</p> <p>Who can you learn more from?</p>	<p>Goal</p>
<p>2</p> <p>What is one of the hardest things you have ever had to do?</p>			<p>5</p> <p>What is a goal you want to work on this year?</p>
<p>1</p> <p>What is something new you would like to try?</p>	<p>8</p> <p>What mistakes have you made that taught you something?</p>	<p>7</p> <p>Who supports you when you face a challenge?</p>	<p>6</p> <p>What would you like to get better at?</p>
<p>Possibility</p>			<p>Optimism</p>

STEP 2

Use the fortune teller (or ask a friend to use it on you) 3 times, and answer the questions you get below. If you get the same question twice, have another go.

Write the question number and your answer below:

☐ _____☐ _____☐ _____

STEP 3

Your turn! This time it's your turn to come up with your very own paper fortune teller, using a blank piece of paper. Remember you need to start with a square sheet of paper.

You can put whatever you want on it!

For example, on the outside you could paste pictures from the materials book, and instead of questions you could put different jobs adults do, then you could predict what your friends are going to be when they grow up!

Will they be a teacher, a firefighter, an astronaut, a builder?



If you get stuck look at the paper fortune teller from step 1 to see how to make your own paper fortune teller.

How did it go?

The most difficult part of this activity was...

because...

My favourite part of this activity was...

because...

Something that surprised me was...

Next time I would...

I chose to make my paper fortune tell about...

I chose this because...

FIVE FRIENDLY FACES!



15 minutes



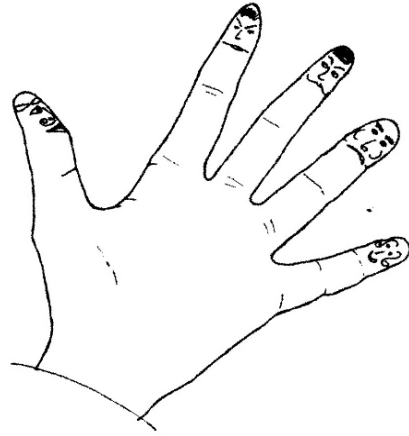
What will you need for this activity?



Coloured pens



Hands



STEP 1

Trace your hand in the box below. On one of the fingers or thumb draw yourself. Then draw 4 of your closest friends or family members on the rest!

KO TONGARIRO TE...



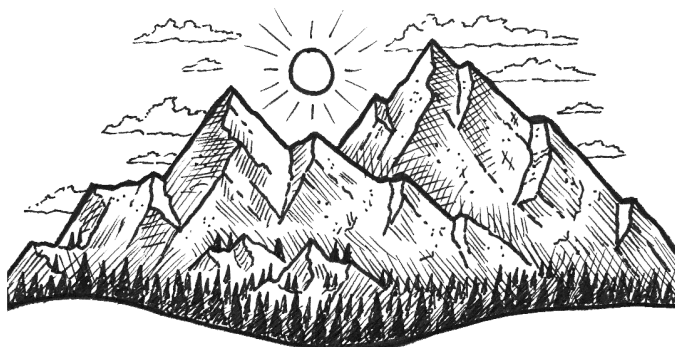
15 minutes



What will you need for this activity?



Coloured pens



STEP 1

Draw a river, mountain or lake near you, and write a story about it if you have one, it can be a story someone told you or a story of your own experience.

STEP 2

What did you draw?

If someone else told you the story who was it?

Do you visit this place? If yes, what do you like to do there?

How can we look after this place so that others can enjoy it too?

MAKE-A-ROBOT

 15 minutes

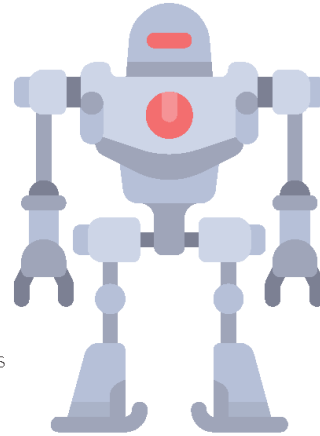
? What will you need for this activity?

 Coloured pens

 Coloured paper

 Safety scissors

 Glue stick



STEP 1

For this activity your goal is to make a robot that can help you at school. Use the colored paper and scissors to cut out shapes and build your robot on the next page. You can also use pictures from the material book!

STEP 2

What is your robots name?

What does it do?

THAT'S ALL!

Thank you for taking the time to fill out this activity book, we hope you enjoyed it.
There are just a couple more things to fill out before you go!

How much did you like the activities?

Not very much

☐

Not sure

☐

A little bit

☐

A lot

☐

How much did you learn about yourself today?

Not very much

☐

Not sure

☐

A little bit

☐

A lot

☐

How interested are you in what you learn at school?

Not very much

☐

Not sure

☐

A little bit

☐

A lot

☐

How much do you learn at school?

Not very much

☐

Not sure

☐

A little bit

☐

A lot

☐

How much do you learn outside of school?

Not very much

☐

Not sure

☐

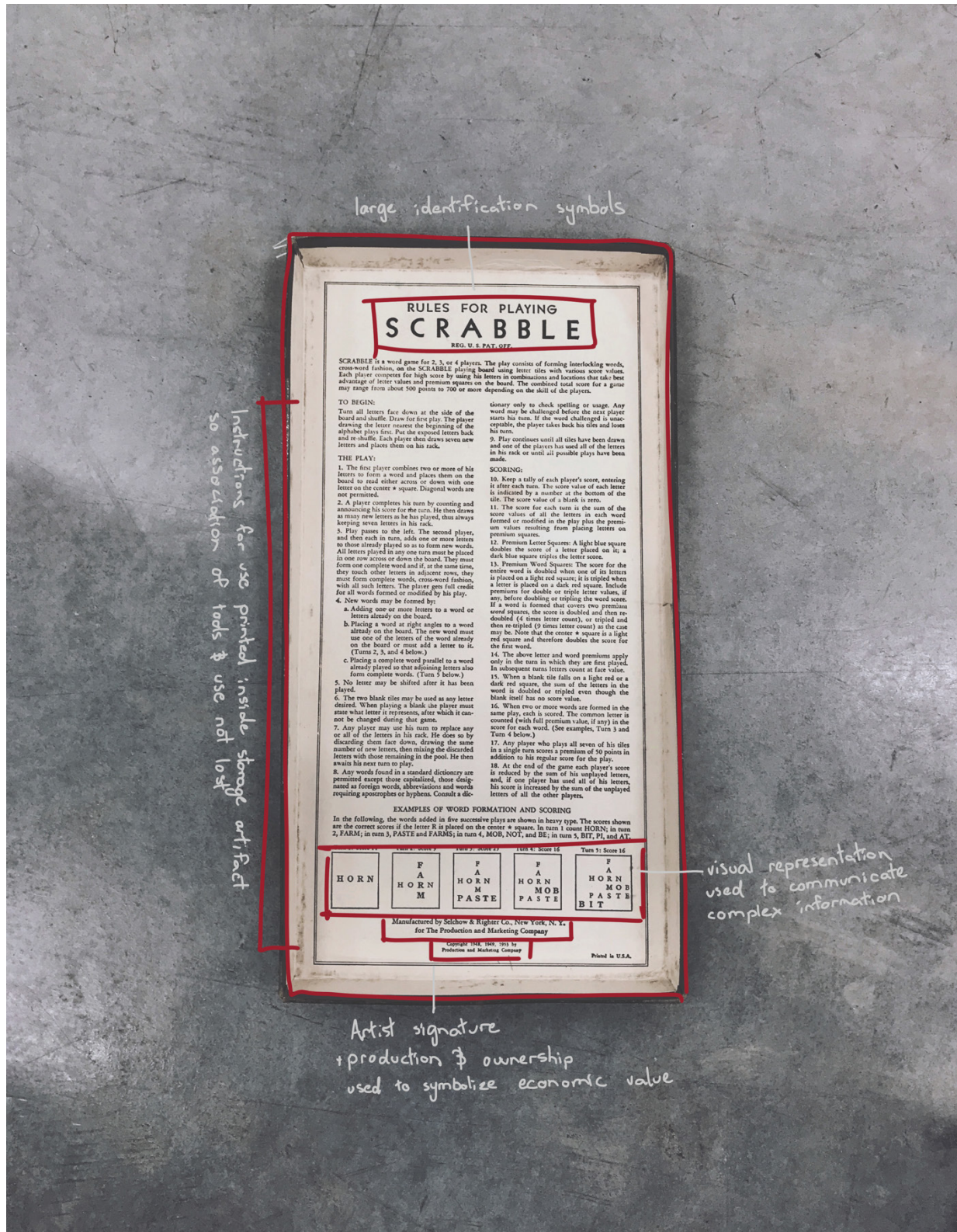
A little bit

☐

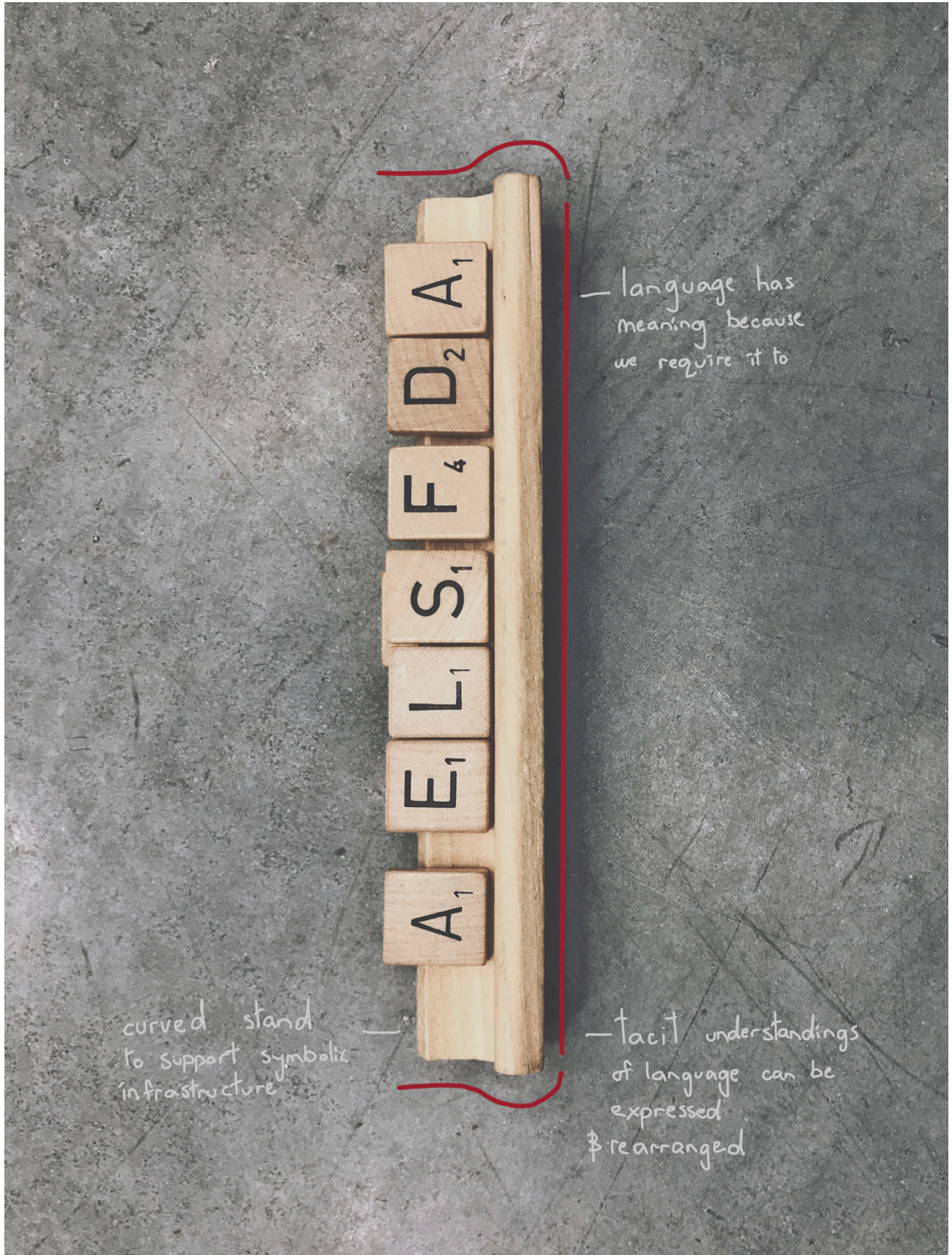
A lot

☐

Appendix B- Annotated Board Games







curved stand
to support symbolic
infrastructure

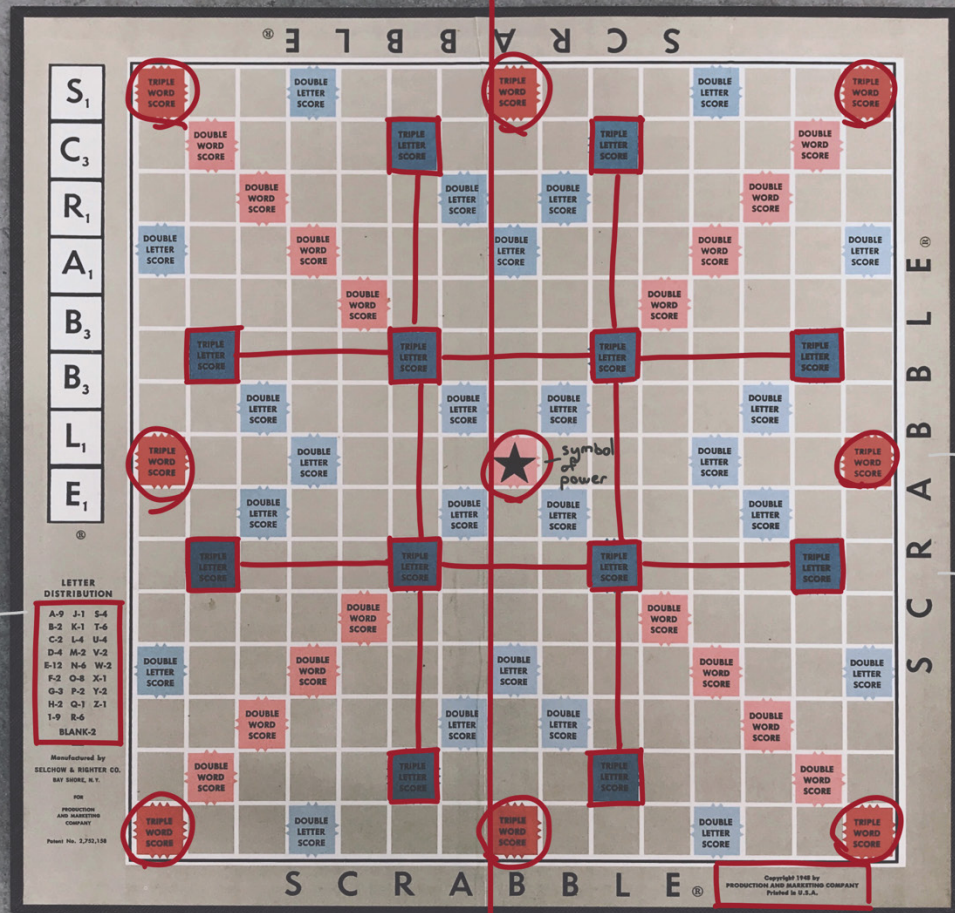
— language has
meaning because
we require it to

— tacit understandings
of language can be
expressed
& rearranged

The Grid

- Reductionist worldview
- Categorization
- Quantification

linguistic-numeric translation



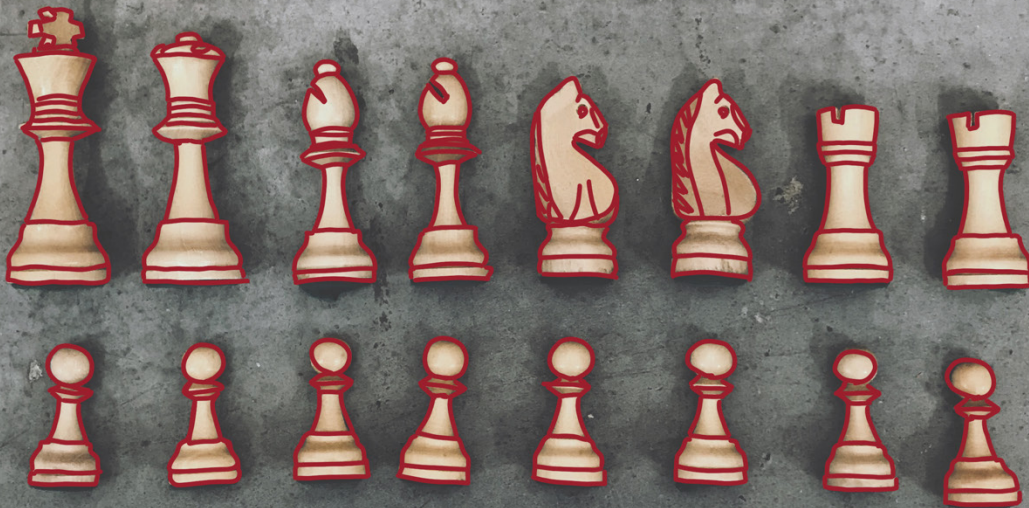
Darker colours to denote high value

Fold mark for ease of storage

symbol of external ownership

ontological design

The things we put out in the world in turn design back on us



4?

- ⑤ In the 19th century, the convention that white moves first was established (formerly either white or black could move first).¹ - necessary, of course.²
- ⑥ Black strove for equality, to neutralize white's first move advantage.³

^{1,2} https://www.wikipedia.org/wiki/Chess_History

Chess

The quintessential battle of wits

- believed to have originated in Eastern India c. 280-550

1200-1700: Origins of the modern game

Very few things survive first contact with
Modernity.



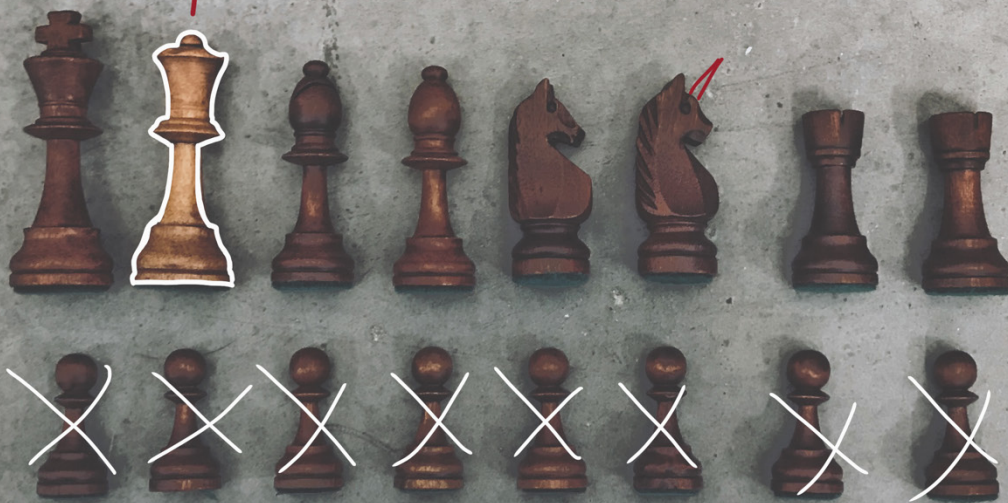
! Beautifully presented
Value has stood the test of time
and so can be afforded care

! The art of war?

Quintessential
// representing the most perfect or typical
example

~~Can anything change for indigenous peoples while humanity exists within the colonial matrix?~~ How can design be decolonized, where are the intersections, and what impact will it have on indigenous realities?

protect the king

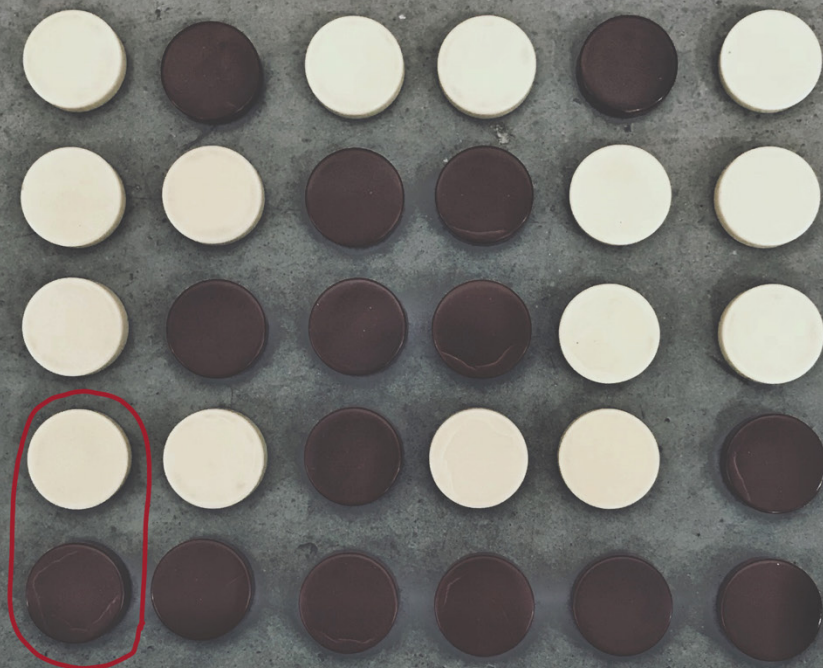


Design rooted in whakapapa

use them as bait

- objects are designed at/in a specific time & place, how far back do we reach, and how far forward do we look?

designing, from where?
and for whom?



|
The base of all dichotomies
Bicultural
Hybridity
Double consciousness
Inhabiting the roles of both the oppressor
and the oppressed

symbolic infrastructure
suggests intended audience
is anglo-european "nuclear family"

Fish eye text effect
| est. early 90's

Visual symbol
for boy
(pop culture
reference)

Double lines -
communicate
movement in
symbolic
infrastructure
of Global North

Nuclear -



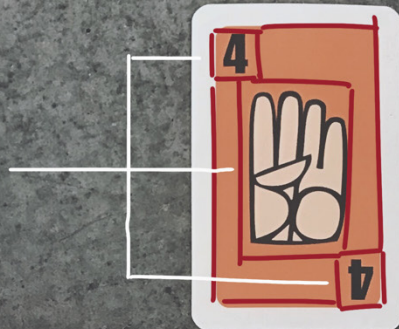
Visual symbol
of devoted wife

line curvature
proportionate
to speed

Numerical hierarchy

1. The Father
(naturally) has the quickest reflexes
2. Man's best friend
3. The Boy
4. The Wife

The 'correct' hierarchy of elements on a playing card



The hand stripped back to its defining elements
• white
• chubby fingers

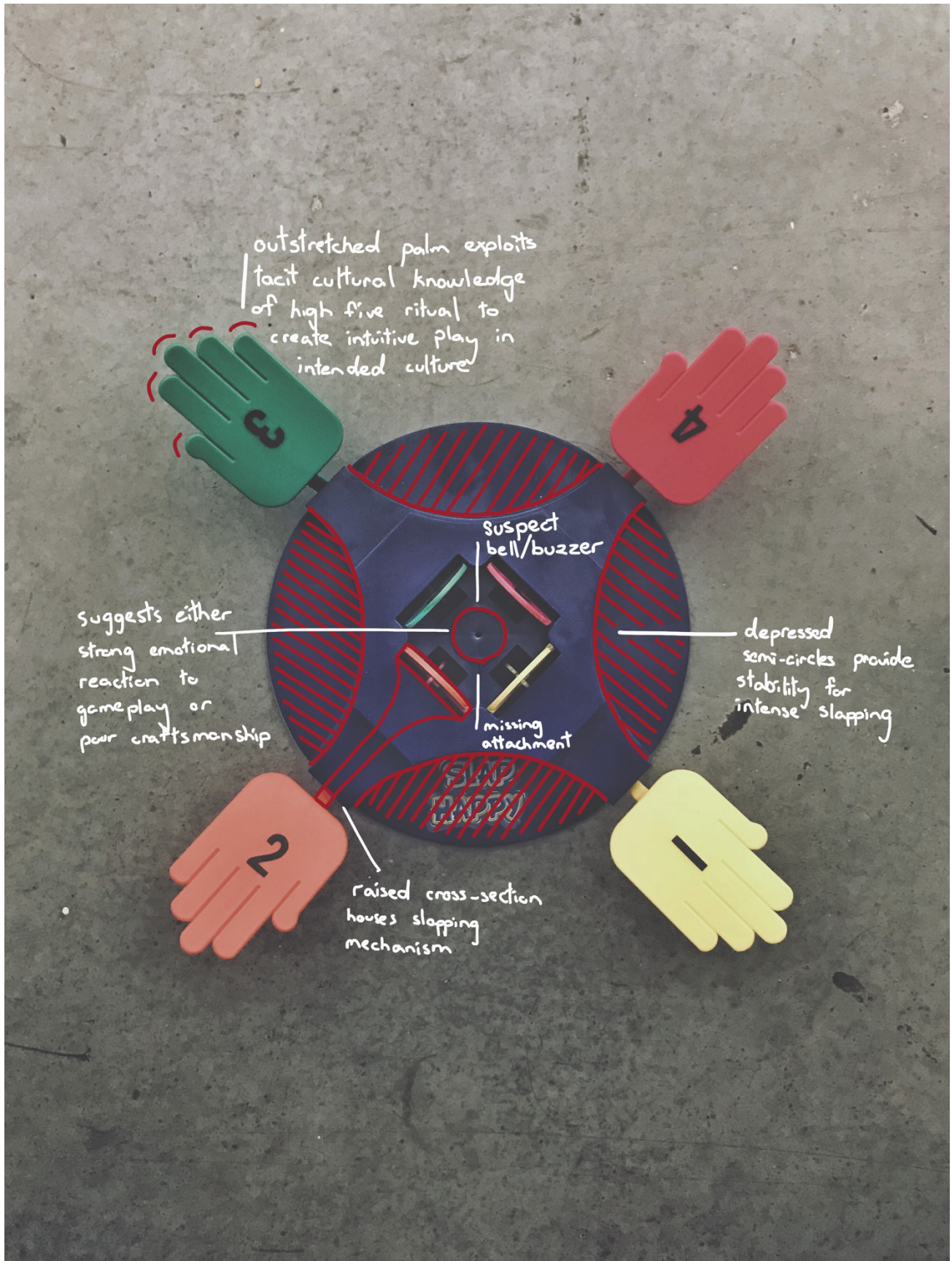
stacked deck, natural, standardized, universal structuring of to be used cards



proposition that the index finger should naturally be the first digit

Index

// something that directs attention to some fact, condition, etc.; a guiding principle.



Appendix C - TCPS2 Ethics Certification

PANEL ON RESEARCH ETHICS <i>Navigating the ethics of human research</i>	TCPS 2: CORE
<h3><i>Certificate of Completion</i></h3>	
<p><i>This document certifies that</i></p>	
<p>Jordache Mackenzie</p>	
<p><i>has completed the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE)</i></p>	
Date of Issue:	24 October, 2016

Appendix D - Tongariro School Framework for Learning

